

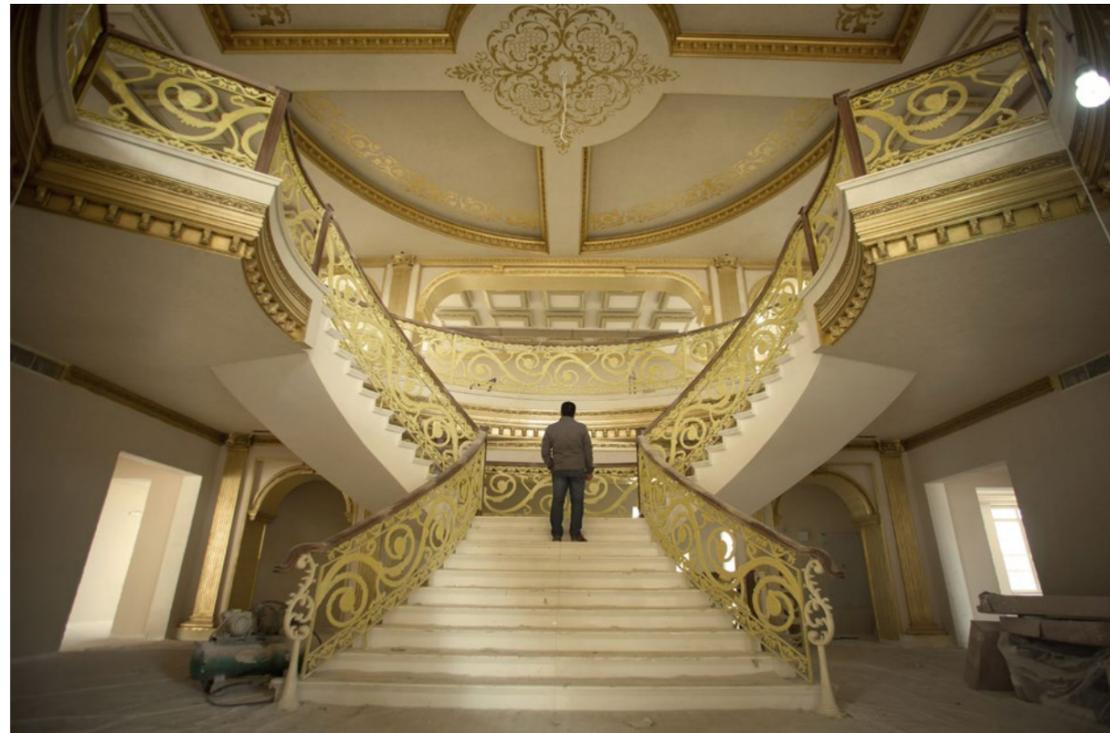
SHAPE JOURNAL

BACK WAYS UP

JUNK DNA / EXPERIMENTAL METHODS
A DIFFERENT PATH / NUCLEAR DECAY

©2016 Jim Schofield
Words Jim Schofield
Design Mick Schofield

www.e-journal.org.uk/shape



THE GRAND PROCESSIONAL STAIRWAY TO TRUTH IS A DEAD END

Back Ways Up

Special Issue 39 / January 2016

Introduction: Back Ways Up

Junk or Redundant Genetic Material

A Different Path

Introduction: back ways up



Welcome to Special Issue 39 of the SHAPE Journal entitled *Back Ways Up*.

Understanding Reality does not merely involve the ascending of a simple staircase of key discoveries, correlations, interpretations and consequent explanations, I'm afraid. For, so far, no derived system of basic premises has ever been totally sufficient: they will always have definite limits, and, consequently, bring our attempts to understand to a certain halt. Every single development, based solely upon our arrived-at premises, always has significant and unavoidable omission, and therefore, any such simplified sequence will, eventually, lead us well astray.

So, to mangle the above staircase analogy still further, it is clear that there are innumerable floors (or levels) in this "Mansion of Truth" - our usual version of Reality. Now, on attaining each new floor, we are presented with a landing full of new rooms to explore, which jacks up our excitement and gives us confidence that we are now on the right track.

Nevertheless, it is always very difficult to find the way up to the next floor, for no staircases are immediately evident, and to ever find the presumed Grand Processional Stairway just isn't possible - for it doesn't really exist! And, it isn't just a matter of looking more carefully.

The trouble is, we are always blinkered by our prior successes, and are also orientated to look for an obvious and similar means to higher things.

So, with such dominating our searching, we will never find the "next way up". For, it can be hidden in full sight, and hence unrecognisable, as was the evidence for Darwin's Revolution, but actually no one was able to recognise it.

To proceed, we always have to change our criteria (and our methods of search). Indeed, it is likely to be through a door into another room, with a staircase beyond, from it to the next landing (as with a servant's stair in a great house).

Or, it could even require a descent to the previous level, where a different staircase avoid our dead end floor, and goes directly to the next!

Now, if the reader is finding this narrative much too trivial and contrived, I could do the very same thing, philosophically, using the brilliant gains made by the German philosopher, Friedrich Hegel in his researches into Thinking about Thought. For, his grasp, of what are our current premises were, could only be achievable by addressing the regular, and seemingly insurmountable impasses that always emerged from every single one of our approaches (no matter how successful they appeared to be in use).





He discovered that these impasses were indicated by the appearance of Dichotomous Pairs of concepts derived from the same premises, which were, nevertheless, undoubtedly, entirely contradictory with one another.

Clearly, argued Hegel, there just had to be something wrong with our so far dependable means –our currently undisputed premises. And hence, the only way to transcend the clear impasse, would be implement a critical analysis of those premises, with a view to their replacement by a new set, upon which the contradictory pair would dissolve into mutually consistent explanations of both arms of the seeming Dichotomy.

In fact, going down a level, to find a better way up was certainly called for!

That was Hegel's significant contribution, but he also went further. Every single level we achieve will inevitably end up with its own terminating impasse, caused by such inadequate premises. Yet, at the same time, each of these will have sufficient Objective Content – partial truths for that particular level always allowing some progress within the level to be achievable, while also ultimately bringing the whole undertaking to the next unavoidable dead halt, theoretically, when the a key position was reached - as always evidenced by the emergence of Dichotomous Pairs of concepts

Of course, it is easy to convince yourself that everything you need to know and understand will be available on the current landing (Level), especially as the number of available doors (study areas) seems infinite, and, crucially, if one door turns out to be useless, you can always switch to the door opposite (the alternative arm of the Dichotomy?), and try that!

Mankind's basic, and still universal, Pragmatism ensures the maximum possible is extracted from each level, but cannot go any further in a coherent and comprehensive way, without transcending that current level's impasses.

This crudely and analogistically-described approach, is what this theorist is attempting to pursue. And, his means are not, as yet, uncovering any Grand Processional Staircases, but only narrow "servant backstairs".

Nevertheless, the skills required in finding such means of higher access are improving all the time.

Several problems seem to have real potential for revealing a breakthrough.

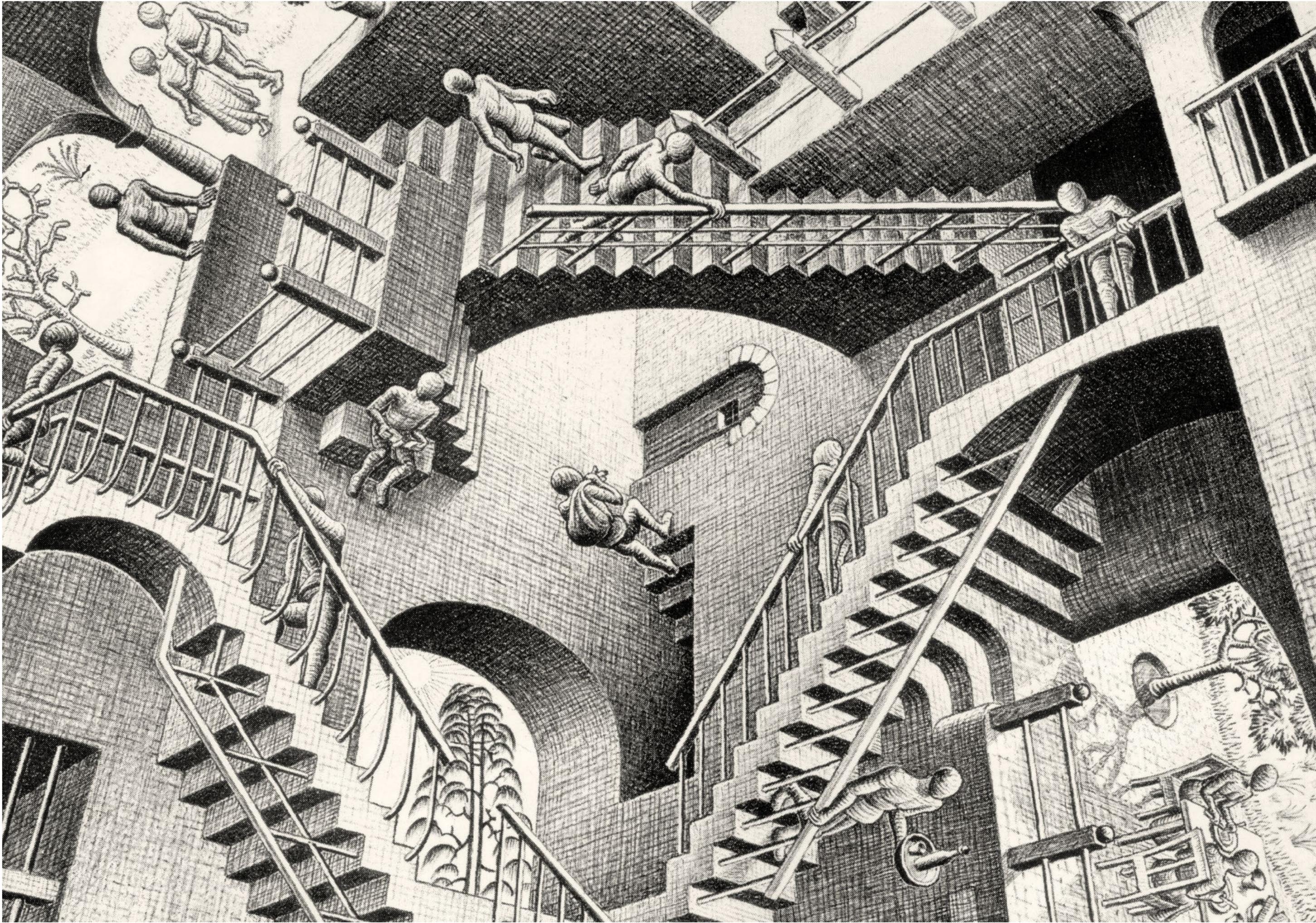
One is the investigation into the inexplicable Quantum Entanglement, while another is certainly possible with Nuclear Decay. Finally, a third possibility could well be in the genetic role in Evolution – particularly involving the so-called Junk DNA.

And, there are many more such quandaries that are beginning to reveal possible ways up!

The following papers, mostly from December 2015, are perhaps the most fruitful concerning the required General Holistic Approach.

Jim Schofield

Jan 2016



Junk or Redundant Genetic Material

is it just useless clutter or a rich storehouse of possibilities?

In addressing the intended (and, indeed, titular) subject of this paper, it has clearly become necessary to clarify a couple of philosophical questions first.

There is, associated with such questions as this, an intellectual argument which, in my opinion, cannot be avoided: It concerns the clearly opposing philosophic stances that include Plurality or Holism, which profoundly affect the assumed nature of many complex areas of Reality, and which profoundly change how such things are addressed in many important studies.

Such problems do not get addressed as often as they should, and, as will be demonstrated here, become absolutely crucial, in areas such as the study of Genetic Materials – the DNA in every cell in all living things on Earth, and their functions – past, present or even future.

So, what is this philosophical problem?

Both stances can be, and, indeed, are, used effectively in a wide variety of areas of study, but are clearly mutually exclusive opposites. Each works well in what are usually termed “appropriate conditions” (but that, almost always means, “They are OK, when they give the right answer”. And, that purely pragmatic judgement seems to invalidate the evident fact that, with the usual premises, they can’t both be right! Now, generally, such a conclusion is dismissed by saying that each is true in different circumstances, but that isn’t true here, for they both arise from identical premises and are equally likely to be the first port of call in any circumstances.

In essence, they constitute a classic Dichotomous Pair of basic principles, which have arisen from the very same ground, and even the identical assumed premises. Now, that makes an important difference, as they are definitely directly contradictory, but, nevertheless, are indeed useful assumptions.

The primacy of one over the other cannot be established using the premises that revealed them.

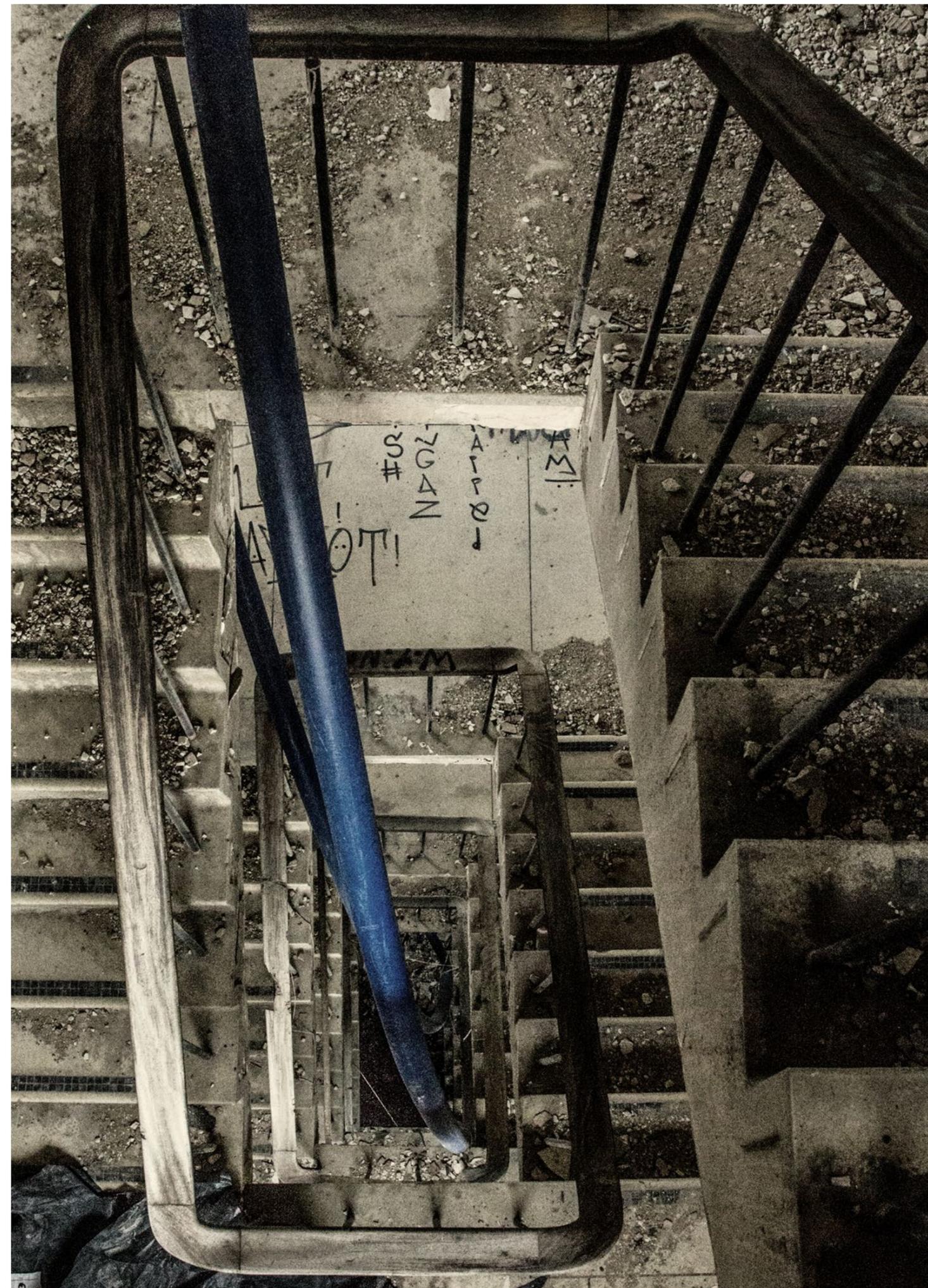
But, Man does this all the time, and has done so effectively and successfully for millennia. In such situations, he keeps both, and switches between them to find that which works in a given situation. If his first choice fails, he merely switches to the alternative, without turning a hair! After all, the first method ever devised by Mankind, and termed Pragmatism, has been crucial throughout his existence.

But, this Pair make an odd couple! For defining one of them seems to directly denounce the other. So, keeping both – the pragmatic solution, has not been possible historically, and the clearly dominant approaches are all steadfastly pluralist!

Holism is only allowed to creep in, via the most general discussions to cope with situations that Plurality just cannot address, so it is kept mostly “on the shelf”, and isn’t an integrated part of any credible system of reasoning.

Yet, as with all Dichotomous Pair impasses, which surely follow the contradictory nature of these two principles, the usual “switching tricks”, will, in the end, fail to allow any further theoretical progress including both arms of the dichotomy as valid. And, though seemingly impossible, some sort of holistic theoretical methods will have to be developed, to allow further progress.

NOTE: For those familiar with Friedrich Hegel’s Thinking about Thought studies, and his original revelation of Dichotomous Pairs, they will certainly respond to the above objection, by saying, “ Surely both Plurality and Holism must be transcended by a thoroughgoing critical study of the premises, which delivered both of them, and the only possibility of any real progress can only follow such an achievement!”





Well, of course, that is indeed correct, but such is much easier said than done! Why? you may well ask. But, the famous Dichotomous Pairs are not mere inventions – and though never absolute, they do, in both arms, contain sufficient Objective Content (parts or aspects of the Truth) to be significantly useful.

So, the necessary process of transcending both, will never be possible until the currently, relatively quiescent side of this Dichotomous Pair, namely Holism, is very much further developed. At present it is a rarely used approach – mostly employed by artists of all kinds, who attempt to approach Truth in a very different way from scientists, mathematicians and logicians.

Now, the immediate task – the development of Holism, is exceedingly difficult because it states that, “Everything affects everything else!”, and this immediately appears to scupper not only Analysis, but also Reductionism – the assumption of a hierarchy of levels of Reality, with cause-below-cause down to some final, fundamental level.

In fact, literally all our most useful methods, are still completely pluralist, and involve crucial and unavoidable simplifications and even idealisations of Reality-as-it-actually-is.

Plurality requires, and is given, a necessary modified version of Reality, for it to work in the way that it does. Reality is NOT what the pluralist method deals with!

It can, however, enable a certain level of explanation, and even understanding. Yet, such pluralist disciplines are replete with assumed eternal Natural Laws, along with mere Complexity “in sum” – rather than the much more accurate holistic stance of mutual modifications of all natural relationships.

And, to complete the regime, Mankind has invented, and to a remarkable degree perfected investigation techniques, which bend Reality into a localised, simplified and idealised form, by actually farming limited “experimental Domains”, which have been deliberately filtered and controlled to make the resultant area much closer to the pluralist definition. We, cleverly, MAKE Reality FIT our means of dealing with it.

Yet, these methods are not mere self-kid: they wouldn't have lasted so long if they were.

The pluralist-devised set-ups achieved by the experimental scientists, not only approach what our idealised methods required, but also, and crucially allowed successful use of the extracted “Idealised Laws” to achieve productive ends.

You cannot just dispense with this enormous and successful set of idealistic methods.

For pragmatically, and as long as they are used in the very same conditions under which they were extracted, these versions can be extremely successful. Indeed, the whole World has been transformed, by these methods of extraction and consequent use, to produce the present Technological landscape!

So, to merely condemn Plurality as wrong, would not only miss the point, but also proffer absolutely NO alternative approach. Plurality has been the greatest achievement by Mankind thus far, but it clearly isn't sufficient!

There are innumerable features of Reality where such Farming is impossible, and even more, where such means could never get near what is actually happening: and these are simply ignored. The pluralist pantechicon is directed to roar on, full pelt, ONLY where we know we can make it work.

Now, I began this essay, because I suddenly realised what the Key Area was, which could only be investigatable by a purely holist approach, and nothing else. To attempt to understand this area, pluralistically, would fail, (and indeed has, so far failed) to get anywhere in really understanding the topic! It is in the role of genetic materials in certain known areas, but throughout the whole of the Origin and consequent Evolution of Life, from the first living things, all the way to today's World, and including, of course, the Thinking of Man. We have a series of ideas about this, but they are more of a narrative than an explanation.

What I am referring to is, of course, the vast majority of genes in the “blueprint chromosomes”, which NOW appear to be totally useless - they seem to no longer play any kind of role.

Now, as that area of living organisms genetic material amounts to its vast majority, and is usually dismissed as “junk DNA”, what actually is that area really about,

or more concretely, “What was it for, in the past?”. The usual description is that it was a crucial part of active genetic material, in the distant past, BUT has been superseded by other better alternatives, or damaged beyond repair – BOTH of which being caused by purely chance happenings, such as cosmic rays.

Indeed, that “theory” means that all irreparable damage, and all transforming improvements caused in that random way, produced enough genetic refuse to dominate the remaining active genetic material – at least in its accumulated amount.

But, in addition to these criticisms, we also know that gene-function relationships are rarely simply one-to-one causalities. There are also Switching Relationships, where one gene turns another “on” or “off”!

Indeed, whole systems of genes are needed to control complex processes.

It is even possible that so-called “junk” or redundant genes can be modified by the famed cosmic rays to cause mutations, for example, to enable them to play a new and useful role in current systems to modify their outcomes, and lead to changes at the living organism level subsequently.

So, though it is too enormous an area to deal with comprehensively in this paper, let us briefly address Evolution!

Just, taking the transfer from a natural, aquatic environment (like the sea) to one entirely independent of that on land, many crucially essential processes, dependant upon the old aquatic conditions would, somehow, become redundant due to wholly new “land-based means” to achieve the same objectives – like breathing, for example.

It becomes ever clearer that such absolutely crucial developments will leave whole systems (and the genetic materials involved in their direction) as no longer required.

Indeed, the known changes over almost 3 billion years on Earth, will have regularly produced, and thus completely superseded, system after system after system!

Also, the discovery that embryonic developments, in the very early stages, is common to many very different animals, seems to indicate that this is definitely so, and, to an extent, phases of evolution are reflected in these changes in present day developing embryos.

Thus, to begin to grasp evolution, as also indicated in the fossil records in the rocks beneath our feet, must have implications for the roles of the involved genetic materials - as the idea of them constituting some sort of blueprint, which seems essential, yet contradicts evolution, which is also indispensable in addressing this area.

Now, exactly how such things can be integrated isn't at all clear, and will rarely, if ever, be revealed by research programs always directed to profit-making discoveries. The tail is guaranteed to wag the dog!

Real Understanding is never quantifiable in terms of a potential profit, is it?

Indeed, it is possible that the genetic materials for long-junked, past-processes are actually still there in the so-called junk DNA, and, miraculously, could be resuscitated by wholly accidental genetic damage – could that not be the explanation for metamorphosis?

Now, of course, if this is so, it has certainly, as yet, NOT been demonstrated. But, let us nevertheless consider briefly what is involved in the classic Caterpillar/Butterfly metamorphosis.

The two phases are radically different.

The Caterpillar Stage is an eating and growing phase, while the Butterfly Stage – a flying insect, enables meetings between unrelated members of the same species that could, initially, be miles apart. And, this is ideal for genetic mixes in sexual reproduction. Imagine how useless the caterpillar would be if it had to do that stage. And conversely, just how useless the Butterfly would be at getting required bulk and growth from sipping nectar! The fact that certain nymph stages in amphibians can carry on in conducive circumstances long after the point when Metamorphosis has usually had to have occurred, seems to support these ideas.

Clearly, any research into genetically controlled development will be extremely difficult, for to initiate and maintain such processes not only requires the



“blueprint” for the process, but also the exactly appropriate environment of the living organism, at precisely the right stage to not only produce the means to “switch on” the required sequence, but also, and just as crucially, to provide the to-be-affected organism, itself, at the appropriate stage for the given processes to be right. NOTE: Crucially, in Metamorphosis, no momentary switch can bring it about. The complete structure of the new phase will have to be produced after dismantling the prior phase. Only then can the new functionalities be delivered.

The big question is, “How could this Revolution be programmed by the genetic materials?”

Frankly, to have an evolved genetic code that implements such a cataclysmic change doesn't make sense. It would have to reflect a major crisis for the organism and some almost miraculous change over to different and wholly distinct code somewhere else in the genetic material, it could be not currently used code in the so-called junk DNA, as a long unused historical process, which following some major crisis, is enabled once again.

Of course, this is merely an idea: to make it viable is a long way off, and may prove incorrect. But, the considerations are sound!

We should be considering the possible roles of Junk DNA, especially in such seemingly inexplicable developments as in Metamorphosis. One thing is sure two significant different animals appear on either side of this magical change in the resultant phenotype.

Indeed, you couldn't ever achieve such things as have been addressed above with our current experimental methods and philosophical stance. With current universally employed and wholly pluralist methods in science, you would have to artificially (in the lab) create special conditions for only parts of the process to occur, and also research the crucial recursive processes, NOT as they actually happen in real living things, but artificially in fragments – short sub phases.

It has become clear to this researcher following the experiments conducted by Yves Couder, that the idea of Recursion is crucial. For in Life studies, we are not merely producing, as in a pluralist experiment or a factory, but actually creating the producers too.

In fact products become causes, and causes lead to products in long sequences and even cycles of sequences. The pluralist method of all of present-day science will clearly be wholly inadequate, while any attempt to “play God” with Life will be well beyond our current capabilities.

We most certainly, as we did with pluralist science, have to invent a whole new Holistic Science, which will also involve not only the farming techniques of pluralist science, but new techniques to deliver new kinds of information, even though the means used will be artificial and profoundly different from the fully recursive nature of the Reality-as-is-processes that we are trying to reveal and understand.

Yet, talking about as yet undiscovered methods will not, in itself, enable their discovery. It is always possible to, momentarily, achieve a single step in a complex process, but it will just come and go without being part of the required overall process. Each will be a transitory moment seemingly getting us nowhere. The answer will not be found by the usual methods.

The crucial thing in Reality, and in its Evolution, has to be what we call Stability.

The tiny step means nothing outside of its own integrated system of many steps. Now, what is it that makes for such a System stable? It certainly isn't just the availability of the necessary resources and conditions. They can occur momentarily, but because of a lack of stability, they will, along with other such momentary happenings tend only to produce Random Chaos! An organised time-based context is necessary.

It is the correct context that enables an orchestrated sequence to occur in a reliable way. Such a sequence we need a changing environment in step with the requirements, within a kind of “system stability” that is by no means STATIC!

It is a Dynamic Stability, and it could not be achieved by the single ideal environment, as in ALL pluralist productions (as we use now), but, instead, a sequence of differing yet stable environments (self maintaining during each current step), which also changes into another stable environment for the next step.

Now, if it all seems impossible to ever achieve experimentally. You have to begin to understand the difficulties, and begin to put together a path to overcoming them.

Such mutually, in-step sequences of both environments and processes are almost impossible for us to construct as they actually occur. BUT, we might be able to instead make a spatially distributed set of sequences instead of the impossible simultaneous and self stabilising thing we are trying to reproduce, Instead of a single locality with its necessary sequence of stable but different environments, we separate these spatially!

We construct them by means available to us, and organise the action to move sequentially from one phase to the next across the full range of environments in different places. And, it is we, the experimenters, which arrange the necessary timings.

No longer is everything happening in the SAME PLACE, but instead an arranged flow-through the necessary sequence of environments, as and when, they are required!

When working perfectly, we would NO LONGER have to be constantly changing a single space, but still have a reasonable analogy for the required sequences of processes along with each one's required environment. Clearly, resources would have to be fed in and carried through the sequence of localities, but this would be possible experimentally.

Clearly, many re-runs would be necessary to enable us to use this analogistic model to effectively reveal what actually goes on in Reality-as-is.

Such a method will not be a direct and perfect model, but the very nature of the method will enable control of flow-through rate to emulate the time-based sequences in a single place that we are working towards.

I believe that such a set up is a holistic one, intended to replicate in some useful way what would be impossible by pluralistic methods, which currently dominate science.

Now, it may interest the reader to know that this researcher has arrived at this very point once before! In attempting to improve upon Stanley Miller's brilliant experiment, in which he produced amino acids, entirely

from an emulated primitive Earth atmosphere, to simulate some of the natural early processes leading to the Origin of Life, it became clear that simultaneous processes might be approximated to by a spatial sequence of appropriate conditions, accessed by a flow-through of materials at the correct rate. The biggest problem with Miller's sealed single volume, had to be totally isolated from everything else, so nothing could be monitored, and even if you could get non intrusive sensors into it, you would have no idea what process you were getting data from. Now, it was reasoned that the careful design and construction of a route through various differently endowed parts of such an emulation hemmed in by inert barriers, and studded with non-intervening monitors with time based measurements throughout an extended run, significant and interpretable data could be extracted. A whole series of such runs, with in-between re-designs, to improve the performances, were planned for, but the design was never implemented, but it was clear that it would have been an admirable beginning to define new way of doing experiments, which though not themselves holistic, could in some way be investigated in an alternative, holistic view and could be interpreted according to such a view.

But, even that new Miller's Experiment will still fall far short of what would be necessary to deliver everything we seek in our current considerations. But, it would be do-able, and would take us much further than any current pluralist experiment ever could.

NOTE: A further explanation has been deemed necessary, as it isn't entirely obvious how crucial recursions could be included in that design.

For, the problem in synchronised alterations to contexts, as well as by the conversion of resources into products, could, indeed, be handled.

Now, the key factor, in the changes of context, comes from the products generated in immediately prior phases. In other words, a prior product then becomes a cause affecting the very things that produced it, especially when intervening effects change it in some way – the classical Recursion.

So, the advantage of the spatially spread out contexts is that we, the experimenters, work that out by prior investigatory experiments, and then institute each new context from these earlier investigations, into the right

CONSTRUCTING NEW ROUTES





positions in what will be maintained as a series of spatially separated and maintained contexts.

We will have separated out recursion, but then put it back to simulate what we are trying to achieve from real World simultaneous and sequential processes.

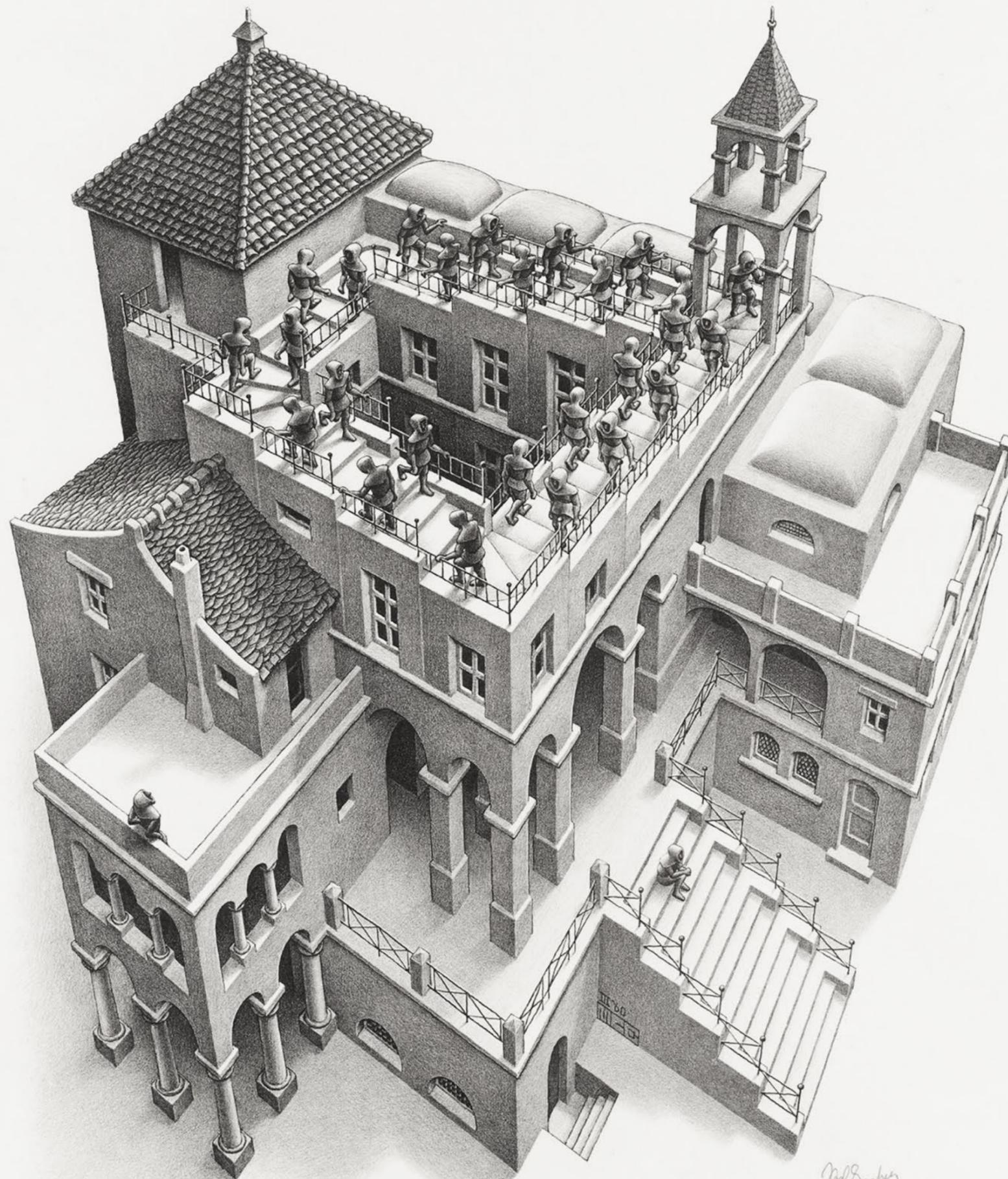
Such Intelligent Design will always have to be a feature of Holistic Science, because we are replacing an impossible time-based and self-generated, self-maintaining and recursive process with a spatially distributed emulation.

So, returning, finally, to our original problem, the so-called “junk DNA” or redundant genetic material, with its built-in narrative of its prior history, which becomes a kind of record of the evolutionary history of the species, as well as a history of the given individual’s own development, from its conception, by having the necessary blueprints earlier embryonic developments too.

It must, if it could be investigated, be a veritable storehouse of great value. In addition, it is NOT stored away in some inaccessible archive: it is immediately accessible in every individual cell, if required.

So, “accidental mutations”, which inevitably change the function of the mutated gene, could, in appropriate circumstances, (including usefully available junk genes) could actually deliver new functions, which if they proved to be an advantage to the organism, could affect its success in survival and reproduction.

In a peculiar sense, the junk DNA can be a mine of features, which could be incorporated into new functions. Indeed, as major changes in a number of genes are incredibly rare, this storehouse of past-used genes could easily be incorporated in safety, protection or even restorative methods for safeguarding the genes generally – including possible repairs or replacements to mutation-damaged genes. Junk DNA could turn out to be vitally important to Evolution in many different ways.



STUCK ON A LEVEL

M. Escher
№ 11/52



A Different Path an alternative to the consensus approach in science

A cornerstone of current Quantum Physics is nuclear decay, where an atom of a seemingly eternal kind of element turns into quite a different element entirely. It is, indeed, a very surprising phenomenon, because though it is currently impossible to predict exactly when an individual nucleus will decay, it is quite possible to predict to what extent a mass of such atoms' nuclei will have so transformed. But there can be absolutely no doubt that it happens, and, without any external causes whatsoever!

Indeed, what exact proportion will decay in a given time-period can be formulated in to a useable equation. The actual quantification of this is termed the "half life", which is in what time period exactly half of given isolated aggregation will have decayed. It is, of course, the epitome of a purely descriptive law: and as such it gives zero explanation of why, only the extent of the process involve - overall, and over time!

NOTE: the fact of this phenomenon immediately makes you think about other inexplicable features in this area of Physics, such as Quantum Entanglement, for example. This will be explored thoroughly elsewhere!

Now, it is clear that it is NOT the presence of other atoms of the same type that influence these transitions for, if isolated nuclei are observed one at a time they decay in the same pattern as if they were together (just as if some invisible distant connections were the cause?)

Clearly, several things can be extracted from these facts. First, the nucleus is an almost permanently stable combination of sub-units, which, most of the time, stays as it is, but at a certain juncture of its internal behaviours a consequent ultimate dissociation occurs – effectively, the stability is maintained for a long period, but is, nevertheless, still finally undermined, absolutely, and the nucleus dissociates into certain component parts, including the simultaneous release of significant radioactive energy.

NOTE: These points will probably be universally accepted, but it must be made clear that in the case of this researcher, it was looked at in this way, after a long period of research into Qualitative Change – particularly such as are brought about in what are termed Emergences.

For, these studies had resulted in his Theory of Emergences, which revealed for the first time, the actual Trajectory of Changes within such an event. Indeed, all Emergences involve the collapse and dissociation of a prior and long-standing Stability, that, often without any external stimulus, which can, nevertheless, undergo a major crisis, which not only results in its termination, but also, as part of the very same event, the results in the association into another, higher Stability. Clearly, that body of research is relevant here too.

Crucially, it was a purely philosophical basis that led to these ideas concerning nuclear decay.

Now, surprisingly, we do know something about how these nuclei were created within stars, either in one of its series of major collapses and consequent new nuclear fusion explosions, or alternatively, in its penultimate calamity - The Supernova!

Such events are dramatic, and require tremendous amounts of initiating energy, and, produce even more energy, as a result of the consequent fusion chain reactions that inevitably follow.

Thus, our relatively stable nuclei were forcibly fused together, and appeared to have been welded into a completely "stable" new element, as its nucleus. Somehow, once this new substance has been made stable, there can be just two different and surprising ways, in which it could be made to dissociate again sometime in the future.

The first of these is typified by Splitting the Atom (a significant objective in early 20th century Physics),

which required tremendous amounts of energy imported to initiate it.

Second, is when left entirely alone, and normally quite stable, it will, all-by-itself, at some point, naturally dissociate without any external intervention whatsoever. [I am pressed to compare it with a social revolution, wherein our current knowledge of such Emergences was extracted from. For, it also happens to a seemingly stable society, but somehow, internally creates a major crisis, which, in the right conditions, can totally demolish the old society, and then produce a wholly new one. You cannot, of course, stretch such an analogy too far, as a Society contains not only innumerable prior levels of development, but, crucially, also thinking individuals, and even whole Classes, which can and indeed do, influence the outcomes one way or the other,]

Now, certain elements, like Uranium, are much more likely to dissociate than others. So, physical researchers concentrated upon such elements, in order to study the products of such entirely natural dissociations. The consequent area of these investigations was termed The Study of Radioactivity.

Now, such behaviours can be studied, entirely formally, by extracting quantitative data from experiments and fitting them into pure forms taken from Mathematics – Equations! Now, these would only be about the observed Rate of Dissociation, but, in addition, listing the consequent products produced. But such derivations never tell us *why* such things actually occur!

Now, whenever you are forced to formulate into equations, for aggregations of active units, it, necessarily, means that you will never be able to explain the internal causes and consequent processes from such things alone. You can only quantify when and how these happen, but NOT why! Clearly, the reason for our inadequacies, in such behaviours, is because what is actually happening causally is NOT a formulatable process. What we have, formally, is only about the Stability of a system of things all happening together – and, in a repeatable, self-maintaining way.

The question of why such a system is generally maintained, and why it also, sometimes, fails completely, is not only unknown, but also un-extractable by our current knowledge, understanding and methods!

We actually know the cause for this! It is because of our almost universal subscription to the famed Principle of Plurality, which is at the base of all our scientific philosophy, investigations and experimental methods. Adherence to this Principle prohibits us from coping with such questions.

Indeed, the Whole of Science is generally only about stable processes within a general Stability, yet never how that stability is created, maintained and at some point collapses.

Plurality just cannot deal with the revolutionary episodes, when long-standing stabilities finally, and irrevocably collapse! Nor can Plurality ever deal with the Emergence of the wholly NEW – as in Evolution for example!

To address such questions, a very different stance must be employed, and the means to investigate such things devised and implemented.

Of course, such a revolution in both our bases and our methods of Science can be no obvious development, for such things never are. Mankind has become expert at extracting the most out of their devised methods, for intelligence enables adjustments and additions, in the light of experience, while pragmatism makes a virtue out of getting useable results.

But, to turn around completely and add such dynamic and unpredictable changes (with their considerable problems), actually means the abandonment of current Pluralist Science, which has undoubtedly delivered our whole current World. Obviously, such a seeming jump, off the precipice, is opposed at every turn.

Now, there is an alternative stance to Plurality, which arose at about the same time as its opposite, some 2,500 years ago. It is Holism! But, its supreme advocate was the spiritual leader, The Buddha (in India), so it didn't gain anything like the hold that Plurality did in the West. Nevertheless, it had, and still has, considerable merit, for as the opposite to Plurality it affirms that "Everything affects everything else", and so is always superior in many complex areas of study.

In a way, it survived even in the West as an alternative to Plurality, particularly when attempting to explain phenomena, and integrate them into an overall framework: it became essential for explanatory theorists!



But Holism, though doubtless much closer to the True Nature of Reality, is sadly, much more difficult to use.

Its basic premise seemed to frequently zoom off to infinite regress, and hence was too untrustworthy for everyday solutions to practical problems.

Nevertheless, in small doses, it was invaluable in Explanation in complex situations. For “Everything affects everything else” is infinitely better than plurality’s extensive tailoring and having all factors merely sum!

NOTE: Plurality can never deal with such a task, and instead artificially institutes a much more amenable situation to study: it reduces the number of variables in the situation by vigorous filtering out, to as small a number as possible, and finds (in an appropriately farmed situation) relations between that small number, and formulates the relation into an ideal equation (taken from the mathematicians’ inexhaustible store of such purified forms).

You can see the problem!

The holist stance will not allow the farming of situations, as such would significantly change the situation to be studied, and this can ONLY allow the solution of a different problem. But, Plurality not only allows such methods, but also insists that nothing is changed in the sought-for factor, by such “clarifying improvements”.

Now, such assumptions have proved crucial, in allowing the pluralist approach to be developed and effectively used over vast areas of study. For, they enable Analysis, and even Reductionism, which those extremely useful in many contexts, have also erroneously allowed a seemingly all-embracing context for all such studies.

Holism, as yet, has NO such useful techniques! Literally all its scientific methods have yet to be devised and perfected. But, that task has now, at last, been started!

The initial and most important theoretical contribution was made by Charles Darwin, with his Theory of Natural Selection, and its consequence The Evolution of all Life on Earth. But, the difficulties involved in this kind of Science, were significantly confirmed by the severe paucity of other holistic scientific theories.

Indeed, holistic experiments have not only been extremely rare, but very difficult to interpret, and build upon!

Stanley Miller thought he could deliver something profoundly important with his now famous experiment, Using an emulation of the atmospheric conditions on the primitive, pre-life Earth, with only the application of heat (to represent the effect of the Sun), he left his totally sealed apparatus to process for a single week, after which he was able to show clearly that amino acids, crucial ingredients in living things, had been produced.

However, further developments, at that time, were not forthcoming, or even possible, so that important line of experiments was not properly pursued. But, recently, Jim Schofield - a physical theorist and the writer of this paper, devised an updated version, which began to address what holist experimental methods should involve.

Now, in quite a different direction, the French physicist Yves Couder devised a completely original type of holistic experiment, which Schofield has termed “constructivist”.

For, Couder restructured his experiment to minimalist proportions, involving ONLY a substrate, an initial cause of a disturbance in that substrate, and gravity,

With a careful arrangement of these contributions he managed to produce a stable entity, which persisted and moved about, which he termed a “Walker”.

Even that achievement was remarkable, but it significantly depended upon recursion, and Couder decided to build up the possibilities by adding only other applied movements to it. By so doing he managed to get his Walkers performing quantized orbits. Clearly, this immediately brought into question the quantized orbits of electrons in atoms – indeed perhaps a questioning of the whole Copenhagen Interpretation of Quantum Theory’s usual “explanations” of such things.

To Schofield, it suggested that the inclusion of an as-yet undetected and maybe undetectable substrate might well be the necessary ingredient to provide alternative explanations to many current anomalies in Sub Atomic Physics.

As it turned out, there are many significant instances in the development of Reality, where such transformations occur. Indeed, they always occur where the wholly new

first emerges. And, these things occur, though changed somewhat, at every Level of Reality, from the most basic particulate objects, all the way to Life, Man and even Society!

Clearly, to always omit such a dynamic study of these areas can no longer be countenanced.

Yet, such a realisation is by no means new. It was commenced, some 200 years ago, by the fore-mentioned German idealist Philosopher Friedrich Hegel, and later significantly radicalised by carrying over all of Hegel’s brilliant gains, to an entirely materialist philosophical standpoint, by Hegel’s best student, Karl Marx, But, in spite of many important gains by Marx and his followers, that modified stance cannot be said to have been generalised to cover all relevant areas, and most importantly – The Sciences.

Now, the writer of this paper, Jim Schofield, is not only a qualified physicist, but also a Marxist philosopher, and has long single-handedly sought to find an superior alternative to the clearly idealist Copenhagen Interpretation of Quantum Theory.

The crux of the problem was undoubtedly what became known as Wave/Particle Duality, and some years ago, he resolved to define an undetectable universal substrate, composed only of already known stable particles. To achieve this he theoretically devised an undetectable particle composed of a mutually orbiting pair – consisting of one electron and one positron. He later heard that this had been detected at the Tevatron at Fermilab, but in such very high energetic situations, it soon dissociated - they termed it the positronium. Clearly, that wasn’t what he needed, so he defined his version as highly stable, and called it the neutrutron.

Now, his purpose was clear! He required an undetectable particle, which was immensely profuse and present absolutely everywhere, in some form of 3D Paving, and this joint particle fitted the bill. Its presence was looked at in the light of well-known anomalies such as those generated by the famous Double Slit series of experiments. and his key methods would be (I think you will have guessed what it just had to be) - Recursion! Instead of Wave/Particle Duality of particles or photons, he separated the functions between the particle and the substrate, and included a time delay with recursion to physically explain every single anomaly!

The theoretical battleground just had to be the Double Slit Experiments; the new ideas removed every single one of the anomalies across the whole range of these experiments.

Indeed, the explanations involved wave-disturbances of such a substrate, which after passing through both slits, interfered in the area beyond, and there was able to affect the much slower moving causing particles, when they arrived and passed through.

All the idealist nonsense of Superposition and immediate switching of the cause’s mode from wave to particle, fell away with the new explanations, and demonstrated that these new ideas were definitely worthy of further study. And a wider range of areas immediately presented themselves for attempts to explain Reality without the inexplicable myths of Quantum Entanglement and Superposition, which were replaced instead by the recursive relations of entities with a universal substrate.

Finally, Schofield followed up his Theory of the Double Slits, with a new Theory of Propagation of Electromagnetic Energy via this substrate of neutrutrons, which. For the first time in decades, these areas now began to make concrete sense - even explaining why the Speed of Light was a constant, and these ideas are significantly re-casting many cock-eyed discussions in Cosmology.



SHAPE JOURNAL

WWW.E-JOURNAL.ORG.UK