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THE PHOENIX

EMERGENT EVENTS / THE FRENCH REVOLUTION / SECOND LAW OF THERMODYNAMICS /
TRAJECTORY OF AN EMERGENCE / CONVERGENT EVOLUTION / FOLLOWING SUPERNOVAE

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The Phoenix



The Phoenix

The poets knew it long ago, but could only describe it!

Yet, profound though their accounts were, their tale certainly needed a more comprehensive explanation to take their wise observations further. Clearly, the lack of such an answer as to why it was so, shows that the role of the poet is to make profound observations, which others too often, if not invariably, miss!

I am, of course, referring to the description of “The Phoenix arising from the flames of destruction!” Though it is indeed a special and important revelation of seemingly contradictory processes, it does also require not many only good, concrete examples to be described in detail, but also for them to be thoroughly and more generally explained. How and why does such a seemingly inexplicable process actually occur?

To make any progress beyond the cryptic revelation, we also need to know what exactly is being described by such a process. The event is clearly the outcome of a totally dissociative or destructive initial phase, having as its surprising and following outcome, a real, constructive and creative step forward. And, in so doing it certainly completely contradicts common sense in the normal way of predicting future outcomes from current processes.

For, one thing is absolutely certain – it runs counter to the famed and universally accepted Second Law of Thermodynamics, which seems, in such circumstances, and using normal Formal Logic, to predict a continuing slide down to unavoidable oblivion, without any possibility of, even temporary, salvation. So, such a Meta Law is most certainly wrong! For, it requires an existing Order for it to be dissociated, and unless we merely have the initial construction of absolutely everything by a supernatural creator, which thereafter traverses an inevitable path to nothingness, there definitely has to be some sort of both prior and following, countering, “Law of Construction” to deliver what the Second Law requires! There has to be *something* to dissociate!

Is the Phoenix a glimpse of that hidden alternative imperative? I believe it is, and I reckon that I can prove it!

The trajectory of development is never a simple “stairway to heaven”, with all improvements only by small, incremental, almost unnoticed changes. Indeed, the norm for Reality has to be the static, unchanging state we call Stability, and along with that there has to be a strong disincentive for any, or even all, novel changes to occur. It is stable and qualitatively unchanged, and hence a static phase in development!

The prevailing imperative in such a state has to be the continuing maintenance of that current state against all processes to the contrary. But, of course, if that were all there was to such a phase, then there could be absolutely NO development: things would remain much the same forever! And, indeed, such a belief in the constancy of many things is, to a first approximation, a reasonable assumption. Yet, at the same time, such a “stability” cannot be eternal!

There have to be mostly unseen processes working away against that stability, and gradually, if desperately slowly, undermining it. And that, in turn, implies the very damaging imperative into Reality – one in which it is heading for dissolution and ultimately oblivion! And just such processes are encapsulated in that same, famed Second Law of Thermodynamics. So, that extreme and continuous purely dissociative case, when taken alone, must be incorrect! Such a single Meta Law certainly does not match with the actual, universal and unquestionable development of Reality.

Indeed, what certainly seems much more likely is an alternation of both primarily constructivist and primarily dissociative processes, defining opposite and inevitable phases in the Development of Reality. And, each of these overall regimes is likely to be dominant for a time, which then, somehow, temporarily, but inevitably, switches over to the opposite regime!

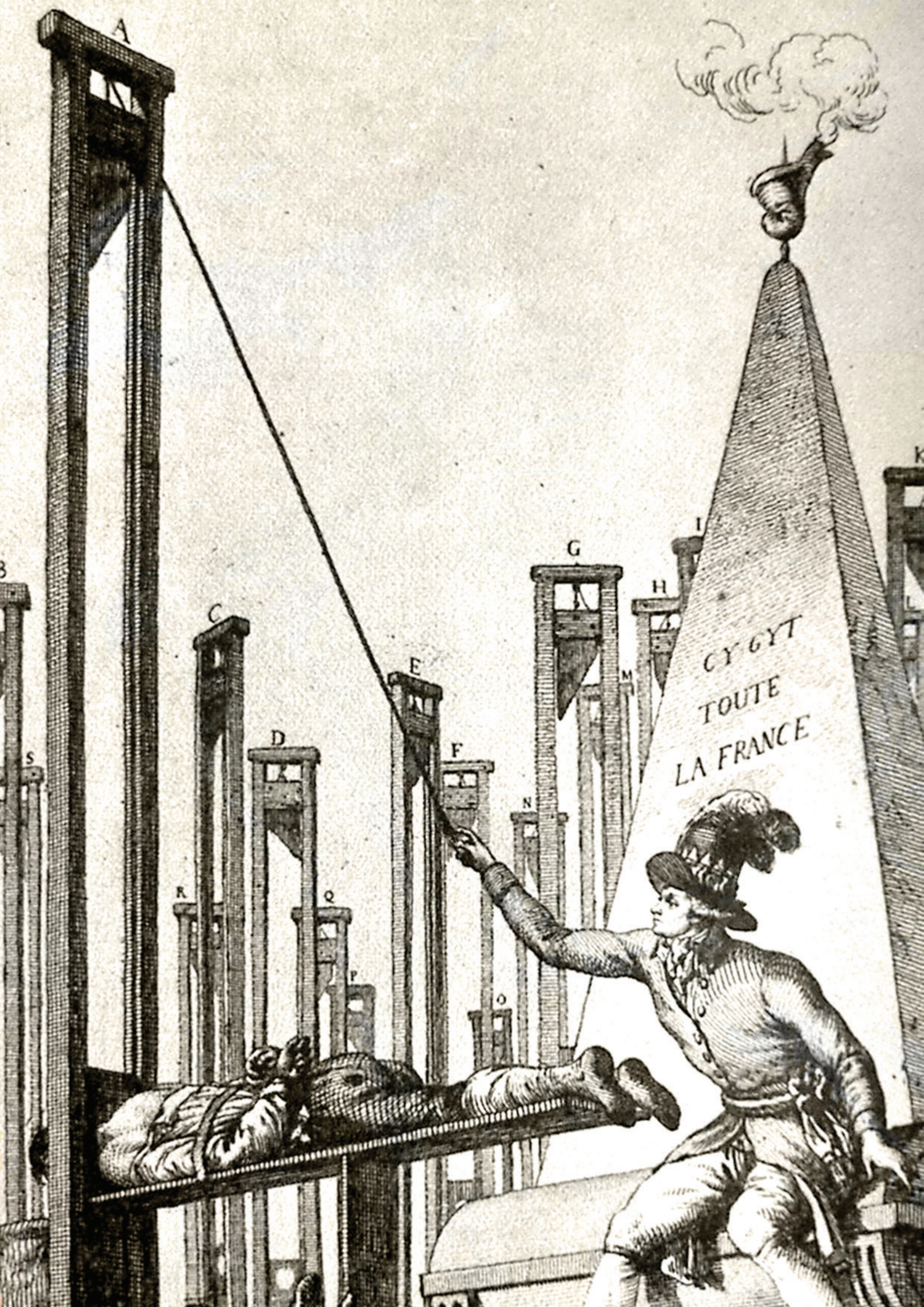
This would mean alternating phases of continuous undermining of an established and maintained Stability, followed by some interlude of cataclysmic changes, which would include, first, an incredibly accelerated total collapse, and then an equally unavoidable and innovative rebirth resulting in a very different, following Stability.

And, this does indeed seem to be the case, though it is certainly NOT immediately revealed via available evidence. Such a trajectory appears, most certainly, at least, not easily available for study, if it exists at all!

Indeed, the clearly evident periods of Stability are always long, and any undermining not usually evident as an ultimately terminating process. But, the phases of maximal changes must involve a wholesale collapse, followed by subsequent revolutionary, qualitative changes, which, if they occur, must be of exceedingly short duration!

Even in the geologists’ “Record in the Rocks” literally all of such interludes are impossible to recognise as such. The record clearly shows the periods of stability, but separated by what seem to be “step-changes” passing immediately to a new and different Stability!





There is certainly nothing there to allow any kind of analysis! For, what occurs happens too fast and with too many sub phases to leave anything discernable in those “periods of switch-over”! Clearly, something profoundly important must have occurred there, but these “Emergent Interludes” must be very short indeed compared with the means by which the record is laid down.

Now, a suggestion of what happens in those interludes has been described, and you may wonder how anyone managed to do it, with literally zero evidence! Well, it was found elsewhere!

For, development occurs both everywhere and involves everything. And, this alternating pattern is more clearly shown in processes more amenable in tempo to the lifetimes of people, to allow detailed studies to be possible. They couldn’t be in Geology, but they were also clearly evident in the Social History of Mankind.

The trajectory of one kind of Emergence was overtly available in the processes of a Social Revolution. And, Mankind was endowed with the right people to attempt it. The French Historian Michelet took 25 years to write his History of the French Revolution, and in so doing totally revolutionised both his discipline and Mankind’s overall conception of development generally.

So, what seems to be the case, from those historical studies, is that Emergent Interludes, though they are always extremely short, can, in a relatively tiny period, initiate the precipitating of a major crisis, while still within a stable overall situation, which then rapidly changes into a total collapse, and in so doing terminates that prior stability, and commences the episodes of truly major, qualitative changes.

For, the collapse does NOT involve the disappearance of the naturally occurring basic processes, but instead a dismantling of the forces that maintain and control a current, overall stability. And this means that a situation occurs in which all the usual processes are no longer acting under the prior system’s self maintained regime, and can therefore make new relationships with each other. The result involves a whole change in the resulting systems produced - indeed a creative production of things that are wholly new!

It is only outside of stability systems that new and better systems are even possible. So, unlike within a status-quo-maintaining stability, some sorts of real progress can actually occur. Such events, if they are successful, lead to higher levels of Reality such as Life and Consciousness.

It is this overall transformation, which is often captured by the poets in their “Phoenix from the Flames” allusion!

But, you can, at the same time, see why that description is, by itself, wholly insufficient. Within it, there occurs a total dissolution, at first seemingly heading for oblivion, but instead invariably going on to a wholly creative and constructive period, which, in the end, leads to a situation that is entirely new and better. And, it is this that forms the basis of the resultant New Stability, in the immediately following period, but of real developments stabilised for a much longer period.

NOTE: It is, in fact, a classic example of the transcending of a Dichotomous Pair of seemingly totally contradicting principles! Taken initially as mutually-exclusive opposites, absolutely NO progress seems possible. But, in Reality neither Continuity nor Discreteness (the classic Dichotomous Pair) can deliver anything beyond themselves, and the transcending of such an impasse sees a real development in delivering both, and, with each of them arising out of the other, though at different tempos of change. They represent, therefore, flawed abstractions from Reality, which we interpret as basic features, whereas they are merely phases in a much more complex multi-factor process happening beneath!

So, with even such a more detailed set of phases described, they still need explaining in detail. What indeed, replaces the Second Law in a whole collection of creative processes? What indeed is it that overwhelms the forces of dissolution, yet when a new stability is established, is just as restrictive of further change as was the prior, replaced stability?

Clearly, as a counterpoint to the Second Law of Thermodynamics’ imperative of insidious and continual “rust”, there had to be another opposing imperative, which could only be precipitated by a major and overwhelming collapse, as the only environment in which such a changeover could effectively act. “The Phoenix from the Flames” must be a poetic metaphor for an entirely natural, though rare, transforming event!

Yet, if this is the case, we still have to both fully and physically describe such an Event, as well as explaining how such an imperative is made to happen, and why it is both rare and so revolutionary! For, quite apart from their cataclysmic events, we must start by considering the dominating and long-lasting norm, which such dramatic episodes both terminate and replace. We must first investigate, understand and explain Stability!

Indeed, the whole trajectory must be tackled from how and why it is created, why it so tenaciously persists, and why it, as it certainly does, self-terminate!

NOTE: There are always those who inevitably locate transforming causes from “without” – originating somewhere else. But, such a route is surely just a way of NOT explaining them! The crucial questions are always how and why they occur entirely from “within”! Bringing up instances when transformations occur due to externally caused cataclysms cannot be turned into the only possible scenarios!

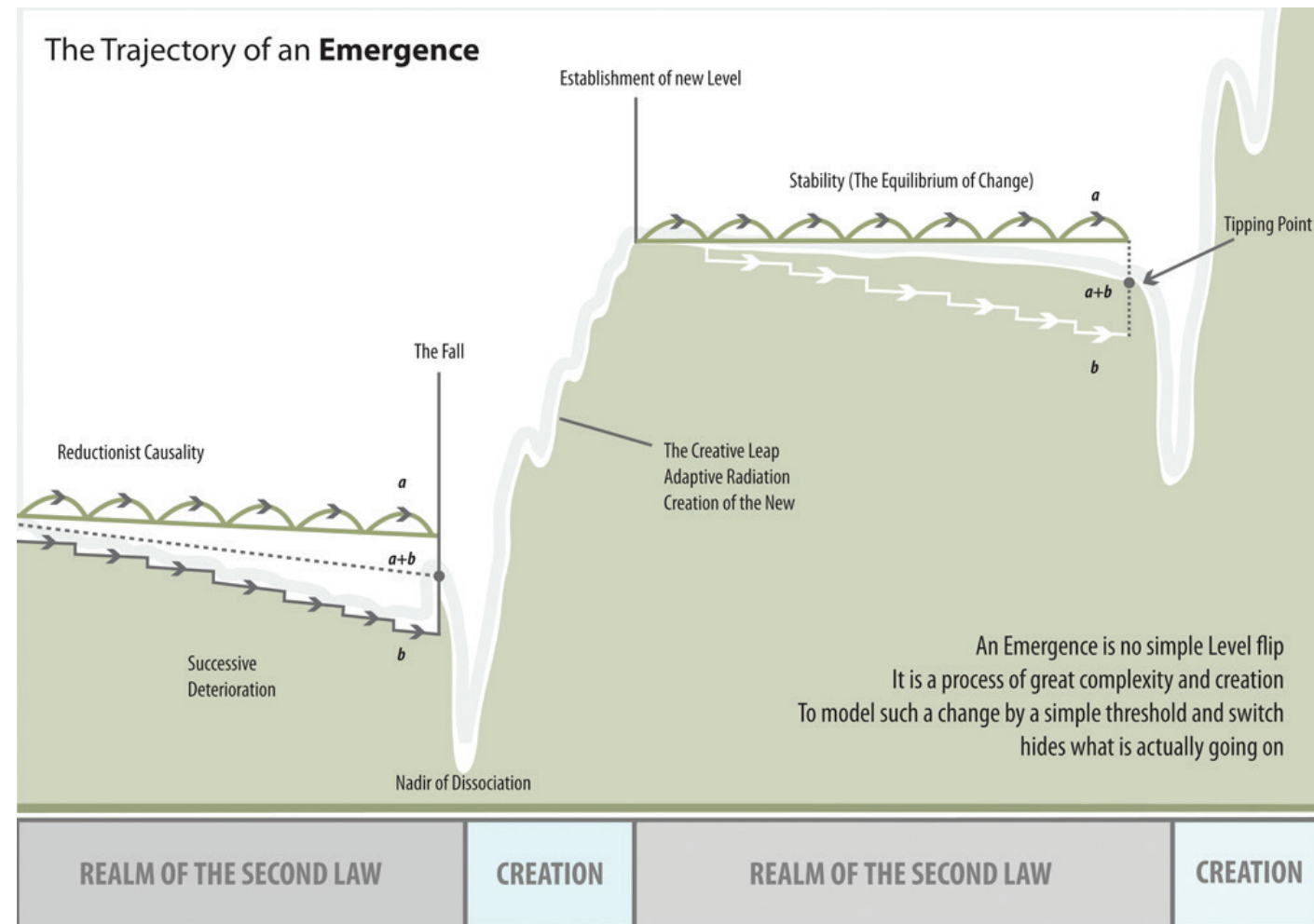
Clearly, all persisting Stabilities must involve powerful and dominating forces of self-maintenance, which can only be ultimately overcome, due to also internally caused interludes of breakdown and collapse. The very same conditions produce both tendencies, so they are not just eternal, unchanging Laws, but, on the contrary, developing and mutually interacting contributions! The ultimate collapse must be due to an ever-present and growing, though normally successfully restrained internal processes, but which, in the end, come to dominate and precipitate that major calamity!

So, such crises and collapses, are the only means by which one system is replaced by another: the overall stability is,

in one view, continuous and unchanging, but also suffers these unavoidable changeovers, as the current stability runs out of possibilities, and ever present forces of dissociation have their short and transforming period of dominance, and dismantle the prior stability completely!

Of course, such a speculative description is still wholly insufficient, and must be explained in detail to be anything other than an attractive myth! Indeed, apart from the already mentioned dissociation and collapse, the much more difficult and crucial following constructive phase must also be addressed. For, after the seeming fatal dissociation of the prior stability, it must be the case that creative, and constructive forces previously totally inhibited during the life of a stability, can then become the dominating processes, and a short period of innovative mutually supporting processes begin to build new alternative proto systems, one of which will finally be the sole persisting system, and a new stability will have been established.

Below: Diagram from The Theory of Emergences by the author (see Special Issue I of SHAPE Journal in 2010)



Having laid down some provisional overall template, it now becomes necessary to deliver the likely contents of such a process, in terms of the active factors present!

There have to be TWO kinds of processes that naturally occur (are produced) within Reality! The more primitive, numerous and initially dominant must be simple constructive processes that produce things from available resources. Such an era must have initially been wholly “chemical”, for the processes will have involved the producing of compounds from available elements, and thereafter more and more complex, yet stable, substances from these.

Yet, all of these will depend upon other processes that produce their required resources, and, only then will the processes themselves deliver, as products, resources for other potential processes. Clearly, the overall situation is composed of related processes dependant upon others, yet being, in turn, the sources for yet other processes.

Such an overall melee cannot continue in the very same state for long (though such are often assumed to do so in a presumed, and idealised, “Random Mix”). In fact, the overall system will change in composition and in dominances, by the resource and product relationships of sets and sequences of processes. It is clear that both sequences and even cycles of processes are certain to form, and then proliferate, much faster than individual processes. For, the former will exist in environments that produce exactly what they need, while those that require their products will be similarly advantaged. (Such processes are said to be mutually-conductive and will out compete individual mutually-competing processes significantly).

It is evident that the idealised concept of a continuing “Random Mix” is impossible, and the much more likely scenarios will be local Systems of Processes that together do better than isolated processes in, for them, a non-conductive environment. And, the same sort of relationships will recur at a series of appearing levels, so the larger complexes will out-compete less well-integrated systems, and increasingly dominate the situations.

But, simultaneously, a second type of process will also be inevitable, and these will be able to get their resources by parasitically robbing the energy resident in the first type by deliberately dissociating them (I think, in business, it is termed “asset-stripping”!). The second type will only proliferate best within a successful stability based mainly upon the first type of productive processes.

But, as with all parasitism, they will always be in danger of so undermining the creative processes that they could “cut their own throats” by scuppering the continuing success of the creative sub systems that feed them.

So, in spite of us only talking here about non-living processes, something very similar to competition in living organisms must take place here too. I have termed this more general type of “competition” Truly Natural Selection. (See issues 8, 9, 11 & 15 of SHAPE Journal in 2010)

Now, we must never see this as a fixed, given set-up from the outset. It must initially commence by being simple, and thereafter develop as conditions are changed by the processes, themselves, in a recursive way, and hence becoming conducive to new possible processes, which, in turn, have an effect upon what processes do best, and which are doomed to perish, or at least be dramatically diminished.

Yet, though constructive chemical processes will compete - somewhat like different grazing animals on the savannah, the demolishing kind will also have an effect, but, once again, more like the predators in Natural Selection. For, they too use the stored energy in the very material contexts of the processes that they feed upon. They cannot form constructive, mutually-beneficial chains, for they live off the destruction of the constructives. Such processes are clearly wholly debilitating!

So, we can carry over competition at the Living Entities Level, down into this more basic level, in an attempt to understand it, and it IS a beneficial exercise! We know that predator/prey relationships can cause catastrophic collapses in certain prey populations, which are then certain to, in turn, cause collapses in the predator populations too, for they no longer have sufficient prey animals left to sustain themselves. Now, such massive swings are recoverable as long as sufficient populations survive to rebuild, first, the prey population, and then, consequently, the predator numbers too.

Yet, as with the situation with living things, where other factors can put the situation beyond any redemption, clearly the very same can happen with processes, though the commonest terminator with living thing populations is when they are totally isolated, which means that they can then be wiped out, and unable to replenish living stock from elsewhere. So, similar terminal changes can also happen with non-living processes too, though the contributions to such changes can be very different!

Now clearly, the trajectory within an Emergence will reflect all these key stages, and though the collapses are clearly indicated, the recoveries, so far, are not. For, it is never the re-establishment of the prior, and now defunct, stability that is the result, but that of a wholly new level, containing completely innovative sub systems, and including some that have never existed before. And, the speed of these changeovers makes them often appear as step-changes, rather than their actual trajectories.

So, these are by no means as simple as the recovery situations outlined previously, where the very same relationships are re-established, as had occurred before the catastrophic collapses. In such emergent situations, the trajectory of rebuilding takes a new route, and though basic processes are essentially the same, the hierarchy that developed above them is very different. And, initially unhindered by the maintaining restraints of an established stability, it is then certain to involve many wholly new sequences and layers of construction. Indeed, the new stabilities as a result of an Emergence always generate new laws, relating new entities and sub systems too.

The nearest to such a situation involving Living Things is probably given by externally produced catastrophes such as that impact of an asteroid that contributed to the wiping out of the dinosaurs. For what followed that calamity was NOT a recovery of what was there before, but more like a re-birth, or perhaps more accurately, a re-invention into new systems.

The animals that survived found themselves in a new situation, both environmentally, and also from the point of view of inter species relationships. For example, literally all the main predators had disappeared entirely and even inter species competition for the same resources was almost totally removed too. The gaps left in the ecological fabric of Living Reality had their effect on those that survived, for the whole Selection Process had been radically altered. Opportunities for those survivors greatly increased, so that many niches in that fabric had become empty. So, even the usual selection pressures meant that genetic changes that would in the past have perished could now carry that organism into a vacant niche, and it would survive!

Indeed, instead of the usual pattern of development, a very different one was evident, where a single species could undergo many different and successful changes – an Adaptive Radiation would occur, which would have been impossible in a complete and tightly controlled stability.

So here, on a relatively small scale, there was another example of a catastrophe leading to an explosion of development. And clearly this would be the case literally everywhere - the Calamity would become a Revolution!

Clearly, the routes of development would be radically transformed. Indeed, the oft-revealed feature of what is called Convergent Evolution, where totally unrelated organisms began to display very similar features, and this could be simply explained by vacant niches in the fabric of Life, and the same selection pressures, now acting upon very different, and indeed surprising types of Lifeforms. Previously impossible routes could now be taken up by quite different organisms NOW moving into very similar vacant niches.

After such a calamity, many of the certain-to-succeed organisms would no longer be there, and a single species could develop into a whole range of empty niches, and would become, in time, a whole range of different animals or plants.

NOTE: Darwin's Galapagos finches developed in that way, from a single species, into a whole diverse set of different species!

This might well give us a usable analogue for what would happen at the non living level with competing processes, suffering a cataclysmic event in the same way wiping out many of the higher more complex structures, thus in the same way leaving many new possibilities for the surviving and basic processes.

In addition to these features of the calamity, it would matter greatly just how easy or difficult it would be for processes to move about and come across other conducive processes to profitably relate with.

Any great divisions of the Earth's surface into separate land areas and seas, isolated by wholly inhospitable areas, might well localise communities entirely. For, then such diverse localities in different climatic zones, might well develop in very different ways. Clearly, areas locked-into, or even just close to, permanent ice, would not be conducive to some processes, while others would find high temperatures to be ideal for them to proliferate.

Perhaps, we are finally getting towards an understanding of the origin and real meaning of the "Phoenix from the Flames".

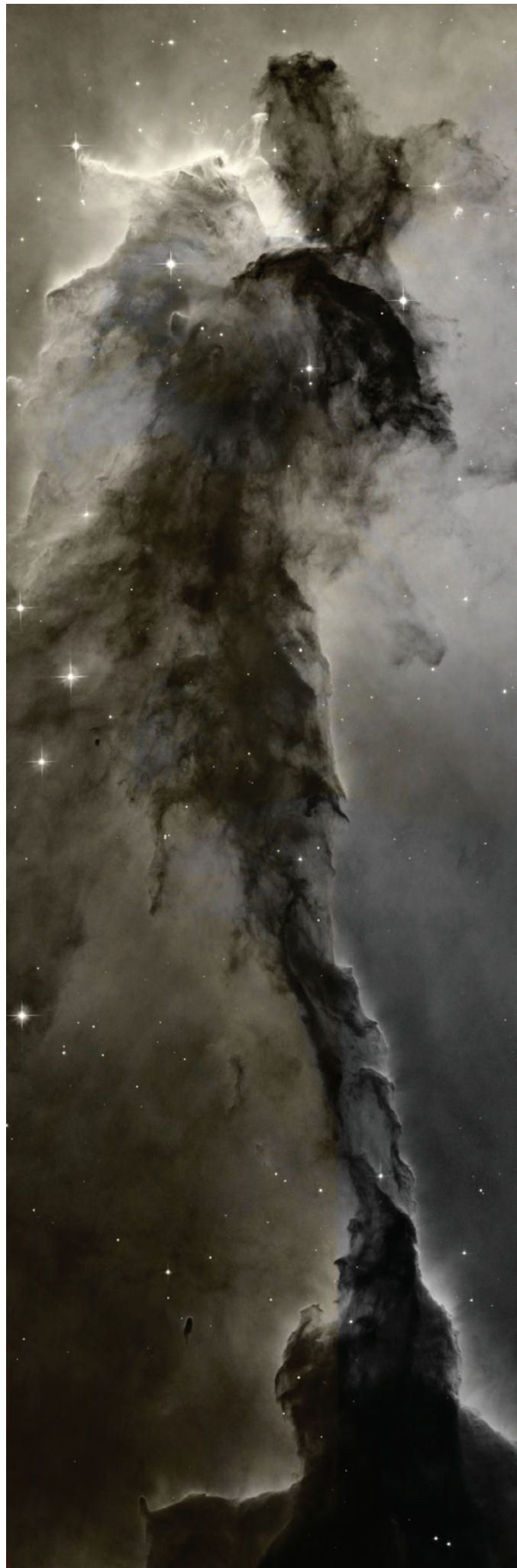
For, it is becoming clear that all major qualitative transformations can only occur if the self-maintaining status quo, due to an established stability, is entirely dissociated, for that would break the many ties-that-bind that stable and persisting state, as in removing them, it releases the situation from a host of inhibitory defensive sub processes, which by stopping any novel possibilities, ensured the continuation of that stable state.

So, when these are totally removed in such a dissociation, the relatively unbounded situation that ensued, would enable wholly new inter-relationships to be formed, without the previous prohibitions.

Now, this would NOT be a unique occurrence! That prior stability was certainly the product of a similar calamity in the past, and out of this new uninhibited state, another potential stability could also be constructed.

The everyday changes, which are clearly evident to all, do NOT make, or even contribute causally to what replaces the current stability – not even incrementally.





Following Supernovae

A completely non-living example of an Emergence “Phoenix” is, of course, the final “death” of a star in a Supernova Explosion! After a whole consequent series of collapses and “rebirths”, as available fusible elements are necessarily created and then successively used up in different fusion reactions, the last and seemingly final step in this sequence was that which produced Iron (Fe) in that sort of fusion of nuclei, characteristic of the smaller elements. But, that “final collapse” was different!

It was not the end of the story, for though there were no possible ongoing fusion reactions left, to counteract gravity’s inwards pulling, the star inevitably kept on collapsing down to an unheard of tiny size, which caused not an ongoing state, but an Event – a cataclysmic triggering of the simultaneous fusion of not only everything available, but also their products in one almighty Bang of multiple simultaneous fusion reactions. And, out of that (cosmically) “point source”, the most colossal explosion occurred, outshining whole galaxies of normal stars! Indeed, all the elements, from above Iron, all the way to Uranium were produced in this cataclysm!

Now, it is clear that without such supernovae there could be none of these elements! And, therefore the favourite humanising parable by astronomers concerns this fact – that Life itself, and, of course, ultimately Mankind too, could never have happened without such a final catastrophe. “We are all made of star stuff”, is their mantra!

So, once again, though on such a colossal, and much slower scale, the cataclysm of the collapse and its following explosion finally (and retrospectively predictably) produced wholly new elements, which were not predictable directly in the usual way. They were not only new as such, but also displayed many wholly new properties too, and hence many previously impossible further interactions and developments.

This undoubted Emergence had created a wholly new context, and consequent set of possibilities, which though very, very slow to begin with, ultimately concentrated under gravity - first into clouds, and finally into new stars and planets, but NOW containing this vast array of new elements, which, as Earth has shown, could, and indeed did, lead ultimately to Life.

NOTE: By the way, if that wasn’t enough for you, how do you now consider what the Big Bang is most likely to have been?

The qualitative changes do not happen there, nor will any investigations of a stability, ever reveal the causes of a coming re-creation.

What can be seen, however, are only the contributions to its ultimate dissociation – embodied by scientists in the “universally applicable” Meta Law - The Second Law of Thermodynamics.

All that is evident within a stability are the forces of incipient dissociation. And, therefore, all that can be predicted from it is the certain ultimate occurrence of its final total collapse.

But, the amazing thing is that such collapses are the only way that an established stability can be removed, and in so doing, can remove everything that binds and maintains that stability, and only in a form of control breakdown, can the ever present basic processes link up in wholly new ways, and build a new and different Stability

This process from crisis and collapse to rebuilding and birth and the establishment of a new stability, is relatively short and often cataclysmic. It is termed an Emergence, or in more usual language – a Revolution!



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