

From Avalanche to Control

The main problem with Emergence has always been the actual processes involved in the complete overturn of the previous situation. Such changeovers are so significant that they do not merely re-organise things, they construct an entirely NEW Level above the previous Level, which has its own entities, properties and even laws. And, believer in Emergence or not, I have to admit that so far NO scheme is as yet available for the revolutionary overthrow of the previous regime.

So, the consensus is NOT with Emergence. Most scientists feel happier with more believable processes NOT involving new Levels, entities, properties or laws. Instead, without any research into such debateable areas, they assume that what is going on IS merely reorganisation, and that given time any features will be turn out to be open-to-reductionism, and entirely explicable without all these “fancy notions”, saying something like, “We just have got round to it yet”. Another alternative is to accept the changes and find Divine intervention as the magic ingredient.

But, I’m afraid I find both these two alternative entirely untenable.

At the present time after around 400 years of Science, not a single reductionist sequence has been put together to cross ANY of the thousands of what I suggest are Emergent boundaries – NOT ONE!

NO causality (in the simple sense) has been revealed to explain any of the crucial laws that evidently exist, way above more fundamental ones that are supposed to directly produce them. Surely Levels themselves are indisputable. Indeed, the belief in Universal Reductionism (as with most beliefs) is hard to explain, especially among scientists – the supposed enemies of belief. But reductionist explanations across such boundaries are as rare as our explanations of the inner processes of Emergence. Why one is legitimate, while the other is illegitimate beats me.

Now, Emergence has never been put up as a magical event. It is obviously a natural phenomenon; a result of a situation where multiple factors and processes oppose one another, challenging the status quo, but unable to be resolved within the present Level, with its entities, properties and laws. Such situations can always be shown to contain contention, but contained within that Level in a sort of irresolvable active equilibrium.

The classic “moving image” of such a situation has to be the famed “primordial soup”, that is postulated as being the precursor to the first Life on Earth. In this situation, we are to conceive of a complex mix of entities and processes, where the context is also changing, to and fro. Temperatures go up and down. Vigorous mixing due to storms or volcanism constantly agitates the “witches brew”, and compounds form and dissociate all the time. If that is ALL we can imagine in such a situation, it is hard to see how any fundamental change could possibly happen. It is too impermanent, too agitated to allow anything to survive for long. So, we must add another ingredient to the conception – change in composition. New factors must be brought into the situation, which upset the existing “active equilibrium”. Wholly new compounds must become possible and form. With such an influx, the equilibrium could be destroyed. Instead of an “all things equally possible” tumult, there could be the arising of “bias”, where certain processes progress faster than others, and indeed several such “growth centres” could begin to compete for the SAME resources. Now instead of a “no change possible” situation, we have various competing processes growing and dominating the overall situation, where before all possibilities were roughly equal and stayed that way. Now, interludes of change over from one regime to another could, and did, arise, while the relative permanence and increase in some processes and compounds meant that there WAS time for more complex entities and processes to occur. Such a situation meant that new possibilities could occur for the first time, and occasionally such a situation could lead to an avalanche of change – a positive feedback rush! Still, though significant events, these interludes don’t actually precipitate an Emergent Change. What is needed is that such avalanches are somehow “controlled”. This control can really only be of a certain type.

All avalanches terminate by running out of rocks!

A positive feedback surge of any type has the same limited lifespan. UNLESS it never runs out of resource!

Now, how could this occur? Consider a sister process supplying the very thing that feeds our avalanche’s headlong dash. Instead of a dynamic equilibrium of chaotic, small changes, we could instead have a directional series of changes controlling one other by the provision of resource,

Such a situation is very different from our primitive primordial soup in that it “gets somewhere”. Instead of multitudinous small processes quickly cancelling each other out, we have instead processes that are more

long term, and drive toward particular ends, while being mutually supportive. Such a driven situation can arrive at a self-maintaining area, and its persistence can overturn our chaotic, ever changing, but getting nowhere mix into a regime with persistent elements.

Now, I am aware that this is a speculative leap. I have no evidence that any of this actually happened, and I have no personal drive to defend it at all costs as MINE OWN suggestion. But it is a possibility, and Emergences did happen. Being a scientist, I would suggest that experiments should be looked for, where such processes could be “re-created” in the test tube (a la the Miller’s Experiment) I do not, of course, expect a complete Emergence by such means. I mean a continuing positive feedback mix that persists and establishes a different kind of equilibrium.

(941 words)