

Imagined & Real Universes (and the Ground they deliver to our Ideas)

“*The Universe is Saddle-Shaped*”, insists one leading physicist.

“*No, it is finite but unbounded*”, retorts another.

But they are usually importing absolutes from **Ideality** (the mathematical World of Pure Form alone) into Reality (the entirety of all that is concretely existing everywhere) – the Real World!

And, you can't do that!

The abstractions explored in Mathematics can, of course, be meaningful – for we **graph** revealingly the relations between not only 2 and 3 variables, but also between 4, 5, 6 and indeed many more independent and relevant variables in all sorts of situations. And hence **require** the “geometries” of multiple dimensions to **extrapolate** the many advantages of such “displays” for these cases in the same way that they are used for relations in 2 or 3 variables.

But Space itself is NO mere graphing frig!

It is really-existing Space within which real things are situated and which is completely defined (for ALL positions) by THREE dimensions only!

We can, of course, extract relations from Reality which can have more than 3 variables. For in Einstein's Space-Time, by including Time along with the 3 spatial dimensions would consider what happened in Reality over Time using a FOUR dimensional idea, though he could never actually make such a graph. He had to use 3D projections of it, or extrapolated the properties from 3D graphs to 4D graphs algebraically.

Also, he, as a mathematician, transferred his deliberations to very familiar ground – the World of Pure Form (Ideality), and, within this, he could extend his deliberations in all sorts of ways. The confusing thing for us Common Mortals was that because he was considering the Nature of Space and not some **farmed** Domain of an actual phenomenon, we felt we could not offer up our usual complaints. Nevertheless, he was indeed doing all his work in Ideality and not Reality, though because of the **paucity** of elements being considered, his extractions would be close to the Truth in many cases.

Though we can **also** point to the certain failure of every single relation, when the action taken was outside of its necessary Domain of Applicability, we couldn't do this for Einstein's content.

But Einstein's real gains had significantly negative consequences for lesser scientists. Indeed, at the Solvay Conference of 1927, he was defeated by his own disciples, who had elevated his formalisms to cover all extracted phenomena TOO! Bohr and Heisenberg carried the day, and Physics was transformed into a branch of Mathematics, while Science was just there to provide the real-world data for the new **mathematical/physical theorists**.

But, the real Universe cannot be made to conform to the investigations conducted by mathematicians, and their clearly formal inventions, because their work is ONLY carried out within Ideality, while their conclusions are foisted upon Reality, even though they carried only Formal Truths, and NOT concrete, Real Truths.

Indeed, the discovery of purely formal Truths is easy. [I was a mathematician for a long period.] But, the extraction of Absolute Truth from Reality is, on the contrary, **impossible!** Every gain is conditional. We don't talk about Truth and Proof, (as the mathematicians do), but **objective content** which always contains closer approaches to Truth, than the older theories that each replaces. Direct trajectories to Absolute Truth can only be possible in the very limited Universe of Form alone. You can see why Mathematics is so popular can't you?

So odd types of Universe, not to mention **Parallel Universes**, are, to put as crudely as they deserve, unutterable rubbish!

Now, that is not to say that our actually-existing Universe is not a remarkably unexpected place. It is certainly that!

For without any special constraints, we would expect it to be perfectly spherical. But that is not necessarily true: it depends on exactly how it was created!

Now, if our currently existing Universe did have its Origin in something like a Big Bang, it is very unlikely to be spherical!

If the actual Event were of finite duration (which seems a very reasonable assumption), then our Universe would be a **thin-skinned Shell**, with everything confined into that outer skin.

Indeed, such a Universe is indeed **finite, but unbounded**, with an added feature of it continually expanding like an inflating balloon.

It is still within a very ordinary, non-exotic Space, but is restricted to an unusual form, and, as we shall see, this in itself has significant consequences. The properties of that Shell Universe will have to be considered.

NOTE: Many surprises still await our revealing of them even in such ordinary ideas of Space. My colleague at Glasgow in the 1980's found that two liquids in contact that reacted with one another, developed along a reaction front, which was a **Toroidal scroll**.

Let us suppose that Light can only be propagated within that thin skin. That being the case, all very limited straight-line propagations will ALL seem destined to end at either the outer or the inner boundaries of the shell. But, that isn't what usually happens with energy endowed phenomena: they won't just stop dead. A way will be found for the disturbance to continue, and if it cannot be outwards it will therefore be inwards, back into the Universe. The mechanism involved could be something very like **Totally Internal Reflection**.

If this occurs, everything is totally transformed!

At any locality within the Shell and considering only local sources of anything, our usual 3D assumptions of Space will indeed suffice, but what we get may be very surprising.

From any observation point, looking upwards into the heavens an observer will see a wholly transformed scene. This will be caused by these Totally Internal Reflections. Apart from light going directly from Source to Observer, many other light tracks will still get to that observer after Total Internal Reflections at the boundaries, and what we then see overall will be overwhelmingly **illusory**.

Each and every Totally Internal Reflection will give us the illusion of a Source situated outside the Shell Universe, or alternatively within the void inside the Shell.

These illusions will tend to give an overall impression of a really **spherical** Universe, with **no** inner void. These actually empty areas will seem to be wholly populated, but every one will be an illusory Source: a reflection of a real, within-Universe Source reflected in one or more boundaries.

In addition the external population of false stars will considerably extend the **seeming extent** of the "Spherical Universe seen.

In addition to what I have mentioned so far, the form of the actual Universe will also allow many alternative paths from each and every Source, which will ultimately arrive at the position of a particular observer. And this observer could only interpret each and every one of these as coming from a different Source in a different place.

And that would not be the end of the illusions generated!

For by means of such Totally Internal Reflections light from a single source could be set off on a route which could **cycle round** the whole Universe (primarily in its youth, when the Universe was particularly small, and then our observer would see extremely old light, which in an assumed spherical, infinite Universe would never have been so reflected and hence would have long passed all observer points and be lost forever.

Yet in our Shell Universe, some such cycling light paths could occur and be seen at the same time as more direct light from the same source.

Our observer would see a whole number of "images" of real sources that were both falsely situated in Space and would be of very different ages (the circuitous routes add vast journeys and take time).

So, even though the Space we are considering conforms to our usual conceptions of it, the included Universe is such that it will deliver to each and every observer a very odd and misleading image of what appears to be the Universe.

And it will also markedly mislead us as to both the directions in which the Sources exist and even the **form** of the Universe itself. It will not in any way appear to be a Shell!

Returning again to our initial points, we must again pose the question, “Why do we constantly mix up the mathematicians formal investigations with Reality?”

Yet the answer turns out to be as old as Man himself.

We consider that Reality is *driven* by **Law**!

Now this may not seem to be particularly bad, but it is!

A law is a formal abstraction of a relation between variable quantities happening in certain circumstances **in Reality**. The scientist when delivered (by Experiment) of a relation, THEN began his **real job** – to reveal the concrete entities, with their properties, which actually caused such a relation.

But a mathematician never does that! As soon as the relation is in his hands, he “knows” that among his collection of discovered Forms he will find the perfect match for every such relation, because this already “bagged” set are the “*essential driving features*” of Reality.

Indeed, it is but a small step from such a position to bequeathing the origination of such **essences** to the Thoughts and Intentions of a Creator.

Indeed, having known some world-class mathematicians, it is clear that they worshipped Form as the Universal **Essence of Everything**.

And it is such a belief that has gained markedly in support over the years.

You may ask, “Why?”

It is because equations are thrillingly Absolute!

Being initially formal extractions from Reality, we have to see how this was done, and what followed to see how such real things could be so transformed!

The first stage has always been to assume **Plurality** – the **Whole** and its defining constituent **Parts**, and then to transform a given locality by various rigid constraints to facilitate the revelation and extraction of relatively simple relations. So, by such means we have already *farmed* relations, rather than those existing in totally unfettered Reality.

Then, the mathematicians get to work.

They recognise immediately the *engineered relation* with one of their stock of such relations extracted by similar techniques in a different area.

What they have is an instance of the same pattern or Form.

Neither relation explains why they are thus. Such Forms are initially only descriptive.

But, as for as the mathematicians are concerned they have “**hit pay dirt**”. They immediately set about “*standardising*” or “*rationalising*” both evidently alike relations into a **single General Equation**.

What is different in this general form is that the important relation is maintained, *but given generality*, by replacing its particular constants with algebraic placeholders. All elements apart from those being directly related are changed into these replacements, which will vary from **application to application**.

Thus a given concrete relation has been successively “*liberated*” from its totally integrated, and hence hidden, role in unfettered Reality –

First – to a specially “farmed” situation.

Second – to a *generally* applicable equation.

And the mathematicians **know** what they *think* are the essences of all of Reality.

It is precisely these “liberated” equations!

And they quickly go on to “prove” their point! For all such equations are both *eternal* and *absolute* in their final processed form. They may not be so in Reality, but they certainly are in their rationalised and standardised forms! They have been extracted and purified (indeed “perfected”) into ideal and totally pure forms.

They no longer exist within Reality, but have been suitably and appropriately filtered to exist with that special World of Pure Form alone, which I call **Ideality**.

And mathematicians confine ALL their work entirely to Ideality, where absolute proofs are **entirely possible**. They learn to manipulate and even display their abstract equations in various profoundly revealing ways, which the scientists took eagerly, and used to great effect in *applying* their extractions. But ONLY in those same constrained Domains of Applicability, from which they had previously extracted them.

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