

## INFORMATION AT LAST !!

My claim is that I have discovered 'information's' ontological identity which is : '***The full set of geometric objects properly present here in our universe***'; which full set of real, lower dimensional entities includes those both of the human-made variety – all of our own signs, codes & symbols – as well as the vastly more populous class of naturally occurring ones.

As geometric objects are properly observable (measurable/ quantifiable) phenomena this particular identification allows the phenomenon to be examined with all of the rigour necessary to establish its full taxonomy, crucially including its role in all information-related phenomena such as thought, mind, intelligence & consciousness – not to omit its much less important ordinal position within the lexicon of elements making up reality. Which position is secondary. Matter shows itself everywhere & in all instances to be primary; information's secondary status obtains precisely because all real – as opposed to abstract – geometric objects exist as features-only of bulk matter – specifically as the ***shape*** or ***geometricity*** of all individual increments of solid matter.

'Thinking' is an information-using phenomenon & as knowing information's exact geometrical identity allows any units of it to be observed at any time under any circumstances it becomes eminently possible to track any being used by any properly thinking entity as the means with which it thinks thereby enabling a particularly transparent & useful clarification of this very important process, not to omit additionally, the identification of each of the various parts of the machinery involved & the function each these components performs.

Further, this particularly revelatory exercise turns out to not just elucidate the 'easy' – that is mechanical – parts of all of these information-related phenomena, but their 'hard' components also, the latter being none other than their subjectivity. Further yet again, this exercise even compels some especially rigorous albeit highly counter-intuitive conclusions as regards the ultimate quintessence of matter itself.

So then – & jumping right to my conclusions to avoid any otherwise wholly due anticipation ! I will now divulge the pen-ultimate quintessence of matter, it being also that of our own most numinous subjectivity too boot.

'Knowingness'. 'Pure Knowingness'. 'Pure Sensitivity'.

Which suggestion could be true if & only if our universe was a pan-psychic one – if & only if some kind & amount of pure knowingness existed at the heart, core & foundation of matter itself.

This pan-psychic conclusion is forced on us as the only 'thing' which exists at the seat of our very own knowingness (at the location of our very own cognitive self-conscious awareness), is some perfectly ordinary solid matter, specifically a little bit of water – a small amount of interstitial fluid.

It is the fact that this little bit of otherwise perfectly ordinary water is lodged by historical accident in between what can only rightly be called the organs of consciousness generation, which marks it out to be what it is, specifically the seat of our own conscious knowingness.

Explanation : Before any neurologically-equipped organism takes any action in regard to anything in its surrounds, its motor machinery must be quite literally 'told' – signaled – what to do; each & every component of its motor equipment must be triggered into action with the most exquisite specificity both as to those parts, as well as to timing.

Each of which action-triggerings must be further matched with the most exquisite of appropriateness to whatever is out there of interest in the organism's surrounds.

Matching moves appropriately to targets is what our brains are about. Indeed, the only thing they are about – as opposed to working out differential equations, income tax returns & quantum mechanics – & the way our central processors achieve this exquisite matching is via our 'Final, Final Summation Panels' *on which particular device is posted each & every best final summation of all incoming data.*

Our FFSPs stand exactly opposite (a few microns away) from another panel – our Reading/Triggering Panel on which is mounted all of the trigger heads of all of the nerves innervating all of our motor machinery. It is this panel-to-panel juxtaposition which enables our motor machinery to become activated in perfect synchrony with whatever final summation patterns flash up on our FFSP's.

It's as simple as that.

AND – now here's the punch line again – the one & only thing that feels each & every one of these exquisitely matched, cross-fired signalings is the little bit of interstitial fluid accidentally trapped in between these two panels – lodged where it is by historical accident in between our Final, Final Summation Panels & our Reading Triggering Panels standing opposite.

Which state of affairs, of course, makes our own cognitive self-conscious awareness nothing more than an incidental by-product of our organism's most valiant & usually successful, attempts to match each & every one of its actions appropriately to all of the interesting targets out there, each of which signals just happen to pass through 'us' !!

My assertion is this, all matter 'knows' but the only thing that knows what we ourselves believe ourselves to consciously know, feel, sense, think & experience is this little bit of interstitial fluid.

And it is very crucial to my case that it be noticed that what flashes up on our FFSPs are **patterns** – are 'pictures' – are jumbles of **geometric objects** – are **shapes** – **are ensembles of planes intersected by lines, punctuated here & there by any number of points**. If we could see our FFSPs they would look exactly like television screens with a dance of geometric objects flickering on them.

From where do we get these geometric objects I claim are dancing around on our FFSP's merrily triggering off our motor machinery but only doing so after passing through 'us'. From our surrounds. Mediums such as light & air first pick them up from their original sources, specifically objects & events of interest in our environment, then our senses harvest them from off of these mediums. Our senses are able to gather this information as geometric objects as each of our senses consists of an *array* of sensitive devices, which arrays are in turn connected to yet more arrays in the instances

of the neurological transmission lines sending them up to our central processors. If it is so constituted an *array* of variably sensitive units can receive & hold geometric objects within itself – which is the way our television screens function – as arrays of many variably sensitive pixels. Linear sequences of on/off pulses cannot house geometric objects within themselves.

In an operation of unimaginable complexity – indubitably replete with any number of ‘logic gates’ – our central processors then both process & *collate* all of these geometric objects together with countless other patterns gathered not only from each of our outwardly focused senses but also as to countless more coming in from all of our internal monitoring systems, all before posting them **as final summations** every few micro-seconds on our FFSPs.

In ‘Self Comes to Mind’ Antonio Damasio has discovered a number of these particular signaling devices located inside our heads. He calls them ‘billboards’ & what flashes up on them ‘maps’ – but an ensemble of assorted geometric objects by any other name is still an ensemble of assorted geometric objects.

Mr Damasio does not know what ‘information’ is, nor does he claim to. Nor does he claim to know what thought, mind, intelligence & consciousness are. But I am personally glad that he has discovered these ‘billboards’ – these strictly analogue devices - in our brains on which are continuously displayed ensembles of geometric objects & which latter entities are that & that alone which literally ‘tell’ – signal – whatever is next up the line, what to do.

Here now follows the definitions of thought, mind, intelligence & consciousness as derived from my findings.

**‘Thinking’** is **‘using information** (as geometric objects) **to guide & direct action as taken by some active/information-using agent specifically in regard to whatever objects &/or events the information being so used, concerns’.**

**‘Intelligence’** is **‘using the available information in an existentially efficacious manner; intelligence increases as the kind & amount of available information increases & also as to the efficacy with which that information is utilised’.**

**‘Mind’** refers to the kind & amount of thinking machinery any higher order, or *consciously*, thinking entity possesses & the subjective experience of feeling/sensing this machinery’s operation. Mind is not consciousness per se but all of the rest of the mental machinery which ultimately produces each final summation.

Both **information** – as geometric objects – & **thought** exist here in our universe in several different kinds, **‘consciousness’** is *thought* of the 2<sup>nd</sup> Order & occurs exclusively in those otherwise properly thinking/acting entities such as all animals, which utilise 2<sup>nd</sup> Order information within their thinking – guiding, directing – machinery.

2<sup>nd</sup> Order information is ‘medium bourn’ information & its utilisation enables its user to inform itself of objects & events at some spatio-temporal remove from itself – specifically from wherever the mediums from off of which it is harvesting this 2<sup>nd</sup> Order information, first picked it up. The utilisation of 2<sup>nd</sup> Order information enables any user thereof to think about (to become conscious or

aware of) things & events **outside of itself**. 2<sup>nd</sup> Order thinkers are able to guide & direct themselves (i.e. think) 'at a distance'. Higher order – or conscious or 'distance' – thinking is impossible without an on-board cybernetic system linking sensory-harvested incoming 2<sup>nd</sup> Order (medium bourn) data with appropriate motor machinery actions. (Our own signs & symbols belong to orders of information up at the 5<sup>th</sup> & 6<sup>th</sup> levels.)

Within all of their interactions with one another all increments of solid matter use each other's shapes – each other's geometricities – as critical but not only, guiding/directing elements as to those responses. This being the case we are compelled to recognise that 'thought' as the use of information to guide action, is an innate capacity of matter & occurs on the most routine of bases no less than each & every time any two bits of solid matter interact with one another – duly using each others' shapes in conjunction with their own to guide those responses.

My findings compel me to conclude that not only is information (as all of the geometric objects present here) thoroughly ubiquitous within our cosmos, not only that the ultimate quintessence of matter is 'knowingness' but also that thought is an innate capacity of matter as all interacting matter uses information (in the form of its fellow interactees' geometricity) to guide & direct all of that action. Which phenomenon is thinking.

**Cognitive self-conscious awareness** occurs exclusively in those thinking agents which are able to utilise some critical mass of information gathered from directly within themselves to assist in guiding & directing their actions. Roughly half of all incoming data comes from within inside conscious animals such as ourselves.

**Meta cognitive self-conscious awareness** occurs exclusively in those entities which are able to utilise information gathered from within their own thinking machinery itself & collate this inside-the-central-processor information with all of the other information they are utilising as gathered from both outside themselves & from within their own personal motor machinery.

Having successfully delivered these 'bombshells' as to the existential status of both consciousness & matter etc, I will now proceed in a more logical fashion, specifically by re-introducing the particular 'things' I claim to constitute the ontological identity of 'information' – namely 'geometric objects'.

After I have re-introduced geometric objects in a more formal fashion, I will then provide several bodies of corroborative evidence which I consider to be 'proofs' that each geometric object present here in our universe is also one & at the same time a unit of information; that every geometric object here in our cosmos carries at least one, some several, items of information, gratis, on its back – literally.

And vice versa, that 'underneath' any unit of information here in our universe whether those of our own making or of the naturally occurring variety, there will be found to exist some one or another geometric object either human-made or naturally occurring, of some one particular size & shape.

### **The Ontology of Geometric Objects**

There are three kinds of geometric objects – **planes**, **lines** & **points**. Common words for **planes** are 'areas' & 'regions'; for **lines** 'distances' & 'extensions', & for **points** 'spots' & 'locations'.

**PLANES** : There are two kinds of planes – 'spherical' & 'circular'; or Primary & Secondary.

**Primary or Spherical Planes** : Every fully enmassed, fully solid body present here in our universe is enveloped in a geometric object of the planar variety, called a Primary or 'spherical' **plane** – which particular entity exists 'skimming' over the solid body's surface exactly like a skin or coat of paint. Or, even more prosaically, like one of those see-through, heat-sealed, heat-shrunk plastic or cellophane wrappings sported by many an item for sale adorning our supermarket shelves these days.

Were you to imagine each & every single, individual, free-standing solid object present here in our universe – regardless of that solid object's individual size, shape, composition, location, movement & life history – to be wrapped in one of these aforementioned heat-sealed plastic or cellophane wraps you would have done a very good job of imagining all of the primary, or spherical, planes present here in our universe.

Spherical planes are called so not because few if any are perfectly smooth & round but due to the fact that each envelopes its underlying owner/bearer *globally*. Even solid bodies sporting the most uneven & irregular of shapes have spherical planes wrapped globally all of the way around them, each of which dips into or flows over each & every irregularity, hump, bump, peak, crack, crevasse, sharp edge & corner of its underlying owner/bearer's irregular surface features – just as well as each covers all smooth flat areas.

**Circular or Secondary Planes** : Now imagine that you are ironing your son's Superman Cape & you accidentally bump the hot iron into the cape's plastic wrapping, which particular item you left sitting on the wide end of your ironing board. With this dent-making bump you have just created a brand new plane here in our universe, in this instance a 'circular' one.

Circular planes are so called not because few if any real, naturally occurring ones are perfectly smooth, flat & round but simply due to the fact that each exists as a 'fully **encircled** area'.

**LINES** : And the particular 'thing' which encircles each circular plane present here in our universe – encircles each left-over bang-mark, scratch, dent & scar present here in our cosmos – is a **line**.

Lines exist in two different kinds also, circular & truncated, & some truncated lines are also branched.

**Circular lines** have no ends to them as they circle all the way around & join back up with themselves. **Truncated lines** have two ends; **branched lines** have however many ends they have branches.

Imagine that you bumped your hot iron into your son's Superman Cape's plastic wrapper many times. Notice that there now exists a positive jumble of brand new bump marks – brand new circular shape-planes – on the plastic wrapper & although each originally had a single unbroken *circular line* all the way around it many of those lines now intersect one another & chop each other into smaller,

'truncated' pieces ; into lines which have ends on them, some even being branched & therefore having several ends.

All (real) geometric objects exist quite literally squashed in between other things. Which is the reason all of them are 'infinitely thin' – that is to say have no extension into the 'third' familiar spatial dimension, commonly called depth or height.

Every one of the perfectly real **spherical planes** present here in our cosmos exists quite literally squashed flat – down to infinite thinness – in between the surface of its solid underlying owner/bearer & whatever else is bearing down on, touching or blanketing, that surface.

Note : Every individual, free-standing solid body present here in our universe is enveloped in a repulsive electrostatic force field. This all enveloping force field is the reason solid bodies in direct bodily contact don't instantly meld into one another. These all-surrounding repulsive force fields enable all solid bodies to repel anything else that touches them. Of course some of these electrostatic force fields are stronger than others & provide their owners with much greater repulsive power. Note the relative weakness of drop of water's surface tension.

The reason I am mentioning this particular phenomenon is simply to note that although both planes & electrostatic force fields are all-surrounding surface-dwelling phenomena & although each & every single, individual, free standing solid body present here in our universe has both of these properly real entities fitted snugly all over its surface, geometric objects & repulsive electrostatic force fields are **not** the same thing. Geometric objects have no material properties such as 'forces' or 'energies' attached to them – they just ride around on top of their creators' also-surface-dwelling repulsive electrostatic force fields doing nothing – completely inertly.

Think of pushing two inflated balloons together. Consider the *area* of non-inter-penetrability between the two, which *region* exists where the two touch one another. This region is real – it has length & breadth. It is a circular plane. It is to be distinguished from everything else here in the universe because it exists as to the one & only area of contact between the two balloons. *It exists as to the area of non-inter-penetrability existing between the two balloons.* But it is not the 'thing' that 'forcefully' prevents the two balloons from melding into one another, which repulsive energy comes from each balloon's own electrostatic force field. This utterly real wholly measurable, but in & of itself totally inert two dimensional geometric object nevertheless clearly marks out where that impenetrability exists.

Most lines exist squashed in between two planes. As already noted all of the countless left-over bump-marks present here in our universe no matter how irregularly shaped, have circular lines encircling them, which means that all circular lines exist squashed in between whatever smaller circular plane (smaller bump-mark) exists enclosed within them & whatever larger area (larger plane), or ensemble of smaller planes, exists outside of them.

**POINTS** : And as for poor little **points** each of these diminutive entities exists squashed in between any three or more touching, sharp-cornered solids. Think of a neatly stacked pile of blocks. Notice that literally squashed right in the middle of the stack there is just one location where one each of the sharp corners of each of the stacked blocks, touches the others.

Now that I have re-introduce real geometric objects back into the realm of human discourse, I now turn to my proofs that each & every one is also a bearer of information too.

### **My 'Proofs'**

(1) 'What's good for the goose, is good for the gander'. Stripped of their meaning all of our own human-made units of information – all of our own signs, codes & symbols – are nothing more than geometry objects plain & simple. Which 'proves' that geometric objects are perfectly capable of carrying units of information – gems of wisdom – on their backs & are so capable whether of the human-made or nature-made variety.

(2) All of the naturally occurring geometric objects out there in the wild do verily indeed have items of information riding on their backs – perfectly determinable items of information – gems of wisdom – intimately associated with their persons.

Here are some naturally occurring geometric objects : Footprints in the sand, craters on the moon, fingerprints at a crime scene, ripples in a pond, love letters in the sand, vibrations emanating from a beaten drum, Big Bang ripples in the microwave background radiation, Sylvester Stallone's black eye.

Of course, we ourselves assign the particular meanings that our own human-designed signs, codes & symbols (geometric objects all) carry on their backs, doing so as & when we create them. In some high & certain contrast, all naturally occurring geometric objects – all of the 'shapes' out there in the wild – come with their meanings built right into them, naturally.

In order to determine the meaning of any humanly-made geometric object carries, we enquire that meaning of their inventors, or their proxies. But all that is required in the case of any naturally occurring geometric object is that it be measured as to its size & shape with a tape measure & pair of calipers, only. Not weighed, smelt, tasted or felt, its Ph tested, its electric charge ascertained, etc, etc as geometric objects possess absolutely no substance whatsoever & therefore & perforce, have no substantial properties of any kind or amount. Scientist & technicians use precision instruments when making these determinations, but for every day purposes our own fingers, eyes & ears make for perfectly adequate measuring instruments.

(3) 'If it quacks like a duck, waddles like a duck & gets treated like a duck, it must be a duck'.

Copying, storing, transporting, transmitting, transforming, processing, collating – these are just some of the operations – or 'treatments' – we routinely & *characteristically* perform on our own human-made units of information – on our own signs, codes & symbols (geometric objects all).

Nature performs all of these operations on its own nature-made geometric objects also – not always to exactly the same purpose but it performs them just the same, which observation is meant to be additional evidence that all naturally occurring geometric objects are also one & at the same time also units of information too.

For example, the processing of information is an incidental by-product of 'erosion' !! From Edward de Bono is 'The Mechanism of Mind'.



**‘Processing’** is defined as ‘*sorting newly arriving information* (or anything - rivulets of water, apples, postage parcels, lumps of iron ore) *according to established sorting protocols*’.

The very first rainfall to land on any terrain carves out a medley of erosion channels in the landscape’s surface. Each subsequent rainfall not only gets sorted – processed – down the very same set of channels but cuts them even deeper. The existence & shape of these channels are information as to the nature of way rain runs off of that topography.

One of the defining aspects of ‘processing’ is that all subsequent ‘in-flows’ are directed down pathways (through sorting devices) along which any subsequent in-flows would *not necessarily* take were they the first flow to traverse the terrain.

The very first impressions that flow through any human infant’s central processor also cut out very specific ‘channels’ within the infant’s neurological circuitry. Which ‘channels’ (which lines of lowered action potential) strongly determine the flow of all subsequent impressions thereafter. And which direction of flow few or no subsequent information in-flows would *necessarily* take were they the first to carve their way through any individual’s brain.

**‘Copying’** is an ‘operation’ we routinely perform on our own human-made units of information. Although - & also like our own information copying procedures nature-made copies are always less-than-perfect – naturally occurring geometric objects get routinely copied onto almost any solid body that comes into direct bodily contact with them, & from which mediums (light, air, sandy beaches) they can often be re-copied again & again & again. Consider how many new arrays of light per second strike any lit surface bounce off it carrying patterns in the shape of that surface within itself !

**Transporting** geometric objects. Speaking of light, arrays thereof carry – transport – frequency patterns (ensembles of geometric objects) with them wherever they go. Plate tectonic movements carry petrified dinosaur footprints back down into the magma. Etc, etc.

**Storing** geometric objects ? Anything can be said to be ‘stored’ as long as it exists as whatever it is. As long as any naturally occurring geometric object remains in existence as such, it can be said to be ‘being stored’.

For as long as they last all of the left-over bang-marks present here in our universe store whatever information they have on their persons during that time. Consider the Big Bang ripples in the MWBR stored there for 14 billion odd years. Indeed, copies of original (geometric objects) not infrequently remain long after the original has ceased to exist. Think again of petrified dinosaur footprints or of Big Bangs.

The neuronal pathways laid down (eroded into our circuitry) in early childhood (& additionally as to any subsequent excessively emotionally charged event (traumas & epiphanies etc) constitute our own memories. This obtains simply due to the permanency of the circuits laid down at these particular times.

(4) ‘Geometric objects’ is the one & only correct answer to David Deutsch’s question in his ‘Edge’ video, in which he tells us that he is searching for ‘information’s’ ontological identity (among other things) : ***‘I’m speaking to you now : Information starts as some kind of electrochemical***



***signals in my brain, and then it gets converted into other signals in my nerves and then into sound waves and then into the vibrations of a microphone, mechanical vibrations, then into electricity and so on, and presumably will eventually go on the Internet, this something has been instantiated in radically different physical objects that obey different laws of physics. Yet in order to describe this process you have to refer to the thing that has remained unchanged through out the process, which is only the information rather than any obviously physical thing like energy or momentum.'***

Answer : 'Geometric objects.'

Geometric objects are the only phenomena that can be & routinely are transferred from medium to medium & yet retain their shape – at least this obtains as to certain mediums as on others they fade quickly away. Which is why we choose our mediums with a careful view to their ability to carry information in the form of geometric objects on them stably.

(5) 'To whatever extent you believe that we ourselves think with information, to precisely that extent must you find yourself persuaded that information is geometric objects, as it is the latter & the latter alone, with which we ourselves think' – not with digits, not with long strings of algebra nor complicated algorithms, calculus, differential equations. Purely analogue-ly with pictures, with patterns, with ensembles of planes intersected in lines punctuated here & there with points. Patterns that only 'make sense' (literally) to our motor machinery, but geometric objects regardless of how our thinking machinery processes them or our motor machinery uses them.

(6) Our very strong feelings that our thoughts are completely weightless & totally intangible would be wholly justified if & only if they were composed of geometric objects, as these particular entities are the only real things existing here in our universe that are wholly intangible & completely weightless yet things that can be both readily measured as well as, in theory, be readily seen passing through any properly thinking entity's thinking machinery as it thinks therewith.

## Conclusion

I am confident that 'information' is the sum total of geometric objects otherwise quite properly & quite really – not abstractly nor imaginatively – present here in our universe, for among other qualifications each carries at least one unit of information on its back, & due to the fact that they are eminently observable phenomena, any of interest can be confidently traced wherever they exist at any time, including as to any that are being shunted through – used within – any properly thinking entity's thinking machinery, & that when any such 'tracing' exercise is undertaken as to our own thinking processes they become sufficiently clarified so as to allow accurate establishment of the ontologies of all of the phenomena directly involved therein – such as thought, mind, intelligence & consciousness. And further, this particular information-tracing exercise even throws some especially clarifying light of the nature of the ultimate quintessence of matter itself.

## References

1) Information is something that can get transferred sequentially onto any number of physically different mediums & yet remain unchanged during that process.

David Deutsch's 'Edge' talk/video [10.22.12] Edge.org, titled 'Constructor Theory'.

2) 'Billboards' with 'maps' on them constitute one of the key components of our own mental machinery.

'Self Comes to Mind: Constructing the Conscious Brain' Antonio Damasio. Knopf Doubleday Publishing Group 2010.

3) A collateral benefit of erosion is information processing.

'The Mechanisms of Mind' Edward de Bono, Penguin Group 1990.