

Understanding Explicit Existence - Part 1: Primordial degrees of freedom and the ontology of information

By Allan Porter

The concepts of nothing and everything are synonymous - both representative of that which presents no internal distinctions. Think of a canvas. If every possible point on the canvas is painted red then the canvas itself is solid red. If no possible points on the canvas are filled in at all then the canvas itself is solid white. In both cases the canvas is internally indistinguishable and lacks an internal structure.

Note that the only reason there is a distinction between red and white in the first place is because there is a concept of color as a state, as a degree of freedom. This concept only exists because colors can differ from one another across experiences within the mind of an observer. If there was only ever the red canvas or the white canvas itself there would be no conception of other colors. The canvas in both cases would be perfect and internally indistinguishable. Only when there is a conception of multiple colors within the same mind or “informational backdrop” does color actually become a degree of freedom - or an informational element capable of uncertainty.

Information itself simply means something that informs. What it is ontologically is that which fills in gaps of knowledge or minimizes the uncertainty of a degree of freedom.

Bits of information are therefore similar to puzzle pieces in a puzzle. The puzzle here represents a degree of freedom such as color. For example, in order to solve the puzzle of color and determine what color something is the human brain needs to invoke a host of neurons in order to resolve the puzzle of “color” simply based on the *information* that it takes in via the retina. Information in this case informs the degree of freedom of color.

However in a broader sense why is information ever necessary? Returning to the example of the puzzle - when a puzzle is complete there exist no uncertainties within the puzzle - it is certain where every piece needs to be oriented. Similarly, when there are no pieces to a puzzle completed at all there is no indication that there even is a puzzle and no indication which piece need go where. This presents as infinite uncertainty. However, in its essence if there is no “puzzle” there is also no problem and there is nothing to complete. Information cannot help inform on the degree of freedom that is the puzzle without having a contextual “starting off point”.

In both cases of the complete puzzle and the empty puzzle, there is “implicitness” meaning that there is no problem or gap in information to solve at all. Only when there are puzzle pieces beginning to be laid out does the concept of a puzzle form. Without any pieces, there is no knowledge of a puzzle needing to be solved and no possible information that can be used to solve it. Only when some information is given can more information be integrated that helps to solve the puzzle. What this is meant to show is that in terms of information, both infinite certainty and infinite uncertainty are in essence the same thing - that which require no information. Information is only necessary to inform on the state of an entity. Without any notion of internal distinguishability there can be nothing that indicates information can be reconciled in order to solve a problem. In the case of a puzzle the existing pieces of the puzzle inform where future pieces of the puzzle should.

In the example of color, certainty of color means there can only be one color. There is no puzzle to solve and no information to inform what color “it” is - simply because there is no indication that the degree of freedom of color even exists. This is to say that different colors

exist in the first place because there is an element of uncertainty. Which color is it? There cannot be a conception of two colors at one time. This begs the question of how the concept of color or any degree of freedom can ever come into existence.

The answer lies in the conception of time. Time is necessary to break out different experiences. Within those different experience there are different perceptions. Within those perceptions there are different colors. Objectively in the absence of time there can only be one color. Time is therefore necessary for the existence of differing colors (since in order for there to be 2 colors there must be 2 perception of color which imply those 2 perception must themselves happen at different times). Time is therefore needed as a “dimension” of information that denotes the process of the determination of color itself. Color without time would be implicit. There would be no concept of color because there would always be just one color. Only when time is inserted in the equation can there ever be different colors which means there can ever be uncertainty. Moreover, when there is information to inform there is always a degree of uncertainty within a system. When there is a degree of uncertainty within a system there must be a differentiation of possible states of an entity. The only way that there could exist differing states of an entity is if there are multiple observations of those multiple states. Multiple observations require multiple perceptions, multiple perceptions require multiple moments, multiple moments require the existence of a dimension of time. Time is therefore necessary for information to exist and inform on the uncertainty of a degree of freedom.

Without time there is eternal certainty across all possible degrees of freedom. Only with time can there exist probability and uncertainty. The dimension of time doesn't exist implicitly but rather as a means of making sense of a contextual gap of information. Degrees of freedom only exists when there are possible distinctions within something. Something can only have distinctions when there is time present. In the absence of time there is no degree of freedom because the value of that variable is always implicitly itself.

Now in a broader sense, complete certainty means that there cannot be time. Time is only needed to make sense of the differentials between the states of entities. Without differing states of entities time is redundant and does not exist. If everything is only in one state of itself there is no time because there is no deviation in its dimension. When there exists no deviation in a dimension the dimension does not exist because it has no size. It is eternally bounded unto itself. Time therefore subjectively exists but does not objectively.

Something from Nothing/Everything

Now in order to understand how something can come from nothing/everything it is imperative to reiterate that nothing and everything are the same thing - that which is eternally implicit - that which has no uncertainty regarding its internal structure. The question becomes how this eternal certainty can ever lend itself to probability and uncertainty in the first place.

To understand this one must understand that even though objectively there is an eternal implicitness there are also potential uncertainties within the infinite certainty. These potential uncertainties can on their own present as “clumps” of uncertainty within the eternal certainty and present as potential problems within the infinite solution. These problems then can be contextually resolved by simulating a reconciliation of information unto themselves. This process occurs when these clumps are recursively broken down and undergo meta-analysis. This can be envisioned by imagining a whole - perhaps a block. A block seems perfect on its own as just one thing. Yet when analyzed it holds a complex internal structure. One must “break down” the wholeness of the block into its components in order to probe its structure.

Once the block is broken down each of its internal components can then too be broken down. This illustrates a recursive chain of analysis.

Now to return to the question of how something can come from nothing (or everything), the nothing (or everything) must be broken down. How can nothing be broken down if its perfect and lacks components? The answer is that its implicit symmetry must be destabilized. Analyzing the nothingness much like the block destabilizes it and “splits” it. This extracts information from the components of the nothing and creates unto itself a dimension - a degree of freedom from nothing. This can be likened to imagining height on a 2d plane. On a 2d plane one's value in the dimension of height is always implicit. It is always at relative 0 cause there can be no other point on the axis of height without a dimension being present and height existing as a variable.

Now what if the height of the 2d plane is analyzed? Even though there is no concept of the dimension of height what if it was theoretically analyzed and conceptualized anyhow? Then the “hypothetical dimension” could be broken down.

If this would occur the eternal 0 value that presents as the dimension of height on the 2d plane is split into a negative and a positive. Objectively, there is still a sum of 0 since the positive and the negative add up but subjectively when just looking at the negative (or positive) side, there is a real value in the dimension of height. This is how degrees of freedom are created. They are created by analyzing what's certain or implicit and then contextualizing only a sub-group of elements within that themselves don't add up to the whole. This can be likened to one taking a shovel and digging into the flat 2d plane - creating both a hole with a real height and also a protruding of mud also with a real height. From the context of the hole, there exists a real dimension of height even though the hole and protrusion objectively even out.

Similarly, the totality of everything that exists represents as that which has no degrees of freedom and is eternally itself certain. However within it there can be contextual “gaps” in certainty that then act as degrees of freedom. These degrees of freedom then require information in order to contextually solve them. These can be likened to contextual 3d “holes” in the 2d plane of reality.

From an informational point of view, everything as a whole is therefore implicit and there is no “problem” or uncertainty that information can solve. There is no gap in the totality of knowledge. This presents as a primordial state of implicitness. Within this primordial state of implicitness, there is nothing independent that exists since the independence of entities is simply a result of analysis and breaking things down. Analysis is the process of breaking down information into the nested components of the information in order to learn something about the internal state of the information. This only must occur when there is uncertainty present. Recursive analysis is then deployed in order to learn and resolve the uncertainty. Universes or “Minds” are then canvases where information can be utilized to solve these contextual puzzles.

The question then becomes how a primordial implicitness ever presented a “problem” needing to be solved or a gap in the certainty of information. Retuning to the example of a flat 2d plane - When there is only a single flat plane, an eternal moment there is no time and there is no idea of time. There is always 0 size in the time dimension and the existence of time is never necessary because it is implicit. Analysis here is not required. However, splitting the 0 sized height dimension renders a positive and negative value in the height dimension. This creates a real degree of freedom - temporality in a time dimension. From the context of the 3d hole dug into the plane, time exists as the height dimension that is created when the dimension of split. Time is then needed to make sense of how to analyze the hole and reconcile the information necessary.

A universe is therefore in its essence a contextual reconciliation of information. The whole itself is always infinite and implicit (certain). There is never an objective gap in knowledge within the whole. Contextually however there can be components of the whole that when singled out present uncertainty (when contextualized). In order to reconcile these uncertainties, minds need to be instantiated to act as canvases for information reconciliation. Minds act as a backdrop for the “puzzle” that is deployed to resolve the newfound degree of freedom that itself was created upon the creation of the new dimension (ie the hole in the 2d plane). Time is the dimension created within the hole that is needed to act as a means of keeping track of information that is reconciled. It is the dimension formed when implicit certainty is split into uncertain components.

Minds are therefore canvases meant to solve contextual gaps in knowledge within that which there is objectively no gap in knowledge. Objectively everything is implicit. Contextually, there needs to be minds to reconcile contextual uncertainties. The process by which a mind “learns” and “experiences” within the dimension of time is itself an effort to reconcile the contextual informational gap that itself is caused by a broader recursive chain of analysis.