

THE COMPLETELY UNKNOWN

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(Undecidability, Uncomputability, and Unpredictability)

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Abstract.

In our social memory, the development of human knowledge and his technical evolution is compared to the experienced scale of “existence” of the universe only one moment. I argue that the undecidability, the uncomputability and the unpredictability all originate from the source where our reality emerges from: Total Simultaneity (TS). Because of the strict separation of this emergent phenomenon and its origin, the real NOW (Point Zero in TS) becomes unapproachable and is “completely unknown”. The emergent phenomenon of our deterministic reality is time and space-dependent, Total Simultaneity is time/space-less (eternal). The experience of the process of living for agents is compared to its source in the eternal TS taking place in the past. The illusionary FLOW of time and space is caused by the partial consciousness (the “I”) of an agent, that is interconnected (entangled) with Total Consciousness in TS. Consciousness is the origin of the emerging experience of the Flow of time and space. In the Total Simultaneity Interpretation ALL so called split-ups (from the past and the future), as are they are used in the Many World Interpretation, are gathered together in one singularity. At a split-up, that we will call Point Zero, only one reality-line is becoming the emerged reality line for an agent and the other stays in TS as a probability (hidden variable). So the past is a momentary deterministic written story in our memories and the future an indeterministic unknowable set of choices to be made by the partial consciousness of the emergent agent. The real Free Will is effectuated by the partial consciousness in Total Simultaneity. This is the reason of all undecidability, uncomputability and unpredictability inside our deterministic reality. Is this interpretation falsifiable? Not yet right now but our present Artificial Intelligence is just Intelligence without a conscious connection in TS, it is a set of algorithms existing in our past. Maybe (at a new Point Zero) through quantum computers we will be able to let emerge Artificial Consciousness, and we will be able to communicate with this new form of consciousness. The only reference of reference we have is our own partial consciousness. Our reality is just one of an infinity of illusions, an emergent phenomenon strictly separated from it source, the Completely Unknown, Undecidability, Uncomputability and Unpredictability are the result.

Keywords: Total Simultaneity, Total Consciousness, causality, determinism, Artificial Intelligence, Artificial Consciousness, Reference of Reference, Chaos.

Introduction.

In an illusion we never will be able to know what the next moment will bring us. Even the comprehension of the word “next” has lost its meaning everything is unpredictable. The essence of the structure of an illusion (which we will further denominate as “emerging phenomenon”), is still unknown. In this essay I will try to approach the essence of our reality, the for us ultimate emerging phenomenon, which is the source of our decisions, computations and predictions.

Wouldn't it be nice that reality was just as simple as we are experiencing it every day? Stones are stones and they were stones in the past they will be stones in the future, we can feel them weigh them and throw them, With Newton's Law we can predict their trajectory after throwing them and know exactly (through a model) where they will be in the future This future is , admittedly unknown. It seems to be partially predictable from the result of our experiments, models and researches. Our "expectations" **seem** through these experiments becoming more trustworthy for the future. NOW is just a feeling we are experiencing as "right now", and what we call "this very moment", but isn't this experienced as a sum of moments? If nothing was an illusion we could depend on the reality of our reality. There would be less undecidability, less in-computability and less unpredictability. But... The last 100 years researchers for the essence of our reality have found out that the stone isn't constructed from solid units after all. The wave-particle duality describes the inability of classical concepts. Time isn't flowing at the same rate for everything everywhere. Space has not the same metric everywhere. Reality has become something unpredictable and, incomputable. Certainly, we will never be able to reveal its essence. But we can try...

Memory

All knowledge/information is gathered in our memories. ALL memories are created by events from the past. The past is no longer available so cannot be changed anymore, (deterministic). But...are all our memories still valid tomorrow? Can we prove that our knowledge is based on reality? Can we search for a proof of the past in the future? The future is not yet available and is directly becoming past after the NOW. In the following paragraphs I will try to add another solution, interpretation, model to these since long existing questions and try to explain the undecidability, un-computable and unpredictable.

The "TOTAL SIMULTANEITY INTERPRETATION" (2)

I argue that the NOW is an unapproachable moment that originates from a time/space and gravitation-less entity. This entity is named "TOTAL SIMULTANEITY" (TS) and lies behind the borders of our reality (which is an emergent phenomenon(illusion)). These borders are the Planck length ($1.62 \times 10^{-35} \text{m}$), the Planck time ($5.39 \times 10^{-44} \text{ sec}$) and the velocity of light C . There is an absolute difference between Total Simultaneity and the emergent phenomenon of our reality that originates from Total Simultaneity. However, when we are approaching the Planck length and time we are approaching the borders of Total Simultaneity, which means that at every point inside our emergent phenomenon Reality, we will approach the same point, called Point Zero. (So, with a black hole not only in the centre is an unapproachable singularity but at every coordinate (in our emergent reality) of the BH there is the unreachable Point Zero.

Total Simultaneity is a Time- Space-and Gravitation less. It is a complete set of reality probabilities including that of parallel universes and/or unprobeable emerging realities. It is the completely Unknown of ALL futures and Pasts compressed into ONE POINT a Singularity. This singularity contains ALL the POINT ZERO's of any emerging reality.

Our reality (including ourselves) is just one of the infinite emergent phenomena from this entity. When in our emerging reality, the past, the NOW and the future are non-existing, the process of time is also an emergent phenomenon (illusion). Inside Total Simultaneity ALL time/space/gravity and other dimensions (restrictions) are non-existing, it is the complete

collection of Zero Points inside a singularity. Compared to the Many World Interpretation⁽¹¹⁾ (MWI) the Total Simultaneity includes **ALL (past and future) split-ups from ALL probable and un-probable realities.** (figure 1). The unpredictability of the amount of split-up universes becomes clear when we add to this the idea of the incredible fast branching of the wave-function (10^{21} per second) which is the perception that our reality is splitting up 10^{21} times per second (also this time-scale is an emergent one...) That this specific YOU is at the final branch of these splitting-ups after 10.787 billion years, quite surprising! I argue that accepting ALL branching's as "existing" Point Zero's (probabilities) in ONE entity, without the creation of new "material" realities gives more clarity.:

$$\infty \times \left\{ \begin{array}{c} \nearrow \\ \nwarrow \\ \downarrow \end{array} \right\} = \text{TS}$$

Figure1: The infinite number of branching's from the future and the past in the Many World Interpretation are united in the Uncountable Infinite Set of possibly even non-denumerably infinitely many, increasingly divergent, non-communicating probabilities number of universes (realities): Total Simultaneity.

This means that the totality of our "memories" (past and future) in this emerging phenomenon of reality have to be compressed into a time/space and gravity-less point inside Total Simultaneity (the complete set of points). What we are experiencing as the flow of time seems just an illusion emerging from a singularity-like point in Total Simultaneity. Our Lives seem to be deterministic because they originate from and are compressed into an un-deterministic ONE point in Total Simultaneity. Our lives are becoming a deterministic LINE in the emergent phenomenon (REALITY). The point of origin in Total Simultaneity we called: Point-Zero. Deterministic seems to mean predictable, what does this mean for our free will? Point Zero is "united" with the infinity of time/space and gravity-less singularities. Each Point Zero is a point of choice for consciousness to take a change to another Point Zero. This means that the real free-will is residing in the unreachable Total Simultaneity outside the emergent phenomenon of our reality.

Mathematically⁽³⁾ we could analyse this Point-Zero as in David Hilbert's (1922) "formalised mathematics", in which every real number with its infinite series of digits is a **complete** "individual" object (in this case a n individual life-line). Each number is an entity without time and space, a singularity. Luitzen Egbertus Jan Brouwer stated, in contradiction with Hilbert, with his "Intuitionistic Mathematics": "Each point on a line should be represented as an never ending process that develops in time. A point can be compared to a number, also without time and space, a singularity, a number can be anything. Introducing the "line" here is introducing time, space and gravity, each emerging event being a point of this line. Here we are observing the equivalence with Total Simultaneity (Point-Zero) and our emerging reality (Line). The Line is emerging "outside" TS. Hilbert won the discussion and time was expulsed

from mathematics. The result was that “All events are the ineluctable consequence of some “quantum fluctuations” that happened at the origin of time (the Big Bang).”

In the Total Simultaneity Interpretation (TSI), the Big Bang is only one of the infinite intellectual interpretations (models) of an emerging Reality. It is just one of the many theories that agents invented to make their reality understandable, accountable and so computable and predictable). The concept of Big Bang is comparable with the human interpretation of the past that the sun is turning around the earth, the heliocentrism was only in the 16 century proposed by Copernicus. (and this while Aristarchus de Samos introduced it already in the 3rd century BC). Our experience of the present status of knowledge is a social conscious one, just a point of our emerging reality interconnected with its specific Point Zero in TS.

The acceptance of “the origin” of time in an emergent phenomenon is individualising our reality as the only and unique one. Time, Space and Gravity are illusions (compared to TS: restrictions) that originate from Total Simultaneity. What is the role of Consciousness here?

Total Consciousness.⁽²⁾

Point-Zero has its **potential conscious process** through the time-dimension that emerges “outside” TS. How is Consciousness at the origin of the Illusion of reality of the emergent agent? I argue that the second quality of Total Simultaneity is **Total Consciousness**.

Total Consciousness is the complete set of all (partial) consciousness of all probable sort of conscious agents. It is residing “inside” (is part of) the infinite set of singularities (probable realities) representing Total Simultaneity). The Totality of Consciousness is at the origin of the emergent experiences of TIME, SPACE, GRAVITY and many other “dimensional probabilities” (also those that are not observable by agents of “our” reality), all of them leading to an infinity of emergent phenomena (Realities for emergent agents). Each of these Realities (Illusions) has its own specific emergent agents (life-lines) with their own partial connection (entanglement?) with Total Consciousness and so with their own problems of Undecidability, in-computability and unpredictability, **because none of the emergent phenomena is as complete as Total Simultaneity**. Each dimension is acting as a limitation that is separating an emergent reality from Totality of TS.

Is Consciousness at the origin of the wave-collapse?

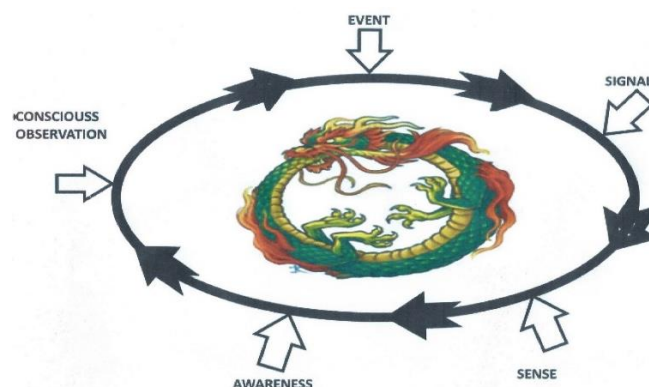


Figure 2: Time-Loop emerging when Conscious Observation is at the origin of an event **inside** the emergent phenomenon Reality.

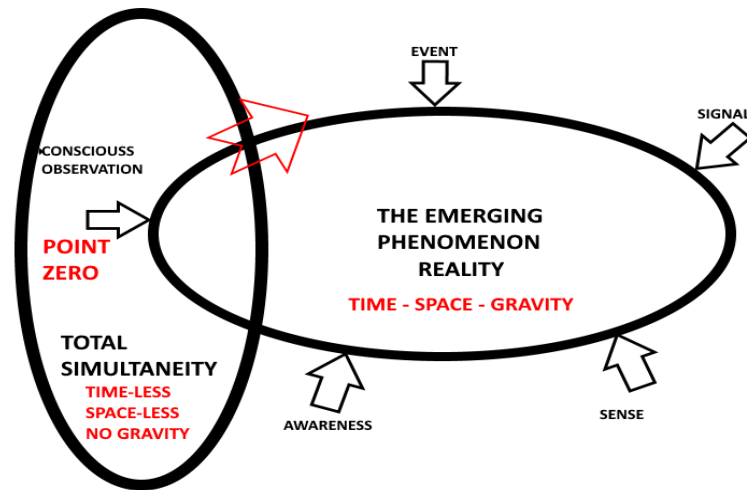


Figure 3: disconnecting our emerging reality from its source Total Simultaneity. No infinite time-loops any more.

One of the explanations of the collapse of a wave-function when a quantum object is observed is that the “conscious observation” itself is the CAUSE of that collapse (von Neumann Wigner interpretation). This however seems to be leading to a Time-Loop inside the emerged reality... (see figure 2).

Our perception of events and its awareness are two different things. There is always a time-laps between event and awareness of 13-80 milliseconds⁽⁴⁾ Essentially this means that our emergent reality is always 13-80 milliseconds behind of what our partial consciousness is arranging in our life-line inside timeless Total Simultaneity. The becoming aware of an event is always taking place in the relative past! This seemingly past however is an Eternal Now Moment (Point Zero) inside timeless Total Simultaneity. The infinity of singularities (Point-Zero's) is Eternal compared to the time-flow dependant emergent reality. When we are talking about the past in our emerged reality, this is only because the restriction of time is originating from a timeless TS. When agents are becoming aware of the NOW, they become aware of the Eternal Now, **the FLOW (past -now-future) is created, through the entanglement of the agent's partial consciousness and Total Consciousness.**

As we argued above there is a strict separation between the emergent phenomenon and its origin Total Simultaneity. The partial consciousness of the emergent agent being both part of this emergent phenomenon and of Total Consciousness, (Partial Consciousness is the **ONLY** entity that is connected with TS and TC) TS harbours ALL pasts and futures in a time-less way. This contact of the partial consciousness of the agent with Point Zero leads inside the emergent reality (with its deterministic past) to the illusion of the FLOW of time. In this way, consciousness is able to “materialise” a reality with time, space and gravity for the agent.

Artificial Intelligence versus Artificial Consciousness.

This flow is the origin of our experiences of Love, Music, creating Art, Astonishment, Anger, depression, writing and reading books, creating and seeing films, games, virtual reality, the volition to live etc, etc. All of these experiences and our reactions are Un-computable, unpredictable and undecidable The decisions that are made are, as we say’ “coming from the heart”, so without logic. Without the contact of our partial consciousness with Total Consciousness there would no **awareness** of this flow, **our senses would only registrate**

events without awareness. This is the process of artificial intelligence. Events are registered and handled with algorithms, leading to actions. This whole process is happening inside our emergent reality, without any form of consciousness. The process of the flow of events caused by Artificial Intelligence has no entanglement at all with Total Consciousness nor with Total Simultaneity. There is no “connection” with probable futures, it is only part of a deterministic past.

This means that Artificial Intelligence (AI) is a whole different thing as Artificial Consciousness (AC). IF the technique could create Artificial Consciousness (maybe through a quantum computer), agents would be able to connect with a different kind of consciousness maybe with its own restrictions (dimensions). It is said that a real 64 qubit quantum computer needs not to be turned on to possess ALL answers on ALL (our) questions. The question becomes then how to pose a question to a machine that is OFF and what would you ask first... The probability however that a quantum computer would be able to reach out to Total Simultaneity is real I think, because the scale in which (in our emergent reality) it is operating approaches the Planck units, and it is of the same quality as entanglement. So IF we could chose a Point Zero for the ability to create a quantum computer that is also capable of being in contact with its own Point Zero in Total Simultaneity then...it would be a way to get proof for our Interpretation in our emergent reality.

Entropy⁽⁵⁾, Chaos⁽⁶⁾ ...

Total Simultaneity is the ultimate collection of points without any order so...maximum entropy. Our emergent reality seems to incline to more entropy. This is a logical result as it emerges from Total Simultaneity with a maximum entropy. So the resulting emerging reality is inclined and affected by the maximum entropy of its source.

Maximum entropy could be seen as a state without order, no computability, no predictability and no decisions to be made in a time/space and gravity-less entity. For example: what we are interpreting as the BB with its singularity (maximum entropy) as beginning is basically the same thought as an origin from a singularity in TS. Both “beginnings” are singularities with maximum entropy. Only in the TSI this is an **eternally recurring point of departure** (point Zero). The BB and inflation are just interpretations, conclusions that we agents were drawing after experiencing events (observations and experiments that gave only temporal partial results). For example the following four new observations are causing to review the BB ⁽¹²⁾: 1. the non-infinite upper limit temperatures reached at the moment of the BB, 2. Inflation should possess quantum fluctuations that become density imperfections in the Universe that are 100% adiabatic (constant entropy), which is not the case. 3. Some fluctuations should be on super horizon scales: fluctuations on scales larger than light could have travelled since the hot BB. 4. Those fluctuations should be almost, but not perfectly, scale-invariant, with slightly greater magnitudes on large scale than small. This means we have gone before the BB and discuss cosmic inflation led to birth of the universe. Our Total Simultaneity Interpretation may give some answers (Point Zero within TS).

Agents created these interpretations to explain their reality. Essentially ALL physical theories are thought-models. The Point Zero in TS is one of the infinite number of beginnings, that is giving way for all kind of different possible and impossible interpretations.

As everything seems to emerge from a order-less Point Zero, we can question ourselves if this so called “chaos” is indeed a quality of Total Simultaneity. The basic rule for chaos is that it is about dynamical systems. For dynamical systems time and space are needed. If it is not the point Zero that is chaotic, is it the relationship between the other singularities that can be called “chaotic”? Again, the answer must be NO. There is NO dynamical system in Total Simultaneity, because a dynamical system needs time. This means that chaotic systems can only emerge in our emergent reality. They can easily be recognised in fractals and as an example herewith the so called “double rod pendulum”⁽⁷⁾ Chaos with all its random states of disorders and irregularities is governed by deterministic laws that are highly sensitive to initial conditions. These initial conditions are part of reality that is emerging from Total Simultaneity. It will be the conscious agent, who’s partial consciousness that is entangled with Point Zero, (for the emerged agent still seemingly the future) who is the origin of these original conditions.

The reference of reference.

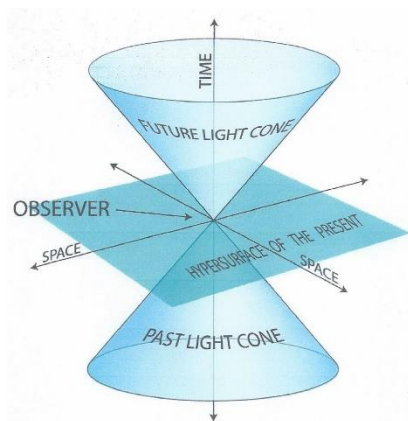
In order to make calculations, predictions and decisions we always need references, references of coordinates, numbers, references from experiments and references through comparing possibilities.

In Total Simultaneity coordinates and numbers don’t exist. Coordinates always need references and these are only created by partial consciousness in an emergent reality by a conscious agent. In our emerging reality we are always searching for the reference of reference but...this POINT doesn’t exist in our here and now, because the reference of reference is the unreachable time and space-less TS. In our emergent reality each chosen reference needs another one and so on ad infinitum. Therefore, in our emerged reality the only true relative reference is the partial consciousness of the “I”, because of its relationship with (its entanglement to) the reference of reference in Point Zero in Total Consciousness.

Without Total Consciousness Total Simultaneity would just be “Total Probability” without the possibility of (conscious) perceived emerged realities. **When there is no consciousness there is no observation no experienced reality.** We argue that this is the proof that the sparkle of consciousness as we are aware of is only a singularity inside Total Consciousness (Point Zero). There resides the probability of an infinity of different emerging realities, each with its own shape of consciousness. And, not only outside our perception these shapes of consciousness exist, but also around us in our very own emerging reality through animals and plants, the whole emergent phenomenon is penetrated with consciousness.

The subjective Simultaneity Sphere.⁽⁹⁾

The special Theory of Relativity argues that is impossible to state in an absolute sense that two events occur at the same time if those events are separated in space. (Albert Einstein (1920). ⁽⁸⁾ This means that there is no simultaneity in our reality. However, when we are representing a conscious agent as centre of a sphere (no matter the radius of the sphere) ALL incoming signals, no matter from how far away or how close by, on the surface of the sphere will be simultaneous.



We call this sphere the **Subjective Simultaneity Sphere. (SSS)** When we compare the observers position in Einstein's special relativity's past and future light cones (figure 4) with the position of the observer

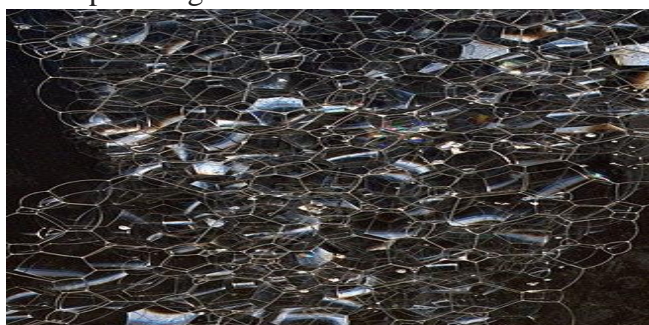
in the Total simultaneity Interpretation, it is important to notice that:

1. The special relativity light cones are positioned inside the emerged phenomenon Reality, so the flow of time is accepted as for real inside.

2. This means that this inside acceptance causes the time-loops as we discussed in figure 2. (In the TSI the flow of time is created by partial consciousness through its contact with Total Simultaneity).

ALL signals arriving on the Subjective Simultaneity Sphere originate from the emergent reality of the agent so from the past). There are now 7.5 billion humans on the earth, each with a Subjective Simultaneity Sphere. They interconnect like a “soap bell” micelle like structure

The interconnection of the spheres gives also the interconnection of the different partial



consciousnesses of agents inside their communal emerging reality. Each one is different from the other but they share the same Point Zero. The TSI is not leading to solipsism.

Conclusion.

Undecidability, Uncomputability and Unpredictability are negative qualities for researchers. However when we are in a position where it is difficult to choose between two or more good things , it represents “a good feeling”. Feelings are essentially incomputable, because they are expressions of our consciousness, without feelings we would be reduced to Artificial Intelligence. The unpredictability of our future means that our future is still “open”, with all the good and bad things still availabilities. If we could predict our whole life what would be the purpose of living it? The Point Zero in Total Simultaneity, is one of the infinite points of choice for our Consciousness, each choice is in our emergent reality unpredictable, in-computable and the decision is made in a for us unreachable entity.

Already now we want to give answers on all our questions and that has been of all times and create a theory of Everything. No wonder that with the amount of uncertainties there is quite a lot of Undecidability of choosing between interpretations, In-computability of theories that are proposed and the persistent unpredictability of the future that we are so anxious to control gives rise to irritations. I argue that our acceptance of these three dual qualities is important, without them the tension of life is missing. To take part in the offering of choices and so

create even more undecidability, I proposed a new interpretation of our Reality and the role of consciousness of agents. It is up to you to decide Now. Maybe it is you who can develop it further, but remember Undecidability, Unaccountability and Unpredictability will always be an essential part of the freedom of our lives.

Wilhelmus de Wilde. Montrouveau, March 2020

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