

THE POINT OF TIME WHEN TIME BEGINS.

A REFLECTION ON THE BIRTH OF THE WORLD

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This work will attempt to trace the conceptual act of pointing the philosophical mind at the wonders of the creation. The concept of making the ever searching for answers human, reach the sole boundary of knowledge and existence by touching the boundary of the universe with their mind – this is a beautiful tale of the striving of man for better understanding the creation and the world and looking for a starting point.

The beginning of time is quite the peculiar subject. Complex and almost impossible to wrap our heads around it, as we are in a sense creatures that know nothing but time and nothing but space in our everyday life. Our understanding of those subjects is so immediate and natural. I cannot stop myself and I shall point out the infamous Augustine quote: What is time? If no one asks me, I know what it is. If I wish to explain it to him who asks, I do not know.

This deeply speaks to the human subject as we know that thinking about events outside of time is as hard as thinking about concepts outside of language: Almost impossible and seemingly unnatural.

Everything that we have experienced and that we will experience is inside time. After all, this is what time is in its essence: a changing, flowing narrative that allows to be grasped and experienced through its flow.

Is this flow traceable? If yes, how can it be traced and of course, to when? Does the flow have its start? How can we grasp the point in time when time begins?

I will work with two major traditions known for working with grasping the essence of the first moment of time itself. They are of course, the contemporary theoretical physics model and the medieval Augustinian one.

You might notice that I will use words like time, space and matter interchangeably when talking about the first moments of the being itself. This is needed in the pursue of showing that all three have the same starting point in this universal context and that one cannot start before or after the other.

In this line of taught, it is mostly appropriate to give some reflection regarding the subject of this investigation. This is indeed the first moment in time when time began. The birth of the world, the earliest point in history that could ever exist. If you allow me a pure little poetical deviation, we can symbolically call this “the original January 1st”:

At the beginning there is no-when and no-where. There is only nothingness. No time passes, nothing yet really exist. Then a spec of light. All time-space is created with the birth of time itself. And as the universe grows the matter expands, simply creating more of space itself, transforming itself. Elementary particles join to from the first hydrogen atoms. As time passes the matter becomes more and more complex manifesting its potential into the being itself. Thus, the world has its birth. A starting point before which nothing was.

This early picture of the universe is painted by our current understanding directly derived by modern theoretical physics. Looking further and further into the vast deepest regions of the universe we are basically witnessing the consequences of the creation at first hand.

It is a simple well known philosophical concept - only this time the metaphysical can be seen as a pure physical act.

The mere concept of a world with a beginning and with a concrete starting point before which no events could ever take place seems almost frightening and unsure. And it was so for a long time. The leading idea in the late 19th century was that the world was eternal and never changing in the grand scale. In a sense, the popular view merged the idea of the creation with the idea of the creator. Meaning that it was viewed as a vast unchanging unending everlasting stable presence and a reason for our existence. The concept of a world with a beginning and possibly with an end seemed so unnerving that even Einstein himself tried to come up with a theory to prove this idea even after his own equations derived by the theory of general relatively showed the contrary: at some point, the universe had a radius of an age of zero. Time must have had a beginning.

The Christian thinker on the other hand will look at the concept of a new world and the birth of time itself as completely natural. Saint. Augustine himself describes the genesis as an urged by free will spontaneous act of creation. Creation of the world from nothing. A purely creative act from which time has its beginning.

This undoubtedly speaks of a conceptual comeback to the idea that the world had a beginning with a certain starting point before which nothing was. As we all know, this is a purely Abrahamic idea. It is interesting that this idea has found its comeback in contemporary science. Maybe the Christian philosophy that is occupied with reflection on the genesis can be quite helpful with concepts that are out of the reach for modern science and their pursue in unveiling the secrets of the big bang.

An example of seemingly opposite branches of philosophy put together to create a better understanding of an extremely difficult subject.

Within the scientific community, that which happens at the exact moment of the big bang is still a mystery. All of the tools we used to understand matter and time break at one point, we can currently only theoretically trace the beginning to 10^{-37} seconds after the big bang. All that is before this moment we cannot currently know. A very important clarification is that for the contemporary scientific thinker, thinking about events before the big bang or thinking about the cause or reason behind it is completely irrelevant as our common understanding of the universe dramatically breaks at the moment of the Bang itself.

What we know however, we know with relative certainty: At one point in time, 14 billion years ago the universe had no size and no age. This singular point is the beginning of time and space.

Examining the parallel, In the Christian context the universe is created from nothing. This notion is much needed for our further investigation. This means that there was no matter and no time before. Only the vast infiniteness of God himself who is, as we know, not a part of the creation.

In fact, the Christian narrative tells a tale of a creator that is outside and transcendent of his creation. This means that the world and its laws are created anew as a first. The time is a brand new concept for the new world - finite time to be experienced by finite creatures in a finite world that has its beginning and may have an end. This picture painted through a Christian's perspective shows how well a metaphysical explanation pushed by logic, faith and philosophy can reach grounds that become objectively and scientifically proven a thousand years after.

Thinking about this early time, I feel there is a crucial difference we should make between eternity and time. In particular: god's eternity and the time in the universe

itself. In his path to unveiling the secrets of the creation and of that, crucial beginning of time Augustine sets a goal to overcome the difficulty of the "when" in the question "when was the world created" The difficulty comes from the understanding that all localization in time will be valid only and exceptionally inside the created world. Time is a mechanism only in this world and as such, time does not exist outside of its boundaries. Furthermore, it does not exist in God himself as well. In this line of thought there was no "before" the creation in the same sense as there was no "before" the big bang. It is completely pointless to give timely characteristics to a subject existing outside of the linear time flow.

This means that the actual manifestation of the concept of eternity will only be true and real in the creator himself. As an eternal being who himself is the definition of "timeless". Eternal in this context is never changing and everlasting with all the times present simultaneously in its infiniteness.

Another crucial point in my investigations of the parallels of the two methods used to reflect on the genesis, is the creation of the matter itself. Modern theoretical physics tells us that all the matter that ever was and that ever will be is created in the instant of the big bang. Everything that exists existed at the point where time was equal to 0. This inevitably leads my mind to the Augustinian description of the primordial reasons (*rationes seminales*).

Augustine tells us that the act of creating the world matches the act of shaping and ordination of the forms. In other words when all matter is created the potential of all the things that can later exist is created as well. The matter is planted with the seeds of all those forms that are yet to manifest themselves in time. All those forms are in a sense in a latent state until their time comes to be.

As a person of scientific reasoning, this is how I understand this narrative put beside the contemporary idea of matter: All of the matter in the universe has its birth in the big bang. There is no new matter created after this moment. Every proton and electron on my body, in this room, in our sky in our sun, existed in one form or another during the vast existence of our world. All of this matter has only one moment of creation - the big bang. And again, in a philosophical language - all the forms that ever will be, everything that can be seen or touched, everything that can exist has existed at the

point where time = 0. My body was once scattered points of subatomic particles that existed at the start of everything.

Augustine shows how logical investigation and faith urged philosophical work can push to knowledge about the most basic and primary substance of the universe itself.

And as a comeback to the previous rows of text, I feel compelled to remind myself that as timely creatures in a timely world, where everything we can ever experience exist in time, we have immense difficulty thinking about events outside of this perspective. It is almost impossible even. Such a "timeless" point of view can only be attributed to the creator himself which points us to the next subject I feel we need to discuss. The creator.

In the context of this investigation the creator will be examined as the figure that has intentionally created the world. The creator in the Christian context, as we all know, is completely separate of his creation. In this narrative he does not give of himself in order of creating the world. The world has its birth from pure nothingness. This nothingness, I think is the key to unveiling the understanding of the creation and the laws working in the creation itself. Furthermore, I do think that the idea of this emptiness can also help us bring more clarity to the contemporary understanding as well.

Stating that the world was created by nothing leads to the conclusion that the creation is something completely new. It has never existed before in any other way. The creator, out of his own free will created something completely new and completely separate from himself. Everything that was created is original in this sense. Even further, time as a concept of the flowing passage of minutes, this complex unity between past and future is also new and original. Time is a concept working only in the context of the created world. Time is its mechanism. In this context the never changing eternal creator as creating the changing and dynamic world knows that his creation cannot be what it is without time. Time in this sense is crucial to the creation as without it all the forms that only exist in potential would never be able to manifest themselves into the world. Furthermore, reason will not be possible without the passage of time.

For the contemporary thinker the creator is shrouded in mystery and further uncertainty. Today our act of discovering and knowing the world is a mechanic one. What I mean by that is that we expand our knowledge about our universe solely through

experimentally and theoretically viewing it. Through this method the creaturely mechanism is bound to be left unexplored as our point of view can only reach so far. We cannot leave the boundaries of the compact law written world that we are so immersed in.

In the introduction I compared being close to the boundaries of time and space as being close to the boundaries of language itself. Meaning we can only go so far using instruments derived from the world, made to be used in the world and trying to use them outside of the world, as the concepts of the "before-time" and "before space" is essentially otherworldly (when I say before time I mean this as a simply cause-consequence relation and of course not a timely one). Our thought can never go to a place it doesn't have the mechanism to go to.

We essentially can think about space without objects that occupy it but we cannot think about objects that are not inside space. Our mind apparently needs those boundaries to function. Time and space are the conditions we must have while thinking of objects. This human inability to think outside of dimensional conditions limits the eventual exploration of the "before time" and is highly restricted once put to action in thinking about an object such as the early-early universe.

The medieval thinker however does not see the boundaries of the worldly laws so limiting. The method used for reaching the birth of the creation is a pure philosophical act of transcending the soul with the help of certain intellectual methods. As those principles are set by God himself, the medieval view does not have the structural limitations modern thinkers do. The souls are called to turn to God and find him - ergo the soul has a potential to do so. Simple as that.

In this line if taught the creaturely principle will be much easier to explore if we try to stand from a medieval point of view.

In the Augustinian context the soul is the crown of the creation and as such it has its ability to return to its creator. In this pure act of merging with the "before-beginning", the soul has no need of objective experimentation. The concept of the present time, after all exist in the soul itself and not in God.

The moment of the big bang is essentially a border situation. A border of the being itself. In the instant moment of the big bang the universe is in the size of a quantum object with all of its contents "pushed" and curved into infinity. This is not the world we know

it is not explorable through the known methods. The earliest moments of the universe's foetal phase, in this line if taught, if they can be reached at all, they can only be reached through this intellectual transcendent act of the soul itself with the hope of finding itself there.

And if you allow me, some personal interpretations:

If we have in a way existed in some form in the sole beginning, theoretically we did have our matter and our time from this early moment. Essentially this means that the act of observing the first seconds should not be an outward act towards the cosmos but an act inside, towards ourselves.

In order for us to do so we must go beyond our experience based, immediate way of knowing the world. We must go beyond our distanced, language based, knowledge receiving mechanism and try to clear ourselves and put our minds to the limitations of existence: the "moment before" the birth.

The universe before the big bang was just as us before our birth. Existing but not fully as only in potential.

It is quite clear that in this case the presence of a creaturely mechanism, a creator it is mandatory. As the potential must be present in an already existing entity, an entity that is timeless as it creates time.

The medievals called him an artist; the ancients called him a smith. I will distance myself from such clearly world-based names and just say that a principle beyond time and matter must be there, as the universe is clearly caused, because it has a beginning. Hence, this consequences must, as my human mind tells me, have a cause.