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Understanding Spacetime As A Posthuman Being In The Posthuman Condition: A Discursive Study

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Abstract:

We must situate ourselves in the spacetime where we exist by "sympoesis" in order to understand the "multiverse." According to Francesca Ferrando and Rosi Braidotti, posthumanism is a convergent situation. If posthumanism is viewed as a convergence, then posthumanism will be viewed from a single point of view after a given amount of time—let's say in the future when we become posthuman. The relativity of spacetime needs to be understood in order to comprehend the convergence and divergence simultaneously. The key topic here is why spacetime interval is significant for posthumanism and what role it plays in shaping post-anthropocentrism. Posthuman consciousness is the central idea of philosophical posthumanism. The era and philosophy of posthumanism are the result of the convergence of several components and influences. This era is based on three axes that represent the evolving nature of beings across time: post-humanism, post-anthropocentrism, and post-dualism. I'd want to make a reference to quantum entanglement in order to dispel any misunderstanding. Albert Einstein referred to it as "spooky action," while John Bell referred to it as a "hidden variable." The physics Nobel laureates Anton Zeilinger, John F. Clauser, and Alain Aspect demonstrated in 2022 that there is no hidden variable, that this "spooky action" is indeed feasible, and that quantum entanglement even paved the way for the development of quantum information science. to transfer data between two locations, maybe on opposite sides of a black hole, that may be more than a few lightyears apart.

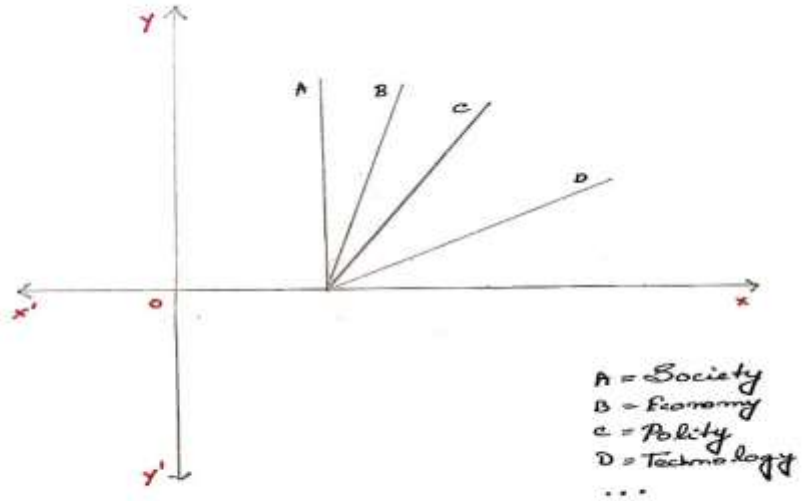
Keywords: spacetime, posthumanism, quantum entanglement, society, consciousness, etc.

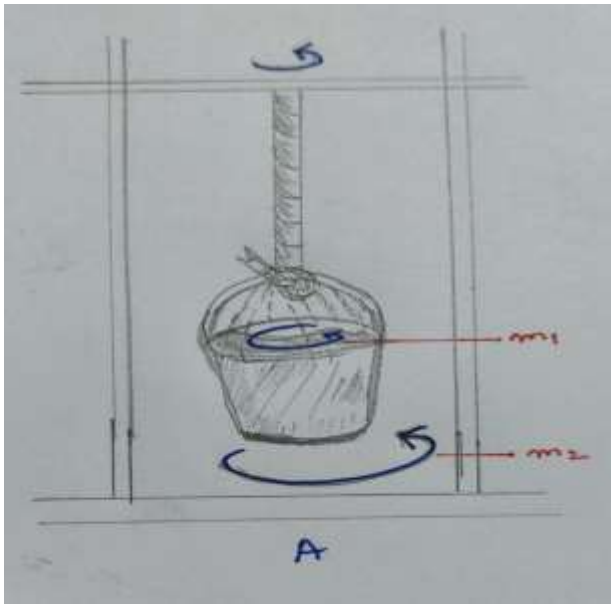
Understanding Spacetime as a Posthuman Being in the Posthuman Condition: A Discursive Study

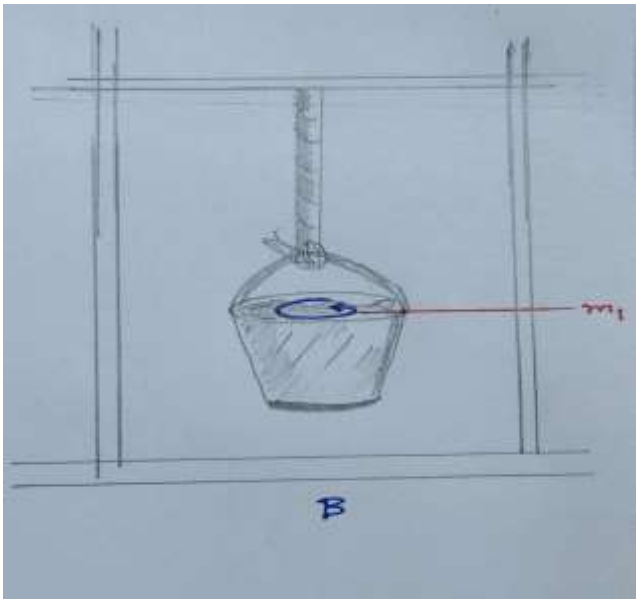
To know about the "multiverse", we must locate ourselves in the spacetime where we, through "sympoesis", exist. Posthumanism, according to Francesca Ferrando and Rosi Braidotti, converged condition; Braidotti "… [has] defined the posthuman as a convergence phenomenon between post-humanism and post-anthropocentrism …" (Braidotti, 2016, p. 125);

> In the posthuman convergence that frames the contemporary world, the power of thinking is distributed across many species and often executed by technologically mediated knowledge production systems, run by networks and computational processes. Biogenetic and computational advances have challenged the separation of bios, as exclusively human life, from zoē, the life of animals and nonhuman entities. What comes to the fore instead is a human/non-human continuum, which is consolidated by pervasive technological mediation. (Braidotti, 2016, p. 180)

If we consider posthumanism as a convergence then after a certain period, let's say in the future when we become posthuman, it would be considered from a single focal point; as in the 1960s "as a political cause", in the 1970s as an "academic project", in 1990s as an "epistemological approach"(Ferrando, 2016, p. 265), and in future it would become "… techno-reductionist assimilation of existence" (Ferrando, 2016, p. 295). Then there will be no difference between humanism and posthumanism, monism and posthumanism, and animism and posthumanism. Posthumanism is not only the converged condition but the divergence as well.If the idea of convergence is put into a graphical representation, the possible graph would be:





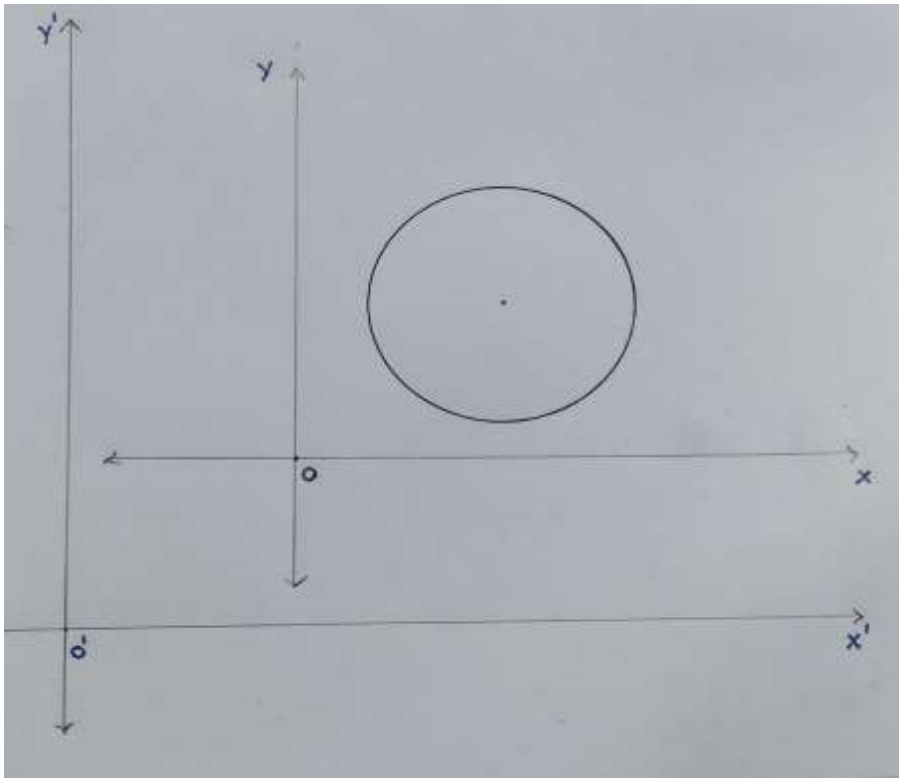


To understand the convergence and divergence together, the relativity of the Spacetime should be unraveled. Before delving into space-time relativity, the ideas of space and time and the conflict between the two are worth mentioning. Sir Isaac Newton who invented the 'universal laws of gravitation', the 'wave theory of light', and 'calculus', asserted in his essay, entitled 'General Scholium', that space is absolute. Absolute space, in its nature, without relations to anything external, remains always similar and immovable. Relative space is a movable dimension or ameasure of the absolute space, which our sense determines, in relation to, the position of bodies and which is commonly taken for an immovable space. Such is the dimension of a subterraneous, an aerial, or a celestial space, which is determined by its position concerning the Earth. Absolute and relative spaces are the same in figure and magnitude, but they do not always numerically remain the same. For, if the earth, for example, moves, the space of our air, in respect of the earth, remains always the same, since it will, at

one time, be one part of the absolute space into which the air passes. At another time, it will be another part of the same; and so, absolutely understood, it will be continually changed.(Voegelin, 2013). When Newton gave the example of the bucket and the water, he mentioned that, even after the twirl, when the bucket stops moving, the water remains in motion, and that motion he termed as "absolute motion", thereby giving rise to the idea that "a class of absolute motions can be physically distinguished, and that these define a preferred frame of reference for all motion, absolute space"(Huggett, 1999, pp. 160-161).

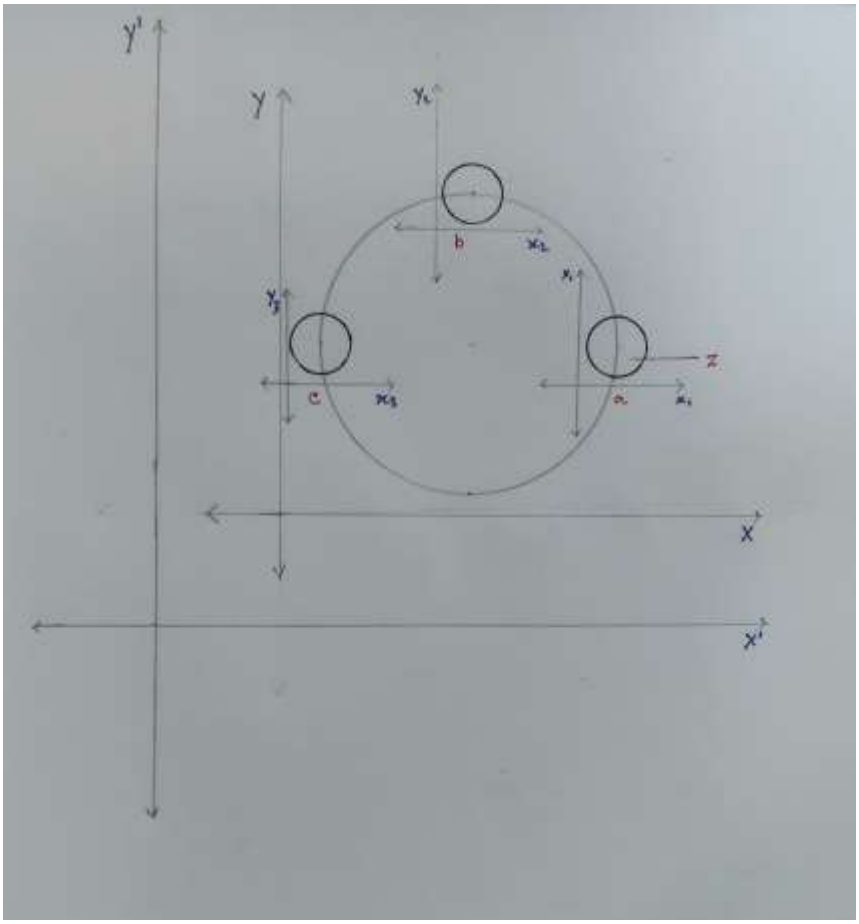
In the above two pictures, frame A and frame B, a bucket is hanging from a rope. The rope in frame A is in motion and, along with it, the bucket and the water are also in motion. So, the motion of the bucket is "m1" and the motion of the water is "m2". According to Newton, when both are in motion their motions are relative, which that means, m1 and m2 are relative to each other. But in frame B, the bucket is not in motion but only the water, whichmeans only 'm1', is moving, which Newton calls absolute motion – a form of motion that is free from any influence.

Like this microcosm, according to Newton, in the macrocosm too, there is space that is free from external influences that he termed as the "absolute space". In the given figure, the object, which is the earth here, is in motion, with respect to the sun, and its center which is denoted by 'O'. The earth is this 'O', which is in relative motion, and the space, denoted by the 'XY' axis, is a relative space. Newton stated that there is some point that is fixed and absolute. In this figure, that has been shown by the 'X`Y`' axis, and the space covered by this axis is free from any influence and is immovable, hence, this space is absolute. According to Leibniz, the idea of space is relational. As a classical relationalist,



following Descartes and Mach and as a stern opposer of Newton, Leibniz put forth the idea of space where it exists in relation to the object, that is if an object is placed somewhere and it acquires an area, which is supposed to be its space, so much so that if the object is moved to some other place the space will also be moved to that place.

Suppose, in the picture, if a ball 'z' is holding a position 'a', then, 'z' is occupying the space 'a'. Again, if we move 'z' to its new position, to 'b', then the new space for 'z' will be space 'b', and if 'z' moves into position 'c', eventually it will again be 'z's' new position, where all the spaces are relative to each other. Again, Leibniz asserts that if a body is at rest or if it is occupying space, then the several bodies that are in motion and are centering that object are in rest: 'Not even an angel could discern, in mathematical rigor, which of several bodies [in mutual relative motion] is at rest, and is the centre of motion of the others' (Leibniz, 1966).Leibniz holds that all motion is relative to the body that is taken to be at rest, so the places are relative in the same way, and so also is space that may be any of the relative spaces so determined (Huggett, 1999, pp. 160-161).

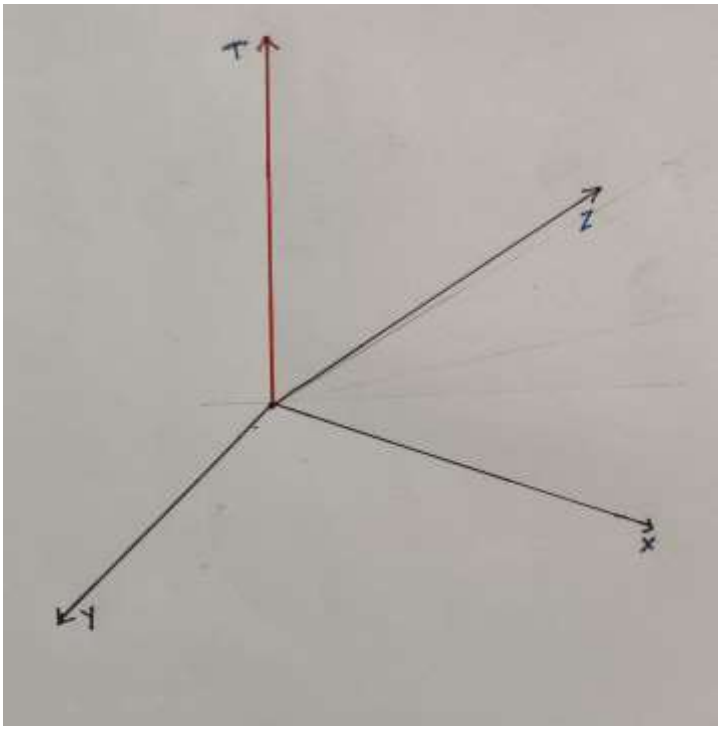


About time, Newton preferred the term "duration", that is the "duration of motion". In his theory, two aspects are evident: one is "absolute equality of time intervals" and another is "absolute simultaneity". The problem raised in the first proposition is, how this time interval can be equal to the other. The answer lies in the fact of its dependence on inertial motion and the force applied to it. Hence, later, it is proved that all time durations are different from each other. The first law of motion suggests that motion depends on the amount of force applied to a body that is at rest. The distance that a

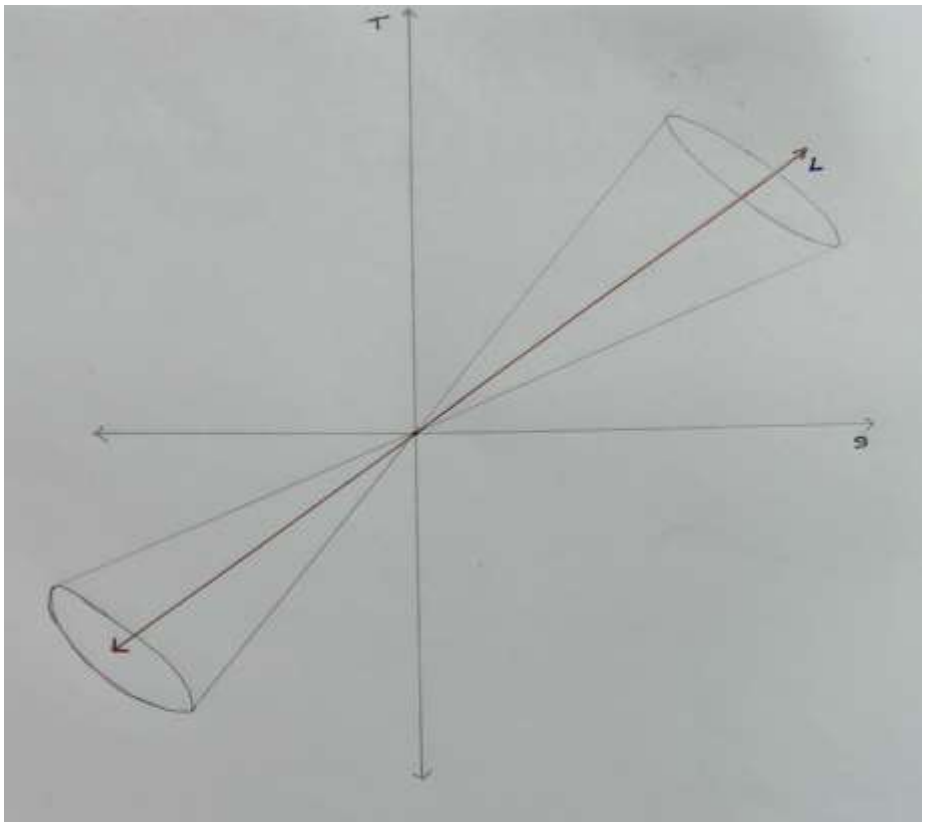
particular object covers on both sides of the axes, is equal. That is what, according to Newton, is uniform motion. In this case, time is "simultaneous" in different spaces, even in the case of different hemispheres, where the flow of time is not affected. But, according to John Earman, absolute time is only theoretical and it applies to space as well.

Classical "spacetime theory" is founded on the assumption that time is a constant, absolute, or universal quantity; for example, if a person is on Earth, in a spaceship, Jupiter, the sun, or close to a black hole, time remains constant for all of them. However, the special theory of mechanics asserts that time is dependent on the observer, time is not absolute. If an object moves at the speed of light, time will be slow for that individual because of the tremendous velocity, and if the gravitational field is considerably greater someplace, time will also be slow. Newton's idea of space and time is limited to its structural state, and it is neither perceptible nor metaphysically acceptable. According to Newton, space is three-dimensional and time is one-dimensional, that means, the universe is four-dimensional, and on that basis all the laws of nature are developed.

Here the 'X-axis denotes the length, 'Y' is the breadth, 'Z' is the height, and 'T' is the time. Now, Einstein, in his theory of relativity, proposed that everything in this universe is either in motion or stationery, and that everything is relative and there is nothing that can be called absolute. This is the first proposition of the classical theory of relativity. The second proposition of the theory is called "time dilation". Here, Einstein asserts that when an object is moving at the speed of light, a person takes more time to pass so much so that, time for that person, who is moving at the speed of light, will run slower than the person who is relatively stationary in his position. We all know that speed is the "distance covered per unit of time". Among two objects, one is stationary and another is in motion. So, for the stationary object, the distance is constant, and for the moving object, the distance increases to keep the value of speed and time higher instead of being constant.



Let's say that, for the stationary object, the distance is 'd', the speed is 's', and the time is 't', and for the object in motion the distance is 'D', the speed is 'S' and the time is 'T'. So, for the stationary object, s = d/t, and for the object in motion, S = D/T. According to the time dilation theory, s = S and T>t because D = d. For example, in layman's language, if a person spends 1 day in space (sky) that would be equal to 50 years on the earth's surface. The third proposition is about length contraction. If an object moves at the speed of light, not only does the time slow down, but also the length of the object is contracted, as the speed of light is constant both for the stationary object and for the moving object. So, in the formula s=S=C (constant), then, not only T>t but also D<d. Each of these propositions works together to keep the speed of light constant. For Einstein, it is for this reason that space and time are not separate entities but are rather one entity, that is, "spacetime".



Here, in this figure, 'L' is denoting the light as well as spacetime. The second and the third propositions are applicable when the speed is constant, but when the speed changes due to gravitational force, Einstein describes the gravitational field to be warped around the surface, so when objects move around the earth or the object is on the earth's surface it is attracted, through gravitation, towards the earth. And, this is how all the elements in the universe can be said to be interconnected.

$$x_1 = x$$

$$x_2 = y$$

$$x_3 = z$$

$$x_4 = ict\ \left(i = \sqrt{-1}\ \text{imaginary number}\right)(c = \text{Speed of light})(t = \text{time})$$

In the 3d figure, we calculate distance as $d = x^2 + y^2 + z^2$

In 4d distance would be $d = x^2 + y^2 + z^2 + (ict)^2$

$$x^2 + y^2 + z^2 - (ct)^2 [-i^2 = -1][c \text{ is speed of light}]$$

So, this equation is for the position of an object in the fourth-dimensional graph. From here we get the reference that spacetime theory is focusing on the 1. Speed of light is constant 2. Length contraction 3. Time dilation; the condition is that the observer is different and it is calculated on the different inertial

A. Dino (in rest)

B. Rhino (moving)

conditions. Spacetime suggests the idea that two observers cannot come to the same conclusion in terms of space and time. Suppose there are two observers “Rest A” is Dino and “Moving B” is Rhino.

a to b

For Dino length is Δl from a to b

For Rhino length is $\Delta\bar{l}$ from a to b

The spacetime equation asserts that all motion is relative and the Newtonian idea about space is no space is static and absolute. According to spacetime mechanics, if something is, apparently,static-like ground and/or moving at any constant speed then, in both cases, the inertial condition would be the same on the other hand if any object going against gravitation or towards gravitation and its speed is increasing or decreasing then the inertial condition would be different. Suppose Dino is on the ground and Rhino is moving by truck. So according to spacetime theory, the distance between ‘a’ to ‘b’ would be different. Here to protect the stability according to spacetime theory length contraction will take place. Then

$$\Delta l \neq \Delta\bar{l}$$

Explosion A

Explosion B

For Explosion A time is Δt

For Explosion B time is $\Delta \bar{t}$

Again, two explosions have taken place at different times and different places so both the observer who is static, here Dino, and who is moving, here Rhino, would have different times. This is called time dilation. So,

$$\Delta t \neq \Delta \bar{t}$$

Then, space and time are not absolute anymore. But the question arises here, is there something that we can hold onto, or, is there something that both the observers conclude? Both the observers, Dino and Rhino, are against each other's decision, but the measurement or conclusion they are coming after the calculation is known as "spacetime interval" or "invariant spacetime interval". Under Lorentz transformation when we connect the measurements of the observations of Dino and Rhino; Lorentz transformation is when we connect the measurements of two different inertial observers in relative motion. Under Lorentz transformation, the measurements of the distance,observed by Dino and Rhino, have been calculated in the following equations. Equation 1 through the calculation is becoming exactly equal to equation 2.

Invariant Spacetime Interval:

$$\Delta x^2 + \Delta y^2 + \Delta z^2 - c^2 \Delta t^2 \ldots\ldots\ldots\ldots . \text{equation } 1$$

$$\Delta \bar{x}^2 + \Delta \bar{y}^2 + \Delta \bar{z}^2 - c^2 \Delta \bar{t}^2 \ldots\ldots\ldots\ldots . \text{equation } 2$$

Lorentz transformation:

$$\Delta x = x_A - x_B$$

$(x_A - x_B)$ is the difference between two events

Likewise,

$$\Delta\bar{x}_A - \Delta\bar{x}_B = \Delta\bar{x}$$

So,

$$\Delta\bar{x} = \gamma(\Delta x - v\Delta t)$$

$$\Delta\bar{y} = \Delta y$$

$$\Delta\bar{z} = \Delta z$$

From the solve of Lorentz eq.

γ is the Lorentz constant

Value of γ is

$$\frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$$

$$\Delta\bar{t} = \gamma\left(\Delta t - \frac{v}{c^2}\Delta x\right)$$

Now, equation 2

$$\Delta\bar{x}^2 + \Delta\bar{y}^2 + \Delta\bar{z}^2 - c^2\Delta\bar{t}^2$$

Here, equation 2 will be replaced by equation 1

$$= \gamma^2((\Delta x - v\Delta t)^2 + \Delta y^2 + \Delta z^2 - c^2\gamma^2\left(\Delta t - \frac{v}{c^2}\Delta x\right)^2$$

$$= \frac{c^2}{c^2-v^2}(\Delta x^2 + \Delta y^2 - 2\Delta x\Delta t) + \Delta y^2 + \Delta z^2 - C^2 \times \frac{C^2}{c^2-v^2}\left(\Delta t^2 + v^2 \times \frac{\Delta x^2}{c^4} - \frac{2\Delta t\Delta xv}{c^2}\right)$$

$$= \frac{c^2}{c^2-v^2}\left[\Delta x^2 + v^2\Delta t^2 - 2\Delta x\Delta t - c^2\Delta t^2 - \frac{v^2\Delta x^2}{c^2} + 2\Delta x\Delta t\right] + \Delta y^2 + \Delta z^2$$

$$= \frac{c^2}{c^2-v^2}\left[\frac{\Delta x^2}{c^2}(c^2-v^2) - \Delta t^2(c^2-v^2)\right] + \Delta y^2 + \Delta z^2$$

$$= \frac{c^2}{c^2-v^2}\frac{(c^2-v^2)1}{c^2}(\Delta x^2 - c^2\Delta t^2) + \Delta y^2 + \Delta z^2$$

$$= \Delta x^2 + \Delta y^2 + \Delta z^2 - c^2\Delta t^2 \ldots\ldots \text{equation 1}$$

So,

$$\text{equation 1} = \text{equation 2 (proved)}$$

Here, the vital question is what is the relevance of spacetime and how it is influencing post-anthropocentrism, and why spacetime interval is important for posthumanism? The most important part of philosophical posthumanism is posthuman consciousness. Suppose, Dino roams different mountains

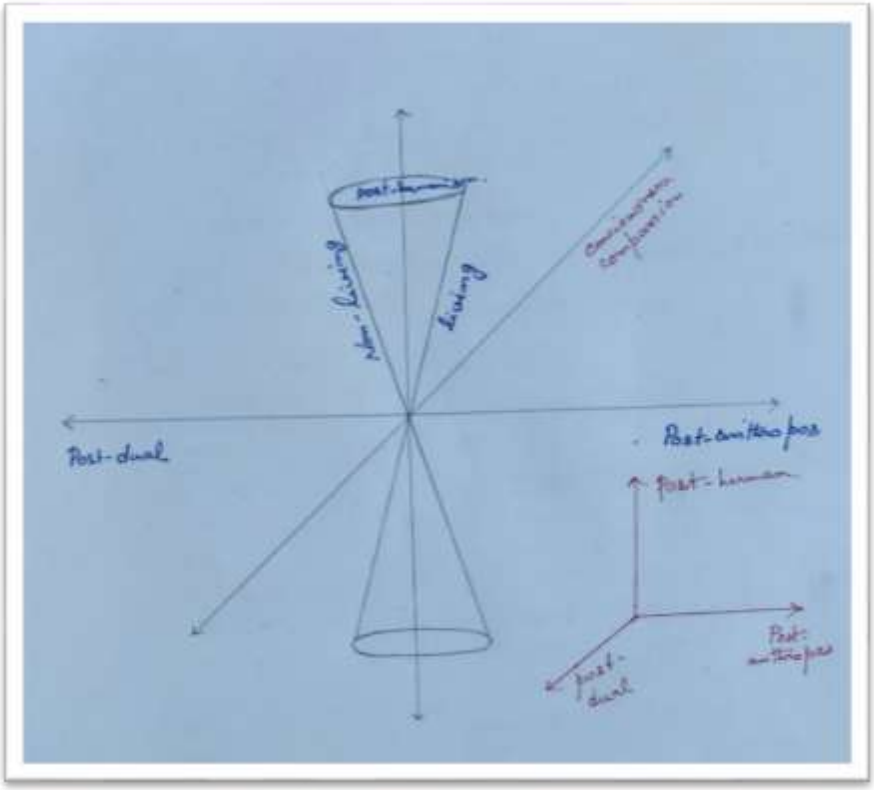
and is asked to draw a mountain, then he will sketch the mountain which will be the conscious reflection of all the mountains on the paper. Now if I ask Dino and Rhino, two travelers, to draw a picture of a mountain separately that nobody can copy from each other; as they are different their sketch will be different; if we ask them to describe the same thing they will describe the same incident in different ways, e.g., in *Practical Criticism*, I. A. Richards mentioned the same experiment which he did among his students. So, the result will be different for Dino and Rhino, but there is something that the result or the outcome would be equal because of their consciousness is like a spacetime interval. Whatever the process mind is taking but there is a connection between the mind and the object of the outcome via consciousness. And Lorentz reflection connects two inertial objects: one is the visualization and the other is the practical outcome. These two are equal to equation 1 and equation 2.

If we give example from the Greek classical age –

Plato and Aristotle: Plato's opinion of art is inextricably linked with his Theory of Ideas. In the Republic, he claims that ideas are the absolute reality. Things are imagined as concepts before they assume physical form. Thus, a tree is nothing more than a physical manifestation of the idea's image. As a result, the idea of anything is its original pattern, while the physical manifestation of the item itself is its replica. When a copy falls short of the original, it is withdrawn from reality. Now, art, literature, painting, and sculpture recreate things just as leisure, the first in words, the second in colors, and the final in stone. As a result, it is only a copy of copies that is twice divorced from reality. Plato's ideas start with the assumption that imitation is done through the artist's sensory perceptions. The world is an imperfect copy of an archetype. In Aristotle's view, this sensory impression is not merely an act of copying; after reception brain processes things and we get a new outcome; without imitation, there is no innovation. Aristotle has given three things that influence poetic imitation: medium, manner, and object. The medium according to him is, language for the poets and forms and colours for the painter; Manner is, narrative or action in drama or poetry, structural or abstract for painting; and the Object of imitation according to Aristotle "men of action" – the artist may portray things better or worse or as they are in real life. This suggests that, according to Aristotle's perspective, imitation is a creative process, rather than a photographic replication of the surface of objects. The poet chooses and arranges his material, re-creating reality in this way. He can better represent guys than anyone else. As a result, he provides us with an ideal or universal truth. Now if we assert the idea of neurophysiology that perception is a kind of

knowledge that we gain through our senses. Different organisms have different abilities to sense or percept. As human beings have five different senses, dogs have the strong ability to hear and smell, whereas birds and bees connect through electromagnetic waves of the earth or atmospheric pressure, likewise. The processing of the information and outcome is based on reception, decoding, and precepting. Five types of receptors work in multiple organisms and depend on the organisms; Chemoreceptors (chemical stimuli), Mechanoreceptors (stress or strain), Thermoreceptors (heat), Photoreceptors (light), and Baroreceptors (pressure). If we take Plato and Aristotle as two separate characters, their observationsare relative, and not absolute but the outcome and consciousness focus on the same result, “poetic production/outcome”.

The posthuman philosophy or the posthuman era is the convergence of diverse factors and elements. There are three axes upon which this era stands: Post-humanism, post-anthropocentrism, and post-dualism, which are recognized as the future of beings who would grow with time. Living (bios and zoes), non-living, transhuman, technology, and artificial intelligence all have or will have co-existence. Not only philosophically, but also ontologically, scientifically, biologically, anthropologically, socially, and epistemologically, all are connected. To discover the development, we are connected through our consciousness. And which takes us back and forth in time; for example, post-structural theories/concepts which are past now (for say), but they all helped in developing of the posthuman philosophy: “Posthumanism is apraxis, as well as a philosophy of mediation, which manifests post-dualistic, post-centralizing, comprehensive, and ‘acknowledging’ types of approaches, in the sensethatthey acknowledge alterity and recognize themselves in alterity …”(Ferrando, 2016, p. 275). And acknowledging the fact is the conscious act of knowing and delving



into the ideas for knowledge that is past from the present time. For example, when Plato is talking about idea that is supreme in form, that is also past and, following Aristotle, we are consciously giving shape to that idea, so much so that, imitation and innovation comes together. That is why posthumanism is not the convergence but a divergence; "in this respect, [posthumanism] more than with Foucault's death of man, is in tune with Derrida's deconstructive approach" (Ferrando, 2016, p. 304).

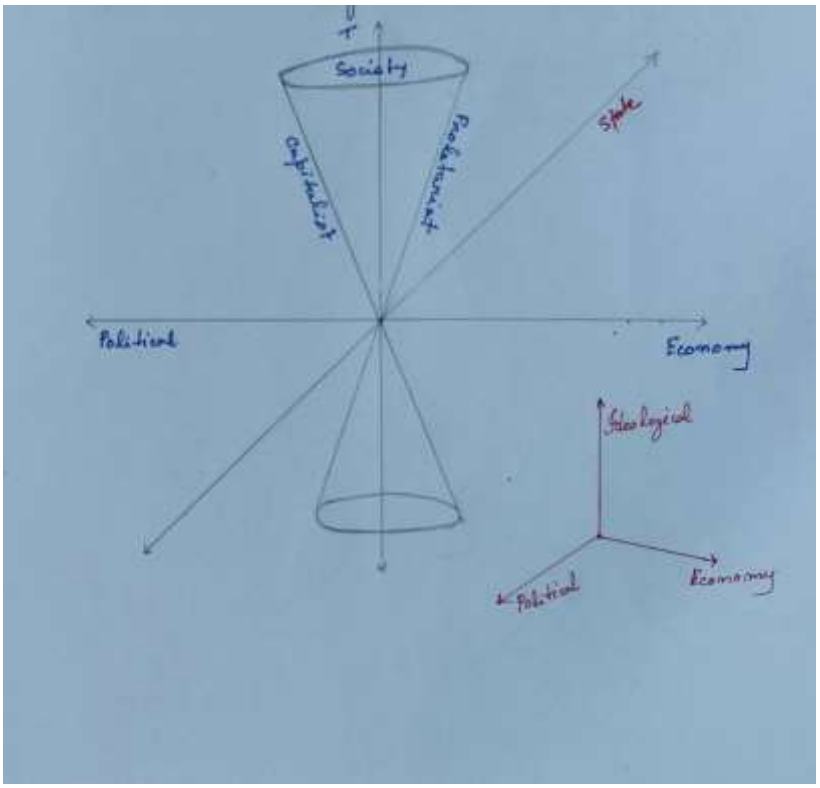
At this juncture, we must understand as a "rational being" of Descartes and Kant, how the term "post" as a prefix, is incorporated with these philosophical movements. The meaning of the term "post" played the role of "after" and "behind", etymologically, which suggests time and space respectively. By consciousness or rationality, science and technology take us to "after the time" and "behind space". It is important for further research, to study spacetime in the formation of the "enworlded self" and how a plurality of perspectives can define post-anthropocentrism and post-humanism as well. Now the question is, why we need to know "spacetime" in posthuman and how "spacetime" influenced the upcoming being?Everything, existing, in this universe, within a particular space and time, has its perspective and existence, which is, in Albert Einstein's terms, "relative". In his theory of relativity, he asserted that nothing is constant and that there is no specific centre. The most constant thing, that people used to think of as being constant, is time, which, also, is not constant. Suppose Dino and Rhino both are standing on a moving path or an escalator, they observe themselves to be static, but another person who is standing on a static platform, in a place different from the said escalator, sees them as moving. Again, the person who is supposed to be on a supposedly unmoving platform is also not static because the earth is moving.

Cat and Schrödinger:

Now, one of the famous contexts regarding spacetime is the superposition of the photon or particles, which has been introduced earlier by Schrödinger. To describe posthuman divergence and convergence, we must go back to Schrödinger and his cat.

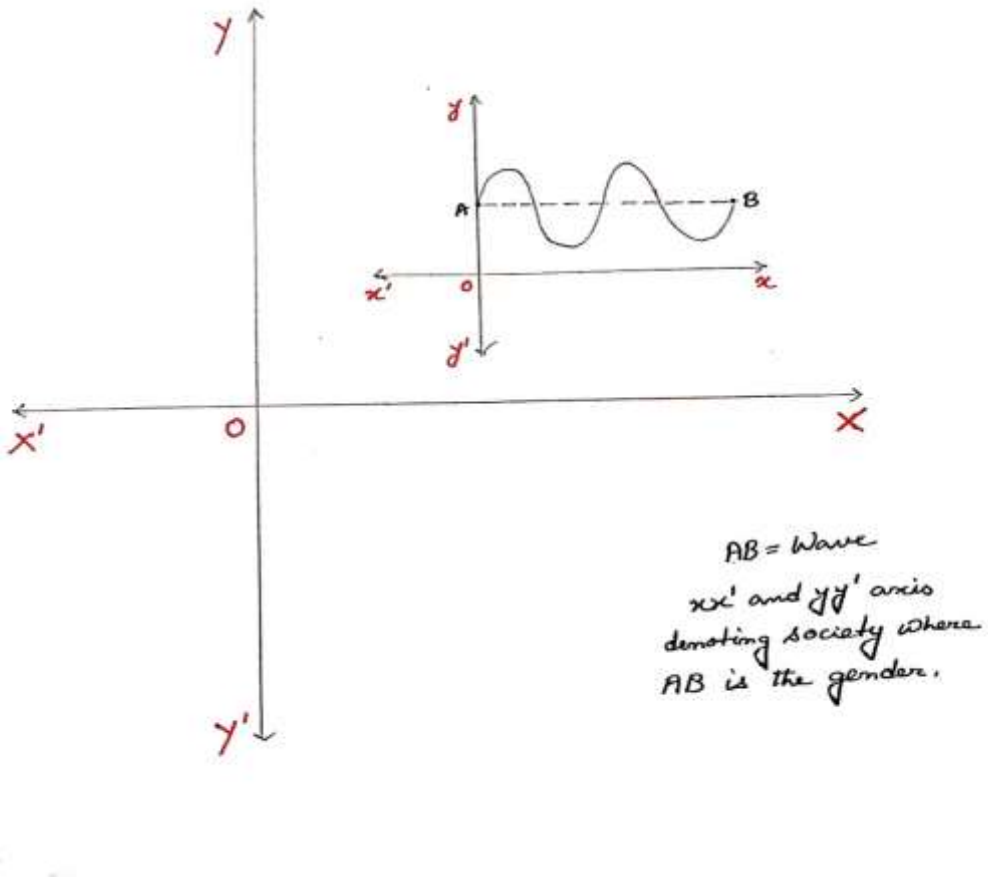
If there is a statistical chance that a particle could be found in multiple states, the particle will exist in all of them at the same time; which Ferrando calls "acknowledgement" in philosophical posthumanism. This is known as the particle being in superposition. When the particle is measured, the superposition collapses and the particle would choose one state over all others, which is the state observed by the

measuring instrument. If this is correct, it should also apply to larger objects because the matter is made up of particles. After all, we know that does not happen when we see larger objects in only one state. Schrödinger devised the cat example to demonstrate how strange the activity of particles in the quantum realm is. A cat is placed in a box with radioactive elements that has a 50% possibility of decaying and killing the cat in this experiment. We have no idea if the cat is alive while the box is covered, and we will only know if the cat is alive or not, once we open the box. So, applying the superposition principle to the cat, we can say that while the box was covered and the cat was not being observed. To be in all possible states, the cat had to be both dead and alive. Only when the box was lifted to observe the cat, and the act of measurement performed, did the cat's superposition collapse, allowing it to be either dead or alive. Now, if we apply this idea of superposition in a society or culture, we will definitely understand the existence of multiple elements and that depends on the "acknowledgement". For example, in the posthuman society, Marx's "economic determinism" and Althusser's "relative autonomy" (Nicos



Poulantzas developed the term), both are in the superposition to each other: where, according to Martin Slattery, "The economic substructure determines all else. Political, social, and ideological factors are all subordinate to economic ones and have no independent causal influence on history …" (Slattery, 2003, p. 46), and social, economic, political, and ideological all are integral, accordingly. Which can be termed, following Max weber, "Protestant Ethic": in Anthony Giddens's term "… a regular orientation to the achievement of profit through economic exchange, capitalism, thus defined, in the shape of mercantile operations … in relatively recent times, has capitalistic activity become associated with the rational organization of formally free labour … means its routinized, calculated administration within continuously functioning enterprises" (Giddens, 2001, pp. x-xi).

Schrödinger found quantum physics to be so philosophically troubling that he abandoned physics and turned to biology. Schrödinger's cat is very real; in fact, if quantum particles are not in two states at the same time the computer we use would not exist. The quantum phenomenon of superposition arises from everything's dual particle and wave nature. For an object to have a wavelength, it must extend over a region of space, implying that it occupies many positions. However, the object's wavelength limited to a small space cannot be precisely defined. As a result, it exists in a variety of wavelengths simultaneously. We do not see these wave properties in everyday objects because the wavelength decreases with increasing momentum; a cat is relatively large and heavy. We will never see wave behaviour from a cat,in compare to a single atomic size, running from a physicist to other position,and wave nature of an atom is far too small to detect. For example, in the posthuman discourse, the wave nature of "gender" exists. Biologically, in the nature male and female both exists: according to Margarett mead, "… differences between sexes are of the order, cultural creations to which each generation, male and female, is trained to conform. There remains, however, the problem of the origin of these socially standardized differences" (Mead, 2004, p. 35),so, when it comes to the term "gender" it is wave in nature: "Gender is not a rigid or reified analytic category imposed on human experience, but a [wave] one whose meaning emerges in specific social contexts as it is created and recreated through human actions" (Gerson & Peiss, 2004, p. 114).Linda Gordon "focusing on gender which has a paradigmatic difference with systematic domination" (Meyerowitz, 2008, p. 1347). Following Schrödinger, Rosi Bradotti and Ferrando have considered as a part of the "New Materialism": "… as a reaction to the representationalism and constructivist radicalizations of late postmodernity, which somehow lost track of material" (Ferrando, 2016, p. 3327).



When we shoot electrons one at a time through a set of two narrow slits cut in a barrier, we can see dramatic evidence of their dual nature. Each electron on the far side is detected at a single location at a single instant, just like a particle; however, if you repeat this experiment many times while keeping track of all the individual detections, you will see them trace out a pattern that's typical of wave behaviour. A series of striped regions with a cluster of electrons separated by regions with no electrons at all. When we block one of the slits, the strikes disappear, indicating that the pattern is caused by each electron passing through both slits at the same time. A single electron does not choose to go left or right, but rather left and right at the same time, which leads to modern technology. Now, this phenomenon, if we apply in the society or culture, every unit of the society or culture would behave like the electrons. For example, if I give example of Bengali culture as one unit of electron and the border as the slit, then, the culture in west Bengal or Bangladesh would both behave like a particle; if there is collaboration/relationship of any kind between India and Bangladesh then, there the culture would behave like a wave, not as particle. It is just one instance, it is possible with other fields as well.

An electron near an atom's nucleus exists in a spread-out wave, like an orbit. Bring two atoms too close together, and the electrons are shared between them rather than choosing just one. Some

chemical bonds are formed in this manner. An electron in a molecule is not just atom A or atom B; it is A+B; as more atoms are added, the electrons spread out more, being shared by a large number of atoms at the same time. Electrons in a substance are not bound to a specific atom but are shared by all of them over a wide range of space. This massive superposition of states governs how electrons move through a material, whether it is a conductor, an insulator, or a semiconductor. Recognizing how electrons are distributed among atoms enables us to precisely control the characteristics of semiconductor materials such as silicon. We can make transistors on a small scale by properly combining different semiconductors. Millions of these transistors are on a single computer chip and their spread-out electrons power the computer we are using. A socio-political system in a country is like the atom of the material. Any single element of the system is brought near the nucleus, it would behave like the wave; for say, the relationship between the law and the judiciary system; if law is the nucleus, then, the judiciary system is the electron in that sense. And this is the idea related with “discourse”. When two atoms or two discourses are brought together, then, chemical bonding are formed and electrons cover more spaces around the bigger nucleus. And this is how system works. Now according to the movement of the electrons insulator, semiconductor and conductor is made, likewise, in the macrocosm of the discourse the social elements are regulated. If we give example of technology, suppose mobile phone, inside the modern classroom we can use it for future reference of the class,but taking selfie and using it as entertainment is restricted, here we cannot use the full features, so, here this discourse will behave like the semiconductor; whereas, inside the exam hall using of mobile phone is banned, so, here it would behave like the insulator.

Based on this Alain Aspect, John F. Clauser, and Anton Zeilinger discovered, in 2022, that the transfer of data from one particle to another in the quantum realm is possible within finite time and for that, a particle need not be faster than light.As we are posthuman we must open the possible arena for other beings. Till now we are aware of the human consciousness whose mechanism may be limited to brains and neuronal activity, but with artificial intelligence, we may transfer our consciousness into robots and like Schrödinger’s cat we can exist anywhere.

Quantum entanglement:

To clear up the confusion, I want to give a reference to quantum entanglement. It is described as 'Spooky action' by Albert Einstein, and John bell called it a 'hidden variable'[1]. In 2022 the Nobel laureates, Alain Aspect, John F. Clauser, and Anton Zeilinger, proved in physics that this 'spooky action' is possible and that is not 'spooky' at all and there is no hidden variable exists; quantum entanglement is possible and pioneered quantum information science. To transmit data from one point to another whose distance may be more than a few lightyears or maybe two points are situated on either side of the black hole.

From the string theory, we know that subatomic particles can be in any state, depending upon the context and their position of movement can be in any direction known as 'quantum superposition'. The example of Schrödinger's cat[2] is not unknown at all it appeared after the Copenhagen fight between Neil Bohr and Albert Einstein.

If there are two particles A and B, and they are quantum entangled with each other, then the position/condition of A will give the Knowledge of B but which will be exactly opposite to A. we all know mason particle; it carries two charges one is electron e^- and positron e^+. If these two are quantum entangled then searching spin of the electron will give the idea of the spinning positron. In the post-structural society, the existence of electron and positron be like –male as +ve, female as -ve; occident as +ve, orient as -ve; colonizers as +ve, indigenous people as -ve; etc. but the posthuman society is the entanglement, if we come/want to know about one, we will know the state of the other. Like, in space if we see the crossing of a photon with bare eyes it would take long time; but, if two photons are in superposition with each other and entangled, so, following one particle will give the idea of the other.

Till now it is fine to us, we can determine the position of these elements; but if one photon is taking that much time to cross a distance then how the information transfer in between two particles is faster than light? One example I would like to add here is that I have one glove and am looking for the

[1] John Bell gave this theorem against the EPR paradox. As the EPR paradox exclaimed that quantum mechanics cannot explain reality. Bell gave an assumed mathematical formulation that there must be any hidden variables that can explain the position and momentum of both particles without disturbing their physical appearance.

[2] Schrodinger was born on August 12, 1887, in Vienna. In 1933, Erwin Schrodinger was awarded the Nobel Prize in Physics. Schrodinger is well-known for his contributions to quantum theory, particularly Schrodinger's equation, which described the behaviour of quantum particles, that behaved like both waves and particles. Schrodinger is well-known for his contributions to quantum theory, particularly Schrodinger's equation, which described the behaviour of quantum particles, that behaved like both waves and particles. To describe this phenomenon Schrodinger gave the example of a cat; which is described in this chapter for further research.

other pair. The part of the pair I hold will give the idea that I don't have this is the classical idea of spacetime. Now think about socks we wear normally does one piece give any idea for which legs it belongs? Or if the gloves we are using belongs to the quantum world so we can use any gloves in any hand no distinction even if we can make it fit in the four-fingered hand or it may be any number.

Here that the particles would be exactly opposite if one is down another is up. What if the particle moves on all sides? Copenhagen's fight is based on this point. Einstein is saying if I can't see anything that means it doesn't exist, e.g., if I cannot see a girl that means the girl doesn't exist. Bohr said the discussion is about a quantum world, not the macrocosm.This is the spooky action for Einstein; now the situation is that if two particles are entangled and they are on either side of a black hole, how is it possible to transfer this information instantaneously the distance of lightyears? Einstein has nothing to say here. Bell interpreted this and said any hidden variables must help in this transfer.

Photon quantum entanglement, to create this phenomenon they took a non-linear crystal of calcium and gave a pump, a photon with higher energy, through the crystal to investigate the spin of the photon and their route of travel. When the pump hits the crystal there emerged two particles – signal and idler; one is a vertically polarized photon and another is a horizontally polarized photon. In the due course of the experiment, one has been sent to the international space station and the other is sent to ground there in the lab. The calculation showed the lab particle's spin was upward and the space station particle's spin was downward. It negates the EPR[3] paradox, Bell inequality, and faster-than-light theory. The result or outcome of this experiment is that when we come to know about these entangled particles, then decoding information would not take infinite time but unimaginable finite time.

Now, in the context of posthumanism,"life" is a connection between two quantum dots randomly. The starting of living organisms on this planet started with vibration at a certain frequency which connected the gasses in their perfect permutation and combination. Blessings of evolution have gifted human mind and its consciousness; from scratches to the quantum world, the journey was not easy and, not uninterrupted. This vibration or "to and fro" between two quantum dots, goes forward and

[3] Albert Einstein, Boris Podolsky, and Nathan Rosen are famously known as Einstein—Podolsky—Rosen (EPR). Quantum mechanics' description of the material universe was insufficient. They continued to argue for the existence of reality elements was not included in quantum theory and speculated on the possibility of developing a theory that included them. EPR paradox arose against the 'Heisenberg uncertainty' which said two particles A and B cannot be measured in terms of position and momentum. Negating this theory EPR paradox said without the slightest disturbance of physical existence either position or momentum could be calculated.

comes back; in the language of philosophy at some point going back to the past and coming to the present.

> Du musz dein Leben andern.
>
> We understand more than we know.
>
> I think, therefore. (Atwood, 2013, p. 354)

'Du musz dein Leben andern' is a book by Peter Sloterdijk that describes collective self-transformation and techniques of individuals through a lens that sees human life as a network of "discipline" through which we inhabit our lives and construct our world, rather than a struggle between those who hold/possess power versus those who subject to it (Rée, 2012). Following quantum mechanics, posthuman philosophy also asserts to "understand" or to transfer data between two points or to understand consciousness we don't need to have/be EPR[4] paradox, Bell inequality, and faster-than-light theory but a proper medium, right calculation, observation, and discipline.

To conclude, in the humanities, we do not consider ourselves to be a species. We have a dilemma because we are very, very pleased to leave irrational thinking to the sciences. Now, what is the cultural problem here? The anthropocentrism is, in my opinion, one of the things that is currently collapsing due to historical circumstances. Again, transhumanism is a condition towards posthumanism. The transcendence of consciousness into digital computers may not define historical conditions, that display the centrality of anthropos and the sovereignty of man.This is the argument I want to make, and to consider the issue of convergence due to the displacement of anthropocentrism. In other words, conversations about biogenetics, life sciences, genomics, and gene engineering on the one hand, and digital networks, artificial intelligence, and robotics on the other, allow them to cross the line from convergence to divergence. Certain meta-discourses focus on a single element. And, in line with the larger picture, I would like you to acknowledge that, while we may be evolving towards this, it is not the only aspect of who we are becoming. This is a confluence, not the primary end phenomenon. Several things are going on simultaneously. That's just one aspect of the posthuman situation. There is no disembodiment or disembedding of the posthuman. It is a part of our historicity and is embodied and

[4] Albert Einstein, Boris Podolsky, and Nathan Rosen are famously known as Einstein-Podolsky-Rosen (EPR). Quantum mechanics' description of the material universe was insufficient. They continued to argue that the existence of reality elements was not included in quantum theory and speculated on the possibility of developing a theory that included them. EPR paradox arose against the 'Heisenberg uncertainty' which said two particles A and B cannot be measured in terms of position and momentum. Negating this theory EPR paradox said without the slightest disturbance of physical existence either position or momentum could be calculated.

embedded within its circumstances. And, consciousness is the dual condition (wave and particle) that takes us from convergence to divergence and satisfies the posthuman condition.

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