

Complete Hypothetical View of the Time Travel

Yogesh Kumar¹, Bhupendra Chouhan², Vikas Saini³

^{1,3} Department of E & T Shri Shankaracharya Group of Institution
Bhilai, Chhattisgrath, India.

² Department of Mechanical Shri Shankaracharya Institution of technology & management
Bhilai, Chhattisgrath, India.

Abstract - Time travel has many hypothetical views, in this paper the complete hypothetical view of the time travel. Including paradox, like grandfather paradox and auto-infanticide we conclude effect on the traveller, but there is also a huge impact, of the paradox create doubted in time travel but time travel is not impossible. Time line (past, present and future) is make relation between them. Time is not separate present is made according to the past and future is made according to the present, if traveller going to past and make any changes in past, according to these change present will be change as well as future. Case of the time travel like observer, they are people who know about traveller. Memory and the undefined future is base for the time travel, memory is most important part, it's include the memory of traveller and also observer, memory is encoding, sensing and storing element of past, present and future, including the type of the time travel like relative time travel, it's physically possible way of the time travel. Virtual time travel, it's special type of time travel in these case generate the virtual image of traveller and use concept of worm hole for time travel, in these time travel traveller think that I am physically present in past or future. Mind time travel in these time travel we have to use all internal power of memory. we know the human memory is more power full and store all the data of his life, we have to use that data for the time travel and also made a time machine to make realisation of our past and future. And the probability time travel it is like a pre-plan time travel these time travel travelled by all animal and human being in there general life. we have to know that the our present is made on the past decision and our present decision made our future that is the probability time travel.

Key Words: Paradox, undefined future, relative time travel, virtual time travel, mind time travel, Probability time travel.

1. INTRODUCTION

The time travel has many views about possibilities and its type that how to time travels, also time travel has paradox like grandfather paradox, these paper deals the paradox and make relation between times. In case for the time travel observer are people's who lived in past and present as well as future. Physically time travel is affecting the absorber. Memory is the special case for travelling time, because the future and past also make memory for travelling time, the major thing is that past is known so it has already created

memory, but on the other hand future is undefined, so undefined future is also case for travelling the time. There are various ways for time travel, (1) Relative time travel in this way includes the twin's baby paradox for the time travel it's the simple way to travel in future time. (2) Virtual time travel for the time travel virtually generates the image of traveller and passes thought the virtual time machine which can made by the concept of the warm hole for travelling past as well as future. (3) Mind time travel is important way to travel the time every person's past is stored his memory, also future but in the sleep state. In these time travel no any paradox is created, because it happens through the mind not the physically, so it's free form paradox. Another way for time travel is (4) Probability time travel in this concept every living thing that has to plan for their future according to the past. And also we have to say that various inventions are result of the mind time travel or the probability time travel.

2. Paradox

It is a logical contradiction that is associated with the idea of time and time travel. Temporal paradoxes fall into two broad groups, consistency paradoxes exemplified by the grandfather paradox causal loop paradox [1]. The paradox was described as early as 1931, and even then it was described as "the age-old argument of preventing your birth by killing your grandparents [2]. According to this paradox time traveller goes back in time and kills his grandfather before his grandfather meets his grandmother. As a result, the time traveller is never born. But, if he was never born, then he is unable to travel through time and kill his grandfather, which means the traveller would then be born after all, and so on. If I am going back and kill the first man and women in the word then what happen? *And the thing is;* if going back in time and killing yourself when you were but an infant. This, of course, is a rather morbid, and potentially dangerous, thing to do. An equivalent paradox is known (in philosophy) as auto infanticide, going back in time and killing oneself as a baby [3]. With several authors referring to a causal loop involving information or objects without origin as a bootstrap paradox [4,5,6] an information paradox, or an ontological paradox. [7] The use of "bootstrap" in this context refers to the expression "pulling yourself up by your bootstraps" and to Robert A. Heinlein's time travel story *By His Bootstraps*. [8] General relativity permits some exact solutions that allow for time travel, some of these exact solutions describe universes that contain closed time-like curves, or world lines that lead back to the same point in

space-time.[9,10] Physicist Igor Dmitriyevich Novikov discussed the possibility of closed time-like curves in his books in 1975 and 1983 [11]. All paradox is generated question for time travel in to the past; the physicist and that entire person are allowed to time travel in the future. Is so easy as compare to going back in the past, The paradox is generated in the past because we all know work has been 1 minute ago is known but other hand 1 minute future is unknown, so we think that the concept of paradox is based on the only concept of known and unknown time. If I can travel my grandson time, it means my grandson is also situated in another time, it means I can say that the time is like a memory of film and it's stable in different time and different places. In this concept also generated a paradox if I kill myself, if can't get marry, if I get marry with another girl, so what about my grandson? So paradox generated also in the future, because with respect to future present is past, if any change in present it's paradox for future, but it's not true our present is going to another direction different from the future. Same thing happen in past paradox, if I kill my grandfather so now past it's going to the another direction and make another present and future separate from the now present and future no any effect happen in present.

3. Time-lines

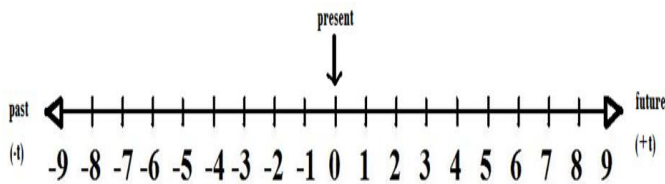


Fig. 1: The time line

These line is indicate the time line Where; 0 = present; -t = past time; +t = future time; (-1 sec) = known; (+1 sec) = unknown.

3.1 Past time-line

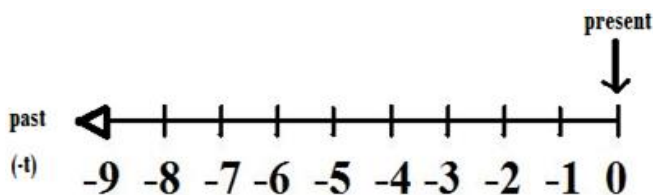


Fig. 2: The past time line

If the traveller wants to travel in past we know that the past is known time, there are the traveller present is zero. If the traveller is going to back, but all the person which is not travelling for time is running to 0,1,2,..... So on, the only traveller is going back so there are two times is created. (1) The time which is running and (2) The time which is past. Both times is separate, so no relation between the first time and second time both are separately running continuously. If

I take the grandfather paradox. The past is present for my grandfather and I travel back so it's now also present for myself and is running in the another direction, Because the second time is also a running condition. If I kill my grandfather that does not affect anything. Because it's present for me and I can change the running time so before I travel the time which time is present for me, which is now future for me. So no any paradox is generated, if I can go back because this time is separate to each other because both are in running condition. So all time is new time for the traveller and the person which is situated on the earth. But it is not possible, the time is dynamic not stable, If I back any time of the past line it a present for traveller, every time crate a new direction of time it's not possible to totally change the life past and future and crate no relation between past, present and future.

3.2 Future time line

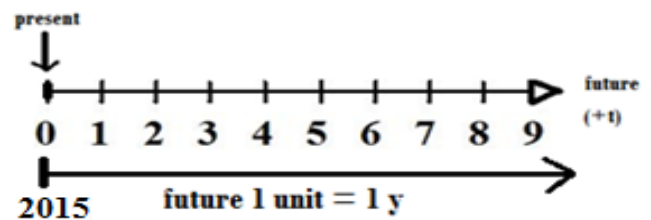


Fig. 3: Future time line

Where; 0=2015 indicate the present; +t= indicate the future In the above time line fig,

If I am a time traveller, then I am able to travel in future time. If I want to going to my grandson time (2065), there are we know that the 2015 is the running condition not for me but the person which is situated in the my time, but there are 2065 is also a running condition, so I can say that no relation between the 2015 and the 2065 if any change occurs in 2015 before my time travel then what happen in 2065..... paradox is also created. The one thing that paradox is depends only on the known and unknown thing not in the past and future. If created paradox so also created past and future, if not created in both time. The past time line and future time line structure says that every time is separated, if I travelling time that make a new universe. But it is not possible, because if I do not get marry with any girl so how create my grandson in the future so the time is not stable it's dynamic and the time is not changeable, If it's changeable so no relation between our past present and our future. If I used acceleration theory for time travelling then I travel only relative future.

4. Case for the time travel

The time is individual memory for the different observer that is explain the time travel, it's possible but we have not change the past and as well as future.

4.1. Observer

The observable universe consists of the galaxies and other matter that can, in principle, be observed from Earth at the present time because light and other signals from these objects have had time to reach Earth since the beginning of the cosmological expansion. If I say that in the universe the different person has observed different things in different places in different time, at present and store in the memory, which is not changeable.

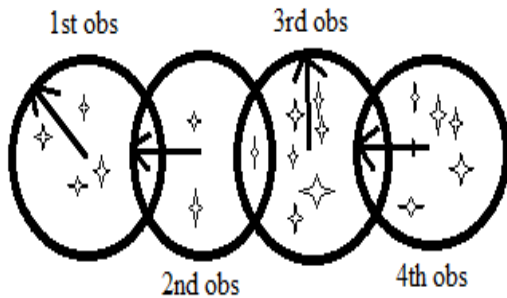


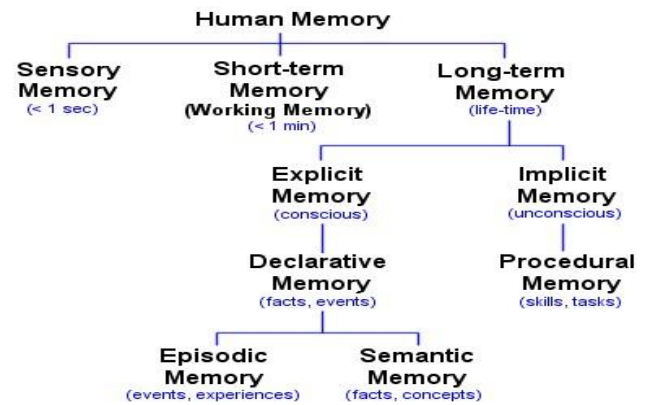
Fig. 4: Observer

If I'm travelling time physically and going to past, then the different person saved these time as a memory different type, so if I can travel time then the firstly change not a physically past, first change the mentally past, If I can go to the past but it can't be possible to change every persons memory, because each and every person in the universe at that time observe different thing, if I can change the past then change the present, it's also not possible, because the present is also in the running condition and in present different person observe different thing, in the universe and it can't be changeable. If I have to change the past so according to that past is going to different direction and the present is going into different direction. So according to these we can't explain past time and future time it's so complicated and not relational. So we can only see the past and future or travel but not physically and it can't be changeable, because the present is making by according to the past and future make according to present.

4.2. Memory

In psychology, memory is the process in which information is encoded, stored, and retrieved. Encoding allows information from the outside world to be sensed.

Types of memory:



Encoding or registration: receiving, processing and combining of receiving information Storage: creation of a permanent record of the encoded information in short term or long term memory Retrieval, recall or recollection: calling back the stored information in response to some cause for use in a process or activity. There are various types of remembering and storing capacity of memory also realised happiness, sadness, fear, love, responsible, thinking and quick decision making capability. This property make human different from robot and technical gadget. Past is form of memory like a film, That can't be change any reason, if we have to change on person memory but we can't change its life experience, which is given by the past, so memory like a book of the person,

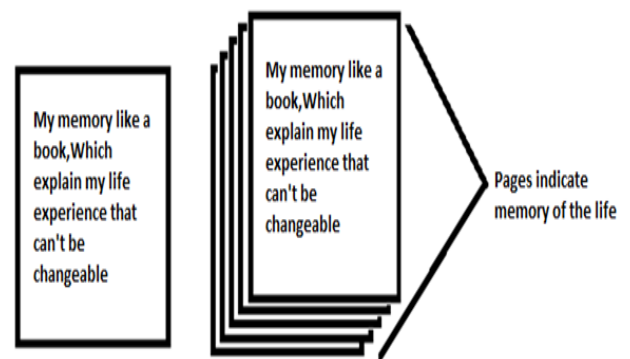


Fig. 5: Life as a book, Memory as pages

And past is read page of the book and present is current page and future is unread page of the book. So our past present and future can't be changeable. It is like an Autobiography of great person we are only going to pages 1 to 100 or 100 to 150, but not make any change in book.

4.3. Undefined future

In these theory we can explain the undefined future is like a suspense full film in these film the end of film are decided. Think interval is a present of life and seen part of film is a past and after the interval is future some people thing that

my future is according to me that ok, but it's also stored in the future here, I can write about the time travel if I can erase the theory or I submit the theory is think it's depend on me but these situation is also a include in the future and resultant is also in the future. And also explain in the above that life as book and it pages like an episode of life, I can say that the future is also stored in our life according to present.

Present to future life direction:

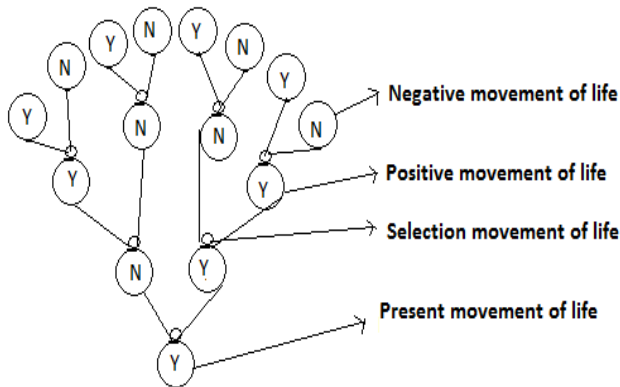


Fig. 6: Present to future life cycle

Person's life is like a book written in just his born time, it's all activity and dead, astrologer is tell the past and future according to the planet and universe, so we can say that the person all life and life changing situation is also decided in its life, so the life is define it means we can say that the future of life is seen with help of the astrology, science, hypothesis, ancient methodology it can help to seen the future and it's also give the proof of the time travel. If we can't go to the future, but we can see the future it's also a time travel. If we have to make a time machine that seen the future actives and also seen the past it's is the new biggest success for the science that can give the new turn of life.

5. Time Travel

When we are thinking about the time travel many problems are created there is simple way of the time travel.

5.1. Relative Time Travel

The twin paradox is a thought experiment in special relativity involving identical twins, one of whom makes a journey into space in a high-speed rocket and returns home to find that the twin who remained on Earth has aged more. This just because of acceleration. The role of acceleration is, although some solutions attribute a crucial role to the acceleration of the travelling twin at the time of the turnaround, [12,13,14]. Others note that the effect also arises if one imagines separate outward-going and inward-coming travellers, who pass each other and synchronize their clocks at the point corresponding to "turnaround" of a single traveller. In this version, physical acceleration of the travelling clock plays no direct role; [15,4,16,17].

Example: Consider a space ship travelling from earth to the nearest planet. Distance of the planet from the earth is 6 light year ($d=6$), and speed of the ship is $v=0.8c$ (80% of the

speed of the light). Journey taking time based on the earth time ($t = 2d/v = 15$ year. (Everybody on earth will 15 year older when the ship return), time reduced by the factor for traveller $\epsilon = \sqrt{1-v^2/c^2}$ in this case $\epsilon = 0.6$ and the travellers will have aged only $0.6 \times 15 = 9$ years when they return the Earth are moving relative to the ship at speed v during the trip. In their rest frame the distance between the Earth and the star system is $\epsilon d = 0.6d = 3.6$ light years (length contraction), for both the outward and return journeys. Each half of the journey takes $3.6/v = 4.5$ years, and the round trip takes $2 \times 4.5 = 9$ years. In this example the age difference of the traveller is $15 - 9 = 6$ year. This concept is used for the time travel but it's only a relative future for other. So if can travel time in these concept so it's only a relative time travel, these theory I can't meet my grandson in the future in these concept only time difference, we can't travel exact a different time, I can travel only a relative time just because of acceleration theory.

4.2. Virtual Time Travel

We know that the past is not changeable because every person has own separate memory of the past and it not changeable, so we can't travel past time physically worm hole is also physically not possible. So we can make the virtual time machine with the help of the concept of the worm hole we have to generate virtual image of traveller, because physically travel in worm hole is not safe. According to physics scholar the time travel is possible in the worm hole, because it is made by black hole and the white hole which is generate the time difference between two universe, in worm hole enter person for time travel it is only a virtual time travel, In this system not any paradox to be generated. The past time travel in these system is so easy because the traveller know his/her past so it help for the travelling time in to the past and the future we can use the worm hole theory. If we have generate a tunnel use for the future time travel,

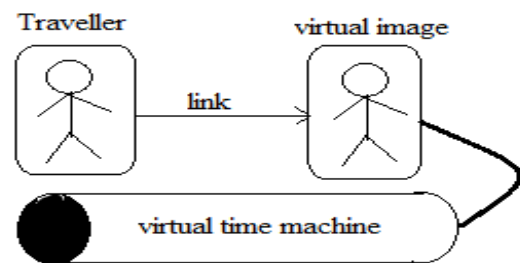


Fig. 7: Virtual time machine

In these system no any effect on the past and future, it's like a dream for the traveller. The major fact is which feel or a general concept of dream person seen itself in dream, but in

Time line diagram:

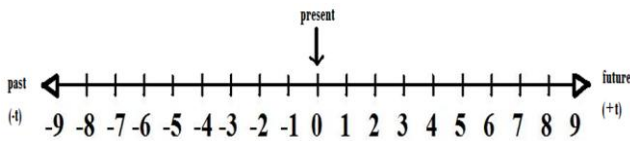


Fig. 8: The time line

It's a time line of any person life 0 is the present for person and $-t$ is past time for person and $+t$ is future time for person. The past is the known so we can easy travel in the past but the main problem is the future, because we think that it's a random. If I can erase the memory of the person, so we can say that the past of the person is a random it's unknown but the person past exist as a linearly not a random, so the past as well as the future exist as a linearly in the mind, so mind time travel is possible as well as it's monitoring is possible. We have to monitor person past as well as future of person, we know that the every person know him well, so we have to use these value to be monitor the mind. the present or in a common life he did not seen. So it's indicating that the time travel can be possible.

4.3. Mind Time Travel

We know that the our mind is 2400 time faster than CPU also that every moment of life is save like a movie, past is a known fact and future is an unknown fact, but future is exist, our life run continuously, if the future does not exist we can't aspect as a future. The human mind huge as a universe, in that universe not only past exists in human mind as well as future is existing, the mind is so brilliant in this future as well as present time layer.

Example: If I can make a robot so we can program for continuous running, so I can decide that what is the next plan for our robot, future is a program (plan) for human, if it's not a program then we are going to shut down condition or die condition, we can say that the our future is random but it's not a random everything is planned, before we thinking that what happen next. So the time travel in to the past is so easy in this theory but the as well as the time travel in the future is easy. The past is the known so we can easy travel in the past but the main problem is the future, because we think that it's a random.

If I can erase the memory of the person, so we can say that the past of the person is a random it's unknown but the person past exist as a linearly not a random, so the past as well as the future exist as a linearly in the mind, so mind time travel is possible as well as it's monitoring is possible. When we have to see our past in the monitor we have to make time machine. This is more suitable and applicable as compare to make physical time travel machine. In the methodology of third eye concept the third eye (also known as the inner eye) is a mystical and esoteric concept, referring to a speculative invisible eye which provides perception

beyond ordinary in this concept we have to see future. Some time we have seen our future in dream, it indicate that our future also is in our mind, but in the deep layer. So it's indicate that time travel can be possible only as mind. Dreams are successions of images, ideas, emotions, and sensations that occur usually involuntarily in the mind during certain stages of sleep. But the fact is we can't control our imagine ideas, emotions, and sensations so it's easy to set that in the mind the future is exist.

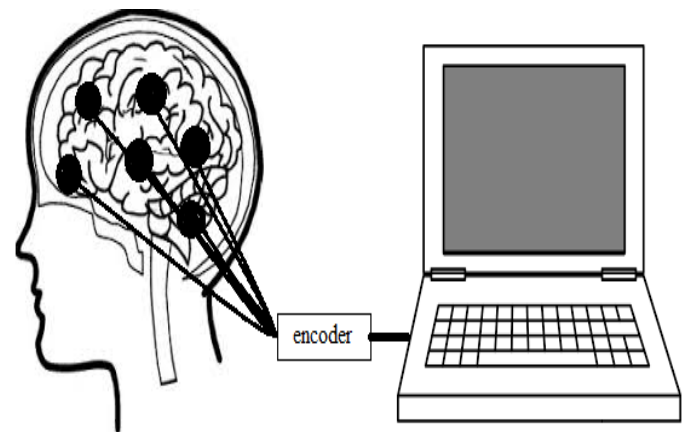


Fig. 9: Mind time travel & mind time travel machine

4.4. Probability Time Travel or Prediction Time Travel

The probability time travel is the same as the mind time travel, in these we talk about past and future planning, that how to secure our future as well as in this case we can say that Mental time travel into the future might include the planning of some specific event, In a dynamic world,

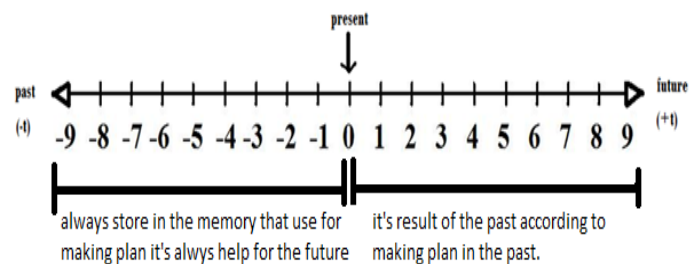


Fig. 10: The time line of past present and future

In planning for the future pass your more than time to making plan and thinking about the time travel, the answer we propose is that mental time travel provides increased behavioural flexibility to act in the present to increase future survival chances [18,19]. Since past is fact and future is fiction, If this argument is correct, then the crux of mental time travel lies in its role in enhancing biological fitness in the future, so that mental time travel into the past is subsidiary to our ability to imagine future scenarios.

It make the probability for the future and create prediction for the future and make your future as planed Amnesic patients who are unable to answer simple questions about

yesterday's events have been found to be equally unable to say what might happen tomorrow [20], and it is not until around age 4 that children are able to accurately answer both such questions[21,22], investigators have used the term "episodic-like memory" in acknowledgment that the www criterion need not imply true episodic memory, in part because there need not be any implications about automatic consciousness[23,24] The main point is that the every person as well animal travelling time as with the help of the prediction time travel the human know that what can do, when ,which ,how it's make to the human as well animal for the travelling to the time the bird and animal going to the food for one place to the another, they know that when mechanisms allowing prediction of future situations can provide a selective advantage. We suggest that memory systems differ in the degree of flexibility they offer for anticipatory behavior and put forward a corresponding taxonomy of prospecton.

We know that past is storage in memory as an episode, we have to plan our future as the resultant of past, we imagine our future basis of the past; we maintain that the emergence of mental time travel in evolution was a crucial step toward our current success. Mental time travel allows us to imagine events at different points along this continuum, even at points prior to birth or after death. This means that mental time travel is a generative process. The time travels that can be the replica of the past learn and work on the future. First we have to think about the subject then making plan then work. According to plan we have to make our future itself .The mental reconstruction of past events and construction of future ones may have been responsible for the concept of time itself, and the understanding of continuity between past and future. Having a concept of time allows us to understand that past and future are on the same dimension, people spend so much time talking about their recollections and anticipations. we have to go, how to go, in which time to go, how many time taking for the going, its make the future prediction for the travelling successfully. When humans talk about past events they typically exchange information about even more w's, such as "who did what to whom, when, where, and why" [25]. Recent evidence indicates that jays may indeed also store information about who observes them cache[26].The 5"W" which save in the our past which is help full for making the future plan which is also included that 5"W" which always present in front of me.

Example: I am a student so I learn from my past exams and making plan for basis of those exams and predict as better as the past exams. so I can also imaging my past as an examiner as well as I imaging my percentage as compare to my daily study, so the time travel is as a prediction time travel basis of the past and plan the future it's a time travel.

5.0 CONCLUSION

In these analysed time travel deals through time line and case of the time travel like observe all observer has on memory and on time and these concept is refuse the

physically time travel in to the past. And the undefined future, the future is unknown time but is known through the present decision. Include 4 ways of the time travel, relative time travel, in these time travel physically time travel is possible in future, but the time travel is not possible in past because it's only a relational time travel. Virtual time travel is based on the virtual time machine which can made by concept of the worm hole, in these virtual time travel, time travel in past and future both are possible. And mind time travel is based on the memory of the traveller in these methods time travel in past as well as future is possible using highly thinking capability of human memory. The last method of the time travel is the probability time travel in this method future plan is also the part of the time travel, in these method the all living thing who has made the plan for surviving his live is time traveller.

ACKNOWLEDGEMENT

It is with a feeling of great pleasure that we would like to express our most sincere heartfelt gratitude to Dr. G.R. Sinha (Ex. Associated Director of SSGI Bhilai), Dr. M.L.Verma (HOD of Physics department SSGI Bhilai), and Mr. Ravi Tiwari (Assistant Professor of ETC Department SSGI bhiali) for encourage me to doing these research. We also express our sincerely thank to Dr. P.B. Deshmukh (Director SSGI Bhilai)

REFERENCES

- [1] Ross, Kelley L. (1997). "Time Travel Paradoxes". Archived from the original on January 18, 1998.
- [2] Everett, Allen; Roman, Thomas (2012). *Time Travel and Warp Drives*. Chicago: University of Chicago Press. ISBN 978-0-226-22498-5.
- [3] Francisco Lobo (2002). "Time, Closed Timelike Curves and Causality" (PDF). p. 2. Retrieved November 2, 2015.
- [4] 4.Suddendorf, T. & Busby, J. (2003a) mental time travel in animals? *Trends in Cognitive Sciences* 7:391-396
- [5] Toomey, David (2012). *The New Time Travelers*. New York, New York: W. W. Norton & Company. ISBN 978-0-393-06013-3
- [6] Suddendorf, T. & Busby, J. (2003b) Like it or not? The mental time travel debate. *Trends in Cognitive Sciences* 7:437-438.
- [7] Maudlin, Tim (2012). *Philosophy of physics : space and time*. Princeton: PrincetonUniversityPress. pp. 77-83. ISBN9780691143095.
- [8] Clayton, N. S., Bussey, T. J. & Dickinson, A. (2003) Can animals recall the past and plan for the future? *Nature Reviews Neuroscience* 4:685-691.

- [9] Dally, J. M., Emery, N. J. & Clayton, N. S. (2006b) Food-caching western scrub-jays keep track of who was watching when. *Science* 312(5780):1662–1665.
- [10] Busby, J. & Suddendorf, T. (2005) Recalling yesterday and predicting tomorrow. *Cognitive Development* 20:362–372.
- [11] Horwich, Paul (1987). *Asymmetries in Time*. Cambridge, MIT Press. p. 116.
- [12] Carroll, Sean (2004). *Spacetime and Geometry*. Addison Wesley. ISBN0-8053-87323.
- [13] Rindler, W (2006). *Introduction to special relativity*. Oxford, UK: Oxford University Press. ISBN 9780198567318.
- [14] Nahin, Paul J. (1999). *Time Machines: Time Travel in Physics, Metaphysics, and Science Fiction*. American Institute of Physics. ISBN 0-387-98571-9.
- [15] Novikov, Igor (1983). *Evolution of the Universe*
- [16] Bonnor, W.; Steadman, B.R. (2005). "Exact solutions of the Einstein-Maxwell equations with closed time like curves". *Gen. Rel. Grav.* 37 (11): 1833. Bibcode: 2005GrGr...37.1833B. Doi: 10.1007/s10714-005-0163-3.
- [17] Harris, Randy (2008). *Modern Physics*. San Francisco, CA: Pearson Addison-Wesley. ISBN0805303081.
- [18] Klein, S. B., Loftus, J. & Kihlstrom, J. F. (2002b) Memory and temporal experience: The effects of episodic memory loss on an amnesiac patient's ability to remember the past and imagine the future. *Social Cognition* 20:353–379.
- [19] Suddendorf, T. & Busby, J. (2005) Making decisions with the future in mind: Developmental and comparative identification of mental time travel. *Learning and Motivation* 36(Special Issue):110–125.
- [20] Kogut, John (2000). *Introduction to Relativity*. Burlington, MA: Harcourt Academic Press. p. 35. ISBN 0124175619.
- [21] Einstein, A., Lorentz, H.A. Minkowski, H., and Weyl, H. (1923). *Arnold Sommerfeld. ed. The Principle of Relativity*. Dover Publications: Mineola, NY. pp. 38–49.
- [22] E. Minguzzi (2005) - Differential aging from acceleration: An explicit formula - *Am. J. Phys.* 73: 876-880 arXiv:
- [23] Ohanian, Hans (2001). *Special relativity: a modern introduction*.
- [24] Lakeville, MN: *Physics Curriculum and Instruction*. ISBN0971313415.
- [25] Pinker, S. (2003) *Language as an adaptation to the cognitive niche*. In: *Language evolution*, ed. M. H. Christiansen & S. Kirby. Oxford University Press.
- [26] Smeenk, Chris; Wüthrich, Christian (2011), "Time Travel and Time Machines", in Callender, Craig, *the Oxford Handbook of Philosophy of Time*, Oxford University Press, ISBN 978-0-19-929820-4
- [27] Emery, N. J. & Clayton, N. S. (2004) the mentality of crows: Convergent evolution of intelligence in corvids and apes. *Science* 306:1903–1907. physics/0411233 (Notation of source variables was adapted to match this article's.)

BIOGRAPHIES



Yogesh Kumar received his BE degree in electronics & Telecommunication from CSVTU Bhilai in the year 2017, Science Enthusiast, published paper presentation in PRSU.



Bhupendra Chouhan received his BE (Hons) degree in Mechanical Engineering from CSVTU Bhilai in the year 2017.



Vikas Saini received his BE degree in electronics & Telecommunication from CSVTU Bhilai in the year 2017, Maths Enthusiast, author at MBAtious, Quant-98.78%ile in CAT16, 99.60%ile in Elitmus.