Section 1: The Issue of Spacetime Invariance of Qualia

One of the major issues of consciousness and any theory of the human mind is to rationally explain how different people can have the same conscious experience and understanding of the same object and event. Now it is easy to rationalize how different people can literally see the same object or hear the same sound as one can reference the light waves or sound waves emanating for the same object that each person receives. Since each person received packets of information from the same thing it is easy to then understand how they can share the same experience. This conclusion I shall call conclusion A (CA) where if two objects A and B received identical information from an information emitting object C it can then be concluded that A and B are having the same experience about C.

The issue with CA is that it requires A and B to effectively have the same internal states such that they interpret and understand the same information from C in the same way. If we allow A and B to have different internal states then A and B can interpret and experience the same information differently.

How can then A and B have the same experience? If we allow A and B to communicate with each other, even if they did experience or understand the same information different as long as the difference in experience is not too great A and B, with enough questions and responses between each other, should be able to come to at least a general agreement about what the saw or experienced.

To give some examples, imagine two people are looking at a tree. If person A has bad vision thus they cannot see all the individual leaves on the tree then. If person B then asks person B how many leaves are the on the tree then A would not be able to give answer that person B would be able to corroborate with their own experience. However, person A can still give enough information like how tall the tree is, what color it is, what insects are climbing up it, to then confirm to person B and vice versa how that they are booth looking at the same tree.

Now the problem I have described is what commonly referred to in philosophy as the qualia issue. Usually the qualia issue is put as the question of “How do I know my experience/understanding of how red is red is the same understanding/ experience of red that you have?”. For more complicated objects like trees there exists at least enough details inherent in the structure of the tree that two people can least talk between each other about the details of the tree to determine if they are looking at the same tree. Red is a very simple object/idea

that does not have as many details/information to pull from to then quiz another person about.

Now using our understanding of physics and a logic process of information we can at least state what red is not. Red is not a shape or a process. Red cannot talk or move. We can repeat this process of stating what Red is not to at least get a small set of what Red can be. Therefore, Red is a color but it is a different color of Blue, Green, Orange etc. Furthermore, we can use physics experiments to show that people only report seeing Red when photons of specific wavelength are used.

Knowing what Red is not still does not address head on the elusive issue underneath here about how even if we agree on what Red is not, how can we absolutely certain that the Red I write is the same Red that other people perceive within their brains? I propose that we can solve this qualia issue with wormholes.

Before discussing the advanced esoteric physics which underly wormholes, I will give a brief description on the benefits of using wormholes. Therefore, even if one does not understand the theorical physics behind the idea of wormholes, one can at least understand why I am using them.

The main benefit of wormholes is that they are a work around to the fact the information can, typically, only travel as fast as the speed of light C. That is why is a lot of science fiction wormholes are mentioned as they would allow an object to work around the cosmic speed limit.

Getting around this cosmic speed limit has a profound, and what I find to be necessary, solution that any theory of mind or consciousness that tries to seriously solve the qualia issue needs to make use of. First, let us imagine that there is a universe where Red exists in its perfect platonic self. Then, if one can connect to this Red dimension one can experience and understand Red perfectly. Therefore, if a person can receive information from a wormhole from the Red dimension then they can understanding and have comprehension of Red. If two people can both receive information from wormholes from the red dimension then they will have the same understanding/experience of Red.

Not only does using wormholes provide a fundamental way for two observers to experience Red it also provides an invariance of experience over all of spacetime. What this means is that no matter where a person is in space time, as long as they can access the Red wormhole, they will know what Red means.

This idea has a very powerful fact for people as it means that the meaning inherent in writing thousands of year old can still be fully access by people reading long after the original authors have died. In this sense using wormholes explain how people can access the same meaning of information no matter how far apart different observers actually.

The reason why I believe any and every good theory of mind and consciousness needs to use wormholes that there does not exists a better avenue to deal with the qualia issue and explaining basic empirical observation of human behavior without inventing new physics.

To begin with there exists a decision tree about how to answer the question of "Does my spacetime location, i.e. the fact that I was born at this specific time, in specific place, limit my ability to comprehend?". Comprehend is used here to mean exactly there comprehend. If one's comprehension was tied to specific locations in spacetime then we would see some people have different cognitive abilities and level of intelligence solely based on where they were born and raised on this Earth. In such a universe would mean that the best mathematicians would all be born from the space place on Earth. Furthermore, it would also imply that to do the best work in a particular subject would be directly tied to where they were while they worked. For example, this would mean that the best sculptors would be born in Greece and if they wish to make the best sculptures they would need to stay in Greece as well as comprehension is tied to location in this universe. This would mean that we would known if we were in such a universe if once we took the best sculptor out of Greece their ability to sculptor would dramatically lessen. Since we empirically find that people can move freely across the planet and maintain they same acuity of skills and reasoning then I believe this data and the non-existence of what we would expect otherwise proves that for human comprehension, fundamental experience, qualia, and consciousness have to be invariant across spacetime. The only physical way to fulfill explain this empirical fact is the use of wormholes.

Section 2: What are black holes, worm holes, and white holes?

If worm holes provide the fundamental explanation of spacetime qualia invariance then where are and how do we detect them? This is a very tricky issue. To explain how tricky it is we first to need to explain what wormhole are.

Wormholes are, in a very basic explanation, how one can suture two distance regions of spacetime. They exist as the suture, tunnel, connection between the

regions of space underneath the event horizons of a black hole to a white hole. Before we can explain the role of wormholes we need to then explain what black holes and their temporal twins, white holes are.

Black holes are regions of space time where the spacetime curvature has become so great that no particle, even light, can escape. To explain what that means is that in cases where gravity is not as strong, like the gravity on our Earth, there is this quality of escape velocity where if an object can reach the speed of the escape velocity then it can leave the gravity well of Earth and escape into space. For black holes the value for this escape velocity becomes greater than the fastest possible speed in the universe, the speed o light denoted as C. Since is not physically possible to faster than the speed of light then it becomes impossible to climb out of the gravity well of the black holes.

The region of spacetime where it is not possible to escape is called the event horizon. If one is in the event horizon then for all intents and purposes one has become permanently incommunicado with the rest of the universe since one cannot send any signal out of the black holes.

Further within the event horizons of black holes will be the singularity point where the mathematical rules and precepts of General Relativity(GR) break down. What this break down means is that GR as a theory cannot provide more meaningful information- it has reached the end of what it can describe and discuss. At the singularity point is where many physicists believe the true theory of quantum gravity(QG), a theory combining the philosophical and mathematical tenets of GR and Quantum Mechanics(QM), will get rid of this singularities and provide information on this fundamentally mysterious objects.

Many physicists have considered ways on which to get rid of the singularity points and one way is to allow or enable the formation of an Einstein-Rosenberg bridge(though this is not necessarily the only way). With a stable bridge one makes a wormhole which can allow objects which entered the black hole to then exit out of a white hole. This wormhole process is the most likely way to enable Faster-Than-Light(FTL) travel within our current understanding of GR and thus has been referenced and used in many science fiction books. I will not dive into a discussion of how Einstein-Rosenberg bridges are thought to work mathematically because we have already move off course in trying to create an empirical theory of Consciousness. The reason for that is the physics in discussion here is highly theorical and, without the physical existence of white

holes, cannot be empirically proven or disproven(Small appendix mentioning the popularity of hawking radiation). Since singularity points exist with black hole event horizons one cannot receive information to fulfill the basic tent of science, using empirical data to prove or disprove a theory. Black holes are called black holes for this reason; they black any information that enters into their event horizon.

Now with a wormhole we can theoretically receive information on the interior of black holes but we have to use the temporal twin of black holes, white holes, to accomplish this. White holes are the temporal reversal of a black holes. This means that Whites holes have all of the same qualities as a black hole but, due to the temporal reversal, instead of the event horizon preventing things from leaving the event horizon instead prevents from anything coming to a white. Therefore, one can leave a white hole but not then enter again. This also means that while we cannot get information from the singularity of black holes we can get information from the singularity of white holes.

Before discussing why I believe the information generated from white hole singularity is foundation for any theory of Consciousness or complex evolution I need to explain why most physicists do not believe white holes exist and how I am approaching the issue posed by the existence of white holes.

First, GR is a temporally symmetric theory and thus, at least according to GR, if black holes exist then should white holes exist as well. Most physicists do not believe in white holes not due GR but due to other physical theories. One common one is that white holes would violate the Second Law of Thermodynamics. Another is that white holes would cause weird particle interactions with vacuum as described in Quantum Field Theory(QFT) that most physicists consider to be non-sensical. I will give my rebuttal to both those arguments in a different location as it is complex both in the initial objection and the solution I propose. For our purposes now, we shall focus on the use of white holes in a theory of consciousness.

Section 3: White Holes- the projectors of extra-dimensional information onto a General Relativity Universe

The main benefit of white holes is that if gives us access to information that does not exist with GR. In other words, the singularities within GR are not a bug but a feature. At the singularities are where platonic ideas are made compatible with the tenets of GR and thus allow for non-GR ideas to exist within people brains.

Put another way, without access to singularities people, animals, everything could only act and behavior within the rigorous tenets of GR. Without singularities, people could not even comprehend ideas that exist outside of GR as they lack a physical mechanism to get access to those ideas.

Most physicists consider trying to analyze past singularities a fool's errand as there is no solid mathematical theory to guides one's nose on what is there. I disagree because people can think of crazy ideas all the time that defy any explanation within the tenets of GR. Furthermore, it is not necessary to know how a singularity is resolved to empirically test the theory of consciousness I am arguing for. The reason for this is that whatever process resolves the singularity is hidden behind the white hole event horizon. As previously put, one cannot empirically test assumptions and theories that lie beyond the event horizon, even of a white hole. To explain, one cannot send anything into a white hole per its event horizon. Thus, the classic physics way of experimentation, throw something at another thing and see what happens, does not well apply to this situation. For a white hole, fundamentally, all the information we get from it is what is gives us and we cannot "force" information out like most physics experiments.

In most black box situations we have a black box which we can feed information to it and then see how the box changes or what information the box gives to us. However, one cannot feed information into a white hole. A wormhole is an important exception but that first relies on depositing the information into a black hole and then relaying on unobservable processes to both preserve and move the information into a white hole. Therefore, unless one knows the very special circumstances of a wormhole are applicable then we need to treat the white hole as black boxes which we can never feed with information only receive information from.

This information dynamic is fundamentally important to consciousness as I believe behind the singularity lies platonic ideas, including all mathematical platonic ideals, in their full, complete meaning in Alpha Space. We can even think of each ideal having its own dimension or universe. We can even invent a neat story to rationalize how information from distance Alpha Space can intersect with reality. First a black hole forms in a platonic universe, like the platonic universe only containing the number 3 in its full platonic, implicit meaning. That information falls into the black holes and then travels through a wormhole inside of the black hole where on the other end lies a white hole

leading into our universe. Then the only question remains, from the perspective of the transported information, is if there is room in our universe to fit the information. Furthermore, it will be assumed that the wormhole process has the added fact of adjusting the information from its pure platonic realm into a version of it which is compatible with the tents of the physical laws of our universe. Through this process we can rationalize how ideas, even very strange non-sensical ideas can enter reality and pop into the brains of people. White holes are depositing the information.

Section 3.2 If White Holes are what deposit information how do we know the information came from a white hole?

This above question is very difficult to answer at this point because there are many plausible answers in theory but no empirical data to truly answer the question with scientifically. As most physicists consider white holes to not exist so they have not really looked for them. Furthermore, white holes cannot be probed for information as there event horizon, be definition, prevents any probing. What this means is that white holes, if they exist, are literally invisible and while they can deposit information we cannot deposit information into them.

Now I am going to claim that we can detect the effects of white holes through observing the self-organizing nature of matter. What I am arguing is that long range, long lasting macroscopic organization is an empirical observation of the influence of the invisible hand of white holes. This means we can rationalization the entire effects Dark Energy and Dark Matter as being sustained through white hole information deposits(WHIDs). We can also rationalize where randomly appearing particles and massive magnetic fields are coming from astronomical observation- WHIDs. For more local concerns like how biological life works I believe WHIDs are what fundamentally started many of the jumps in evolution observed in the fossil record. I also believe WHIDs provide the long-lasting long range cellular communication that allows cells to work in orchestrated harmony. Furthermore, WHIDs can also interfere with other WHIDs to then create disharmony and disorganization amongst cells e.g. cause cancer. To explain briefly, if the white hole which connects to the perfect function kidney is able to deposit WHIDs corresponding to good kidney function then a person will have their cells well organized to perform well. If this white hole’s connection were to ever get served or supplanted by another WHID then the organization and function the kidney would suffer.

WHIDs interference with themselves is an important assumption to rationalize why human level consciousness is rare. As previously stated, white holes connect to platonic ideals including mathematically ideals. It then naturally follows that those white holes which connect to the mathematical tenets of GR are the strongest, most dominant WHIDs producers. Furthermore, these WHIDs will crowd out prevent other WHIDs from occurring. The consequence of this destructive inference most of spacetime will be dominated by the mathematical dynamics of GR. However, if one is able to neutralize the destructive interference from the WHIDs current in reality then one allows other white holes to deposit new WHIDs.

Section 3.3 Entropy and a superconducting state denote when WHIDs occur.

Now we to talk about Entropy and how white holes involve themselves with the Entropy of the universe. The Second Law demands that any physical action occurs with a net expansion of phase space. To put this another way, empty space in phase needs to be created to allow a WHID to exit a white hole and fill in the phase. Therefore, I believe we need to slightly redefine the Second Law as demanding that physical actions can only occur from WHIDs.

To explain, we need to start at the big bang. Many physicists believe white holes to be violate the Second Law because they effectively “wall up” degrees of freedom for systems to expand into and thus decrease the Entropy of the system. This is true and rather than violating the Second it is what defines it.

We live in a very particular universe with very particular specific set of physical laws governing it. In terms of all possible mathematically ideals physics only uses a small fraction of mathematics. Most mathematical ideas simply do not apply or work with the data from physical experiments. In phase space terms let us take the volume of phase space occupied by all mathematical ideas as MV for Mathematical Volume. Let us then take the phase space volume of all the mathematics of physical law as being PV for Physics Volume. Based on our currently understanding of mathematics and physics MV >> PV which simply means that the volume of mathematical phase space is far greater than mathematical physics phase space.

A natural question arises, on what mechanism does nature reduce the massive phase space of MV into the phase space of PV? We can even divide this question into two parts, one on how it does this and a second on why. On the how side white holes actually provide a physical mechanism for reducing the phase space

of MV to PV which is viable within current physical law. This mean that when we look at the very special nature of the big bang which started in the extremely unlikely necessary start of low entropy to enable compliance with the Second Law. In this line of thinking we can think of the big bang's special Entropy state as being prepared by white holes hiding, restricting, damning all those other degrees of freedom which would have made the big bang start in a higher state of Entropy. From this line of thinking white holes are actually integral to rationalizing and having the big bang comply with the Second Law.

This idea is supported by the idea of Hawking Radiation(HR) applied to a white hole. Stephen Hawking in the 1970s showed how considering idea of Quantum Field Theory(QFT) and black holes that black holes should very slowly radiate energy and, over literally trillions of year, theoretically evaporate black holes. Since white holes are the time reversal of black holes this means that the HR effect would have matter fall into white holes in the reversal of what occurs to black holes. What this mean is that in the sense that if there exists matter fundamentally connected to some esoteric ideal this matter was (and is) hidden behind the white holes at the bringing of time. Note that I mean beginning of time to include what the universe was like pre-big bang. The big bang is not the beginning of time per se. It is simply the earliest moments of the universe we know of from an empirical physics perspective.

The existence of white holes helps explains the remarkably improbably Entropy of the Big Bang which further reinforces the Second Law rather than breaking it as most physicist think. Furthermore, considerations of how Entropy and the Second Law interact with white holes in our modern further rationalizes the Second Law. The Second Law demands that in any physical interaction the total Entropy of the systems involved needs to increase which means an expansion of phase space has to occur. As stated before, destructive interference from white holes is what prevents the stuff within white holes from easily fulling out. If we add the additional fact that when matter moves out of white hole it still needs to satisfy the Second Law. White holes would just endlessly throw out the matter in them until they dissipated if there is an endless amount of room or space to which deposit their contents. Space, in this sense is not quite physical space but phase space. In other words, white holes react changes in the higher dimensional geometry of phase space than just the basic Euclidean geometry. Usually phase space is constructed from geometric considerations that are already known. When Boltzmann was considering the phase space of a gas, he

assumed each gas particle would have the same degrees of freedom as a point in Euclidean space would have which is 6. I am describing a reverse process from which white hole emission occurs from reactions in the total phase space of a system which can easily become more geometrically complicated than Euclidean space. When this means is that whenever empty space in the higher dimensional phase space opens up then a white hole will immediately emit some of its contents to fill in that space until saturation. The exact amount of time this takes will be context dependent on the what the white is emitting as the amount of phase space opened up. Without the opening up of phase space there simply is not room for white holes to disgorge their contents. Even though nothing can pass through the event horizon of a white hole that does not restrict the other side of the event horizon of being fill up to the point where nothing can move out of the white hole. Thus our the physical space we can empirical test can “push” against the event horizons of white holes.

Considering how Entropy could very well enable emissions from white holes this provides a key rationalization and reinforcement of the Second Law rather than breaking it; the Second Law is actually a result of the physical demands placed on the universe by the emission of white holes.

This finally brings us to superconductivity, which I define as when a system has reached Entropic saturation and is unable to react with any matter in the universe. Let uses consider what Entropic saturation means from the context of their being many white holes which can deposit their contents into our universe. I assume there are always white holes and that they have a somewhat delocalized nature. The delocalized nature refers to the idea that the white hole whose singularity/wormhole leads to the fundamental understand and conception of a perfect chair that a human, as long as they have a healthy function brain can use this white to conceive of the perfect chair whether they are here on Earth, on the Moon, or in the Andromeda galaxy. Furthermore, it is the destructive interference between white holes which prevents them from creating WHIDs. When creating a superconductor what one is doing is nullifying the effect of the destructive interference. Without the destructive interference to block emission when a white hole can create a WHID. For clarification, removing destructive interference I consider to mathematically the same as expanding phase space to provide room in phase space for a WHID. Which WHID is created will depend on which nodal vibration of the destructive interference spectrum or field is nullified. This nullification will also be well represented by a specific

geometric net-expansion of phase space. What this means is that only WHIDs which can deposit information which can fill that expansion of phase space will be able to emit. Implicitly, I am assuming every “piece” of information has specific fundamental shape in phase space which then will determine whether is can fit into the phase space available in a system. I should emphasize this last point is not a new idea by any means- we see all the time in nature how shapes can hold information in writing and even in the function of proteins in the body. I am merely extending the idea to its esoteric extreme.

What superconductivity means is that one has uncovered and enable the emission from a specific white hole. A sustained superconductor means that the emissions from the white hole are continuously getting absorbed by the cooling mechanism enabling the superconductor. Without the cooling mechanism to take on the emissions then emissions will simply continue until entropic saturation. Therefore, a distinct prediction of this theory is that the cooling mechanism of a superconductor will have additional information within it than before the superconducting process started. This additional information within the cooling mechanism or coolant is when we our brains take as inspiration for new idea, insight, foresight, and creativity.

This additional information which I will now call extra information(EI) could cause a system to self-organize towards whatever was or is in the EI. This the creation of a more sophisticated Miller-Urey Experiment where we start with the most basic building block of life then use the EI generated from superconductors, deposit the EI into out a primordial soup, and show basic life (e.g. bacteria and perhaps even viruses) being created. In short, using my theorical idea I believe one can prove how life was created on this Earth, create new life, and even, perhaps, engage in the tailored evolution by choosing which EI enter the system.

Section 4: White Holes- The Physical connection between axioms and reality.

As stated in the second section, I believe the singularity which is in white holes enables a connection between esoteric ideals and our physical reality. To clarify what I mean I want to be clear that I consider whites holes to be the process onto which axioms become part of reality and enforce their truth/essence on it. What these means is that take the set of axioms which define general reality and assign each one its own white holes. This means that depending on the number

of axioms which define a physical system is equal to the number of white holes which are influencing it.

For those who do not know what axioms are axioms are the unprovable assumptions that define a given system. For Euclidean space there are five axioms which then define the geometry of the system-

- To a straight line from any point to any point
- To produce(extend) a finite straight line continuously in a straight line
- To describe a circle with any center and distance
- That all right angles are equal to one another
- The parallel axiom- If a straight line falling on two straight lines make the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet on that side on which the angles are less than two right angles