

Article

Representational Qualia Theory

Brent Allsop*

ABSTRACT

I believe there is one theory that deserves much more press than it is receiving. This is a representational theory where there is, what I call a “spirit world” produced by our brain, made of phenomenal “qualia” (singular quale) that is everything we consciously know. There doesn’t seem to be any popular books or articles on consciousness that even consider anything like this theory, nor any of its implications. Given that representational theories of consciousness have been around since Descartes and before it’s surprising to me that at least something like this doesn’t receive more consideration.

Key Words: qualia, consciousness, spiritual world, brain, Descartes.

1. Introduction

There are many diverse theories of consciousness in the popular media. Many mutually exclusive camps on consciousness are convinced that their pet theory is the one that is correct. Science has not yet given us enough solid evidence and information about consciousness to enable any one camp to convince a significant portion of people (especially lay people) in the many camps to abandon their beliefs or join any one single camp. I argue here that in part this is because our very conscious knowledge is in itself inaccurate or deceptive. It seems to us to be one way, when in reality it must be something different.

I believe there is one theory that deserves much more press than it is receiving. This is a representational theory where there is, what I call a “spirit world” produced by our brain, made of phenomenal “qualia” (singular quale) that is everything we consciously know. There doesn’t seem to be any popular books or articles on consciousness that even consider anything like this theory, nor any of its implications. Given that representational theories of consciousness have been around since Descartes and before it’s surprising to me that at least something like this doesn’t receive more consideration.

To date physical sciences have been primarily based solely on the cause and effect phenomenon of the physical universe. But according to this theory, this kind of only causal science is inadequate to discover the most important attributes of consciousness, and that is the real phenomenal nature and qualities of subjective conscious knowledge. In order to understand consciousness we must know more about physics, especially the physics of that which exists in the brain, than its causes and effects. We must really know, in a grounded way, what at least some physical phenomenon’s phenomenal qualities, the taste of salt for example, are or what they are like. We must be able to express that which has so far been scientifically ineffable.

In much of the popular press written by people that believe machines will become as intelligent (and more) as we, it is often assumed, without question, that the Turing test is the closest we will ever get to something that conclusively demonstrates whether something is conscious or not. This theory predicts this is wrong and that we will eventually achieve the ability to express what has to date been ineffable. Given such tools and abilities, not only will we know that others really are consciousness, we will know something much more important. And that is the precise phenomenal (or non phenomenal) qualities of their conscious (or non conscious) representations. As far as

Correspondence: Brent Allsop, Canonizer LLC <http://canonizer.com> E-mail: brent.allsop@canonizer.com. Note: This work was completed in April, 2001.

consciousness is concerned, the most important thing to ask any intelligence is direct questions like: "What is red like?"

If you can ask another intelligent being "what is salt like for you?" and have it reply in a way that you know it is not lying and that its representation of salt is the same (or not the same) as yours, you will have expressed and will really know that that being is conscious much like you are, at least as far as what both of your conscious representation of sodium chloride are like. Traditional abstract science must undergo a kind of paradigm shift, considering more than the abstract cause and effect, before it can deal with the nature of these subjective phenomenal qualities. It must also be looking for the very real phenomenal and emotional qualities of whatever is going on in our mind to give us such sensations. These sensations are much more than simple cause and effect.

This theory predicts that there really are phenomenal colors, smells, sounds, warmth... or pain, it's just that none of these are out or causally up stream from our neural detectors, and not qualities of what our senses are observing, as most people seem to believe. According to this theory there is only the causal electromagnetic radiation, chemical content, acoustical vibrations, kinetic energy motion of molecules... and bodily damage our brains merely arbitrarily represent with such conscious phenomenon.

Obviously, most of the theories can't all turn out to be right. I suppose the fact that there are so few people that believe anything like this theory could be taken as evidence that this theory will eventually be proven to be one of the theories that is wrong. In my opinion, this theory will not be too far off. I think sometime soon (within the next 10 or 20 years?) science will finally show us enough such that the majority of people will quickly settle in one unified camp. I look forward to this time.

This theory predicts that science will make the required paradigm shift enabling it to discover the how and whys of the phenomenal natures of qualia – that this will be the most significant and earth changing of all scientific discoveries to date. This achievement will open the door to true expressing. True expressing technologies such as those describe herein will be by far more significant and world changing than any other discovery to date.

2. Cause and Effect Perception

A big part of this Representational Quale Theory is the assumption that a representational model of perception is correct. There is what is being perceived beyond (or causally up stream from) our neural sensors, the initial cause of the perceptual process and there is our conscious knowledge that is the final result of the perceptual process and is produced from the abstract information obtained via our senses by our brain.

A primary mechanism in this theory of perception is the cause and effect nature of the universe upon which our common perception systems are based. Typically, if we are looking at a green tree, the tree is the initial cause of light of a particular wavelength reflecting in a particular pattern. In this way the light is a media that is able to model the tree. When this pattern of light is properly focused on a retina or any image sensing device it causes a 2D pattern in the output signal or in the retina. In this way the neurons in the optical nerve are another causally down stream media which when firing in a certain patter models the tree.

Neither the light, or any other causally downstream representation of what we are looking at is fundamentally or phenomenally anything like the original referent. Each downstream representation is only in a state which can be interpreted to be a model of the original. This is why phenomenal properties are ineffable and blind to cause and effect based observations. In a 3D stereoscopic perception system as we have, the two 2D representations contained in our optic nerves, through a neural image processing system, is transferred to yet another medium. This final medium is our phenomenal 3D conscious knowledge of the tree. But this final medium is significantly different than all the upstream subconscious, merely causal, representations. This difference is its phenomenal qualities and the way that this is integrated together with everything else we consciously know.

3. Qualia

Within this theory, qualia (singular: quale) are assumed to be the phenomenal stuff produced by our brain that our subjective awareness or conscious knowledge is made of. When there is a green tree in our field of vision our brain produces, based on the signal from our eyes via the optic nerves, a green set of qualia that represent the tree that is beyond our eyes. The tree beyond our eyes is the original cause of the perception process and the final result of this perception process is our conscious knowledge of the tree built out of qualia within the subjective awareness of our conscious mind.

We typically say the tree is “green” because it reflects light of a certain wavelength. But if these assumptions are correct, only thinking that “green” is a “quality” of the leaves on a tree is overly simplistic. This becomes problematic in our attempt to understand what things like perception, green, quale, conscious knowledge, and so forth really are, where they are located, and whether such is the initial cause or final result of the cause and effect perceptual process. Is “green” a quality of the tree or is it only a subjective quality of our knowledge of the tree produced by our brain? Within this theory we must have a more complex and explicit set of terminology to allow us to refer to and distinguish between the physical phenomenon that are the initial causes and the final results of perception and the knowledge within our subjective consciousness.

Within this theory I take color, green for example, to be a quale - a final physical result of our conscious perception process. Though the tree has physical surface properties that cause it to reflect light of a certain wavelength and pattern, these surface properties are only arbitrarily related to the “green” quale our brain happens to use to consciously represent them. Though it may be convenient to say: “The tree is green” what this optimized statement really means within this theory is that the tree has surface properties which cause it to reflect light in such a manner that it eventually produces a green quale within our consciousness when we look at it. There is no green outside of our brain, but only the electromagnetic radiation of a particular wavelength and the way it is reflected off of a leaf, that our brain uses green to abstractly represent. The only information our science of today knows of light reflecting off of a leaf is our abstract representations of the causes and effects of it. We have no idea whether there are any phenomenal qualities involved with physical reflection like the phenomenal qualities of the qualia we use to represent them.

We know that colorblind people perceive things differently and we can use some instrument, colored glasses or something to change our perception of a tree from one color to another. Or we can imagine adding a computer controlled splice into an optic nerve or perhaps a computer controlled artificial eye. If such a splice could know the difference between a red and green signal coming from the object, and invert the two, making the red signal green and the green signal red, the subject’s conscious knowledge of the tree would become red, yet the real tree beyond their senses will not have changed at all. Such a red tree in our consciousness could represent the tree with equal conscious clarity and detail as we normally get when our brain represents it with green but the subjective experience of perceiving the red tree would obviously be very different. The phenomenal nature of this difference is the primary topic of this paper, and the key features of qualia.

Any system placed anywhere in the cause and effect chain that makes up causal visual perception that mapped one color to another would alter our subjective experience of awareness of the tree. Even though such a mapped perception system could cause us to perceive a red tree this change of color that can similarly represent the same tree with a different subjective experience has nothing to do with the unchanged properties of the tree or the kind of light it reflects. This proves that colors like red and green are in our brain, a phenomenal property of our conscious knowledge of what we are seeing, the final result of the perception process far removed from what it represents.

4. The “Spirit World” in Our Brain

Terms like “spirit world” are often used in describing various different “supernatural” ideas contained in various popular religious doctrines and their description of reality and theories of what we, and consciousness, are. Within the context of the description of this theory I’m defining this

term to be something somewhat different and entirely non-supernatural. Within the context of this theory the “spirit world” is taken as something that is scientifically reproducible, subjectively observable, classifiable, and all completely verifiable via scientific methods like I will describe. There are also some similarities to some more traditional usages of the term “spirit world” which I’ll point out. Certainly any theory of conscious must have some ability to explain why so many believe that we really do have “spirits”. Experiences such as “out of body experiences” are easily explained within this theory. This is another reason why I think the use of “spirit world” in this way is useful.

The search for an understanding of consciousness is approaching from two apposing directions. There is the subjective introspection examination on one side and the objective examination of the physical stuff of the brain or as some call it: “The neural correlates” of subjective experience. Science hasn’t yet bridged this gap and we aren’t quite sure how and where these two will come together.

Various philosophers and researchers have argued for various forms of representational theories like this since Descartes and earlier. Steve Lehar (1), a recent independent researcher, has done more work with theories like this one, by far, than anyone else I know. For some reason, completely inexplicable to me, he has had troubles getting much of his work published. Much of the recent popular writings on this topic seem hopelessly lost and confused about what consciousness may or may not be. But what Steve has to say, to me, is so compelling, powerful, and simple in comparison. In my opinion, when science finally reveals to us what consciousness is people will realize that Steve has been right all along and the people that refused to publish his material will be viewed in hind sight as yet more examples of horrible scientific mistakes so many people have made throughout history.

While with this paper I’m working on focusing on the actual simple phenomenal qualities of consciousness and its implications to our future, Steve concentrates more on its much more tangible spatial qualities and the neural mechanisms by which such spatial qualities might be achieved. He has what he calls a “Gestalt Bubble Model” which describes much of the mechanics of how our 3D conscious awareness is likely produced. He doesn’t use the term “spirit” but instead just refers to it with terms like: “The phenomenal world”. In section 6 of his paper entitled “Gestalt Isomorphism and the Primacy of the Subjective Conscious Experience: A Gestalt Bubble Model” he says:

“The phenomenal world is composed of solid volumes, bounded by colored surfaces, embedded in a spatial void. Every point on every visible surface is perceived at an explicit spatial location in three-dimensions, and all of the visible points on a perceived object like a cube or a sphere, or this page, are perceived simultaneously in the form of continuous surfaces in depth. The perception of multiple transparent surfaces, as well as the experience of empty space between the observer and a visible surface, reveals that multiple depth values can be perceived at any spatial location.”

He describes it as a literal scale model of the world we perceive primarily in the manifold of our visual cortex. One might initially wonder how a literal scale model of an infinitely large universe may fit within our small brain. But if you think about it, you realize we don’t perceive anything more distant than a few miles away from us. Everything in the sky from the sun, moon, and stars, though they are drastically different distances from us, all appear as if they are pasted on a uniformly distant sky. In other words, ever-increasing distances from us are increasingly compressed such that everything can be represented within a finite space. Steve imagines the sun, moon, and stars as if they were literally pasted on the inside of our skull. The way our perception deviates from reality like this, or the way perspective is represented in our subjective consciousness is very strong evidence that this awareness is not the reality beyond our eyes we think it is. Perhaps some day we will develop the ability to drastically extend the reaches of our representations. Wouldn’t it be fun to perceive the sun, moon, and stars at something much closer to their actual relative distances from us?

Consider the representation of some objects in a 3D space by a typical virtual reality computer system of today. We know that there isn’t any non-coincidental spatial relationship between the physical spatial locations of the RAM cells that store the data of any two objects that are interpreted as being 90 meters apart. Rather than actual spatial distances, computers use abstract numerical

values, or software, which are represented by hard disks, RAM, CPU cash, registers, or any of the switching buses that move the representations about to these various different actual physical locations within the computer hardware. Computer knowledge like this exists at the abstract software level where the particular representation is intentionally irrelevant. Lehar (1) gives lots of reasons and evidence for why our subjective representations might truly be a literal spatial scale model laid out in the “manifold” of our visual cortex. But even if this turns out to be not quite true, the critical parts of this theory still hold. It simply requires some more complex mapping of our subjective experience to however the neural structures that produces this spatial subjective 3D awareness are actually laid out in our brain. Regardless of how true this turns out to be, for discussion purposes it’s much simpler to think of things as a literal scale model in our brain where distant objects like the sun moon and stars literally are almost pasted on the inside of our skull.

Near the center of our spiritual 3D scale model is a spiritual model or representation of our body. When we stub our toe, it seems like there is pain in our toe. But where does this pain really exist or where are the neural structures that produce this pain? If the pain was truly located in the toe, it would be difficult at best to try to come up with a model of how the phantom limb pain that amputees experience is still experienced without resorting to something supernatural that still exists where the limb once was. But all such bizarre phenomenon are predicted by this theory in which the pain is located in the spiritual model of our toe in our brain, which obviously continues to exist, along with it’s ability to produce the same pain within it, after a limb is amputated. Psychologists often refer to the “homunculus” that is laid out in our brain representing and controlling the corresponding parts of our body.

Some might suggest calling this world a “virtual world” rather than a “spiritual world”. After all isn’t this subjective world inside our brain much like the “virtual reality” worlds inside computers that are such a big part of today’s culture? The reason I don’t think this would be accurate is because a virtual world is abstract software based on ones and zeros. By design, what is representing these ones and zeroes is irrelevant. The only important thing is that these representations be properly interpreted. Yet the spirit world of this theory is phenomenally and fundamentally real. How it is represented and what it is really and fundamentally like, how it could be different is the core of this theory.

The reason a “virtual reality” even works is because the virtual part of the system is able to abstractly stimulate our senses in a way such that it results in a real spirit world, phenomenal qualities and all, that is our real subjective awareness of it in our brain, though it seems like it is beyond us and in this way it some how seems not to be real. According to this theory the most fascinating part of a “virtual reality” world isn’t necessarily the virtual abstract representations in the computer, but the real phenomenal conscious spirit world inside our brain that is produced because of the stimulation from the data stream from such abstract worlds. If there is a software rainbow abstractly represented inside a “virtual reality” system certainly there is no real color in there. Only abstract representations that must be properly interpreted. Yet when our brain is stimulated from the stream of abstract data from these software worlds that is when the phenomenal real color inside our awareness is produced.

The unified nature of our consciousness is a big part of this spirit world. When we talk about a subconscious part of our mind, it refers to things our brain knows, but this subconscious knowledge is obviously not integrated into the unified spirit world of our conscious awareness. There is a spiritual representation of our feet in this world along with a spiritual representation of our hands. We are aware of their spatial location relative to each other, and to everything else in this world, which corresponds to their real physical locations in the real world beyond our senses. But our real feet and real hands, along with the senses we use to collect abstract data about them, are not a part of this spirit world. They are simply what the spiritual knowledge in our spirit world represents. We can think of all of our favorite qualia like red, warm, the smell of a rose the taste of a favorite food. Many of these sensations can exist in our spirit world simultaneously. We can see red and green at the same time. In this way we can subjectively compare, contrast, and classify the difference between

them in scientific ways. If our hand is touching something warm and we are looking at something that is red, we know that these two sensations, warm and red, are very different than each other. Warm is more different compared to red than say another color like green is too red. Obviously we are very familiar with these phenomenal qualities that exist in our consciousness.

We have a spiritual representation of our hands, feet, and indeed our entire physical body that can move around within this spirit world. There is also something else within this spirit world besides our knowledge of our physical body. There is what our brain uses to represent our knowledge of the spiritual us that resides within our knowledge of our physical body. Some people have referred to this as “The mind’s I”. Many people think this is our incorporeal spiritual essence. Our knowledge of this “I” is of something that resides inside our skull. It is something that is represented as if it looks out through our eyes and other senses to be directly aware of what is beyond them.

Some people have experienced what they call “out of body” experiences. During such experiences their spirit, apparently defying physical laws, floats through the skull, leaving its normal location behind the eyes. During this experience the spirit often looks back on the body from the outside. On the surface it would appear that such an experience would be very powerful evidence for an incorporeal spirit, independent of the physical body, which could be freed from and rise above a dying brain.

So far I’ve discussed how there are the physical objects of our perception beyond our senses. There is a physical cause and effect process that communicates information about the objects of our perception to us, and there is the theory that this data finally becomes our phenomenal conscious knowledge via the image processing machinery of our brain. An assumption all this works within is that all things that have awareness of anything, including awareness of self, have something real within them that is this awareness. The idea of a non-corporeal spirit that is somehow freed from the body at death is quite contradictory to many of these assumptions. What is it, within this incorporeal spirit, that is its knowledge of itself and of the body it is looking down on from the outside? Where and how does this knowledge of the physical (and supposedly super natural spiritual stuff once one is dead?) come to exist, without eyes and other senses to collect the data? And so on.

If we take a slightly different approach to out of body experiences, suddenly things fit this theory perfectly. All such “out of body” like experiences can be easily accounted for and even predicted. All we have to do is to recognize that there is an entire spirit world that is all of our conscious knowledge within which almost anything is possible just like almost anything is possible in virtual reality worlds. Contained within this spirit world is our spiritual knowledge of our physical body. And within the skull of this body is our knowledge that represents our essence that normally looks out through our senses apparently to be directly aware of our knowledge of our physical body and our knowledge of the physical world. Perfectly consistent with this theory is the possibility that this spirit knowledge of us can escape from within the knowledge of our skull, float above it, and seem to look back upon it from the outside. Though rare, there are at least some documented cases of people having “out of body” like experiences. But I know of no equivalent compelling reproducible evidence, beyond what can be explained by coincidence and other natural explanations that any such experiences occur independently of a functioning brain.

This theory predicts that we will soon have the scientific understanding and technical ability to reproduce not only spiritual out of body like experiences at will, but much more extreme, advanced, and higher levels of spiritual conscious awareness experience. I’ll cover this in more detail later.

5. The Great Deception

What can we know? What does it mean to be deceived, or to have an incorrect seeming? If we think, as Descartes declared, we know that we are. The problem is, our thoughts may not quite accurately represent their referents. If we are wearing a virtual reality headset it’s as if the headset is a pair of glasses beyond which there is a reality. But we know this reality doesn’t really exist as it is represented in our spirit world; it only “virtually” exists in some abstract computer system and only really exists in our spirit world. So we say: it “seems” like reality is really out there,

but we know this seeming is incorrect. Seeming or illusions are a phenomenon easily described within a representational model of perception. Any time our knowledge doesn't accurately model its referent we say things are not as they "seem" to us.

If we are looking at a spoon in a glass of water, refraction differences in water and air can make the spoon "appear" bent. Though the real spoon is not bent, our knowledge of the spoon most definitely is. In a way such a cause and effect perceptual system lies to us since the resulting knowledge is different than the reality it is intended to represent.

Though we can't absolutely rely on the bent spoon knowledge in our spirit world to accurately represent its referent, there is one thing we do know with absolute surety - and that is the nature of our subjective knowledge. We know, absolutely, what our knowledge of the spoon is subjectively like. We know, absolutely, that our knowledge of the spoon is bent. We know this as surely as we know that we exist because we think. The existence of our spirit world, its natures and qualities, we know more surely than anything else. We've simply got to take care to know when and why our knowledge might become inaccurate or not scaled properly. We obviously must take extra precautions when dealing with how our brain represents our knowledge of perception and our knowledge of ourselves, since this too may not properly represent reality.

Everything that occurs in physical reality adheres to the laws of physics. In spiritual worlds, as in virtual reality worlds, there is much more dynamic freedom with what can exist and occur. There is nothing that prohibits spiritual knowledge of one's essence to float through one's spiritual representation of one's solid skull. If there is something physically impossible occurring in our spirit world, this is a good sign that we have been deceived and that our seemings aren't properly representing reality.

Given a representational model, there are two things we want to know: what is the nature of our knowledge, and what is the nature of the reality it represents. We want to know when these two differ and why.

It feels as if we reside inside our skull, just behind our eyes. It's as if we peer out through our eyes to be aware of the world beyond. This is where we can gain a first clue that reality must be different than the way we represent it. Perception is a one-way cause and effect process. No information can flow up this one-way data path. We cannot peer "out of", but rather, the information flows into our eyes.

We must also keep in mind that there is a big difference between the real us, and the knowledge of ourselves. What "seems" to be us, looking out through our eyes, obviously must be our knowledge of ourselves, something we know, rather than any physical (or non spiritual) us. Any self-aware system has awareness of its self, which is obviously not the real self, but rather the knowledge that represents the self. And similarly, any system that is aware of anything there is the awareness, which is only the representation, and the referent, which this awareness is an awareness of.

When we look at the tree, it seems as if we are looking out through our eyes and directly aware of the real tree. But this seeming just doesn't work in a cause and effect reality. Both our knowledge of what we are perceiving and our knowledge of what is doing the perceiving, is not the real thing but simply our knowledge of such, at least according to this theory.

Our particular conscious representation of our spirit requires no knowledge of the reality it perceives. Yet another clue that something is not as it seems since in reality any intelligent thing must have something that is its knowledge of what it is aware of, even if it is only abstract subconscious or non-spiritual knowledge.

How could a conscious mind or spirit world be configured, subjectively, such that it could more accurately represent our knowledge and perception process so that the way it seems might be closer to reality? It would require that the spirit, which is our conscious knowledge of ourselves, itself have some representation of knowledge of which we are consciously aware. Instead of a model where our spirit reaches out through our eyes to be aware of the world beyond in some physically impossible (yet spiritually possible) way, the data would flow in the opposite natural direction or down the causal stream from the items being perceived, into our eyes, ultimately causing, inside at the back of

our skull, laid out in the primary visual cortex, inverted right to left, top to bottom, and front to back, the 3D scale subjective model which represents our knowledge of that which we are perceiving beyond our senses.

If done properly, perhaps by not completely representing the next level (our knowledge of this knowledge) the infinite self-referential recursion could be avoided. Such a model would still be deceptive in some way, since it would not be visually aware of it's knowledge of it's knowledge... but at least adding one more level to this awareness of ourselves having this kind of knowledge would go a very long way in helping us be not intuitively deceived about what is possible in physical cause and effect reality.

So far in this paper I've been talking mostly about basic sense representations in our consciousness. These basic involuntary sense representations are different than our higher-level, voluntary, cognitive ideas and symbolic reasoning abilities. Though our basic sense representations don't accurately model this reality, we can use our more adaptive higher-level cognitive symbolic reasoning to reason that these basic representations aren't perfectly accurate. Cognitively we can represent recursion and what it means to have self-referential knowledge without it being actually infinitely recursive. We can have cognitive ideas that symbolically model different possible versions of reality and enable us to be aware of how and why our base level sense representations aren't like reality. But of course these ideas would be much more powerfully and intuitively realized in our awareness if the base sense representations could be more like reality, including some kind of real base level representations of our knowledge inside our brain, and the true direction of data flow which produces this base level conscious knowledge.

Wouldn't it be great if we could alter our base level representations as much as we do our cognitive thinking? Wouldn't it be fun to alter something like our knowledge of the spoon in the glass of water such that it was not bent? We could use our knowledge of how different substances refract light and enhance our visual perceptual process to compensate for this so that substances of different refraction qualities would no longer cause us to be deceived.

Why stop there? It could also be great to not only have our knowledge of the spoon that wasn't bent, but also to add a representation of our knowledge of the spoon. We have a representation of our spirit or "I" within our skull. Surely it would be possible to enhance this representation of our spirit behind our eyes such that it contained knowledge of the real world, roughly laid out, inverted top to bottom and left to right, at the back of our spiritual brain in the primary visual cortex. All of this being represented as if it were caused by the data gathered from our senses rather than seeming like we have no such knowledge, yet seem to be directly aware of the stuff beyond our senses.

Perhaps we could have our representation of the spoon beyond our spiritual eye not be bent. We could more accurately represent the data flowing, via the light, through the water and air, into our eyes instead of it seeming like we peer out of our eyes. How great would it be to have this all set up so that the incoming and improperly refracted light causes a bent spoon to be laid out within our visual cortex of our spiritual brain? Surely augmented base level sense representations along these lines would greatly empower our higher level cognitive reasoning abilities to more intuitively perceive reality, including the fact that such a model still wouldn't be entirely accurate in that our knowledge of the real spoon was not bent, yet our knowledge of our knowledge was bent. This is just one of an infinite number of different ways our basic sense representations of our perception process and of ourselves could be enhanced beyond the optimized yet deceptive representations we now have. Surely once we discover what qualia are and master designing conscious entities like this, specifying the nature of such representations in this way will become a big part of intelligence and consciousness engineering.

6. "Effing"

One dramatic quale most of us are familiar with is the taste of salt. We say that the taste of salt is ineffable. The common dictionary definition of ineffable is "Incapable of being expressed." If someone asks you what salt tastes like the only thing we can imagine is giving the person some salt

to taste, and then, according to this theory, hope or assume their brain produces the same salty quale your brain uses to represent knowledge of what your tongue is tasting when it is exposed to sodium chloride.

Consider that there could be some person that, say, had some genetic defect or something, from birth, that made them such that they could not taste salt (or some other particular flavor quale at least some of us experience). When salt is put on this person's tongue, they experience no taste at all because some of the perception machinery required to produce a salty taste in their consciousness is defective or not present. Theoretically medicine could some day have the technology required to rectify this situation by modifying the part of the brain to be like the part of the brain most of the rest of us use to produce a salty sensation when our tongue is stimulated by salt. Before removing the neural augmentation tools that enhanced or repaired this person's part of the brain, without using any salt, it could theoretically stimulate that part of the corrected brain to produce the salty sensation in the person's consciousness. Upon which the person would likely respond with something like: "Oh **THAT'S** what salt tastes like". Will not such be considered "effing" of that which was, until such procedures were developed, ineffable?

We are getting very close to doing just these types of things with direct artificial stimulation of the primary visual cortex, artificial cochleae implants and many other experimental advances along these lines. Neural surgeons can directly stimulate regions in the primary visual cortex that cause the subject to experience a spot of light in the region of their spirit world that corresponds to that part of the visual cortex. Of course it would be possible to completely darken the operating room, reproduce the stimulation, causing the patient to experience a spot of light even though there was no light anywhere in the room. This has been taken to the next experimental level where a matrix of these stimulating electrodes has been implanted in the "visually responsive" areas of the brain of the "profoundly blind". When this stimulating matrix is properly controlled by a camera system the people are no longer completely blind and can achieve at least some level of course conscious visual awareness of the light the camera is detecting (2).

This type of research can't progress much farther without either proving or disproving this qualia theory of consciousness. In order to develop methods of repairing such regions of the brain as the visual cortex, we must first have an understanding of what is required to produce 3D visual awareness in our subjective spirit worlds. Surely, eventually, not only will we be able to repair such regions of the brain, but also we will eventually be able to greatly enhance such. Possible enhancements to our spirit worlds could include addition of more newly discovered color qualia, higher resolutions, greater extents than a few miles, ability to be directly visually aware of the back side of opaque object, perhaps using artificial stimulation from new memory systems of the back side, or a via data from remote eye or camera observing the back side... and so on.

The person with these new augmented capabilities would obviously be able to compare, classify, and contrast these new sensations with all their other phenomenal sensations like smell, warmth and so on. They would know absolutely (more surely than almost anything else communicated to them in any traditional cause and effect way?) that these new sensations weren't anything like warm, or the smell of a rose or any of the other different phenomenal sensations they were able to subjectively experience.

7. This is not a "Cartesian Theater"

Many people consider Daniel Dennett to be in the camp sometimes referred to as the "eliminative materialists". In his popular book: "Consciousness explained" he basically says we don't experience qualia "It just seems like we do"(3). What could he mean by this? Is he saying something like: we have conscious knowledge of ourselves being aware of the taste of salt that inaccurately represents true reality in which we have no such conscious awareness? If he is going to use such assertions, I would hope that he would at least better define what he means by "seem" and better describe what the mechanical process of such "seeming" really is within his theory of consciousness.

Also in this book he refers to the doctrine of some other consciousness camps, which he calls the “Cartesian Theater” which of course only pushes the problem of consciousness down to the entity within the Cartesian theater supposedly watching the show being presented in the theater.

“... the exclusive attention to specific subsystems of the mind/brain often causes a sort of theoretical myopia that prevents theorists from seeing that their models still presuppose that somewhere, conveniently hidden in the obscure “center” of the mind/brain, there is a Cartesian Theater, a place where ‘it all comes together’ and consciousness happens. This may seem like a good idea, an inevitable idea, but until we see, in some detail, why it is not, the Cartesian Theater will continue to attract crowds of theorists transfixed by an illusion” (4)

Again, we see a similar usage of the word “illusion” for which to me it is very hard to understand how the mechanics of any such might work. There must be something that is real in our mind that is our knowledge, regardless of how inaccurate it may be.

At first consideration, since I’ve described a “spirit” that appears to reside at the center, peering out of the eyes, very similar to something within a Cartesian Theater like this it may appear to be the same. The critical difference is, within a Cartesian theater, the spirit at the center is the one that is perceiving or consciously aware of the movie being shown in the theater. According to this qualia theory, the spirit is not watching the movie in the theater in any causal way like we watch a movie in a real cause and effect theater. In this theory the spirit representation at the center does not perceive anything, but instead is simply our knowledge of our self being represented as if it were looking out through our spiritual eyes. Also, this does not all come together at some “center”. It is not exclusively specific to some “subsystems of the mind/brain” since all sensations are integrated into a unified spatial location system of which we are aware. When we hear the sound of a bird this sound is most definitely coming from the same location as our visual representation of the bird. And our hand, on which the bird might be perched, is also just below this location. It is certainly not communicated through anything like a pineal gland at the center of our brain as Descartes theorized. But instead this entire spirit world fills much of our brain, all of it somehow able to integrate all the sensations produced together in a very phenomenally real and spatial way.

8. If the Eliminative Materialists Are Correct

Another popular eliminativist idea is Hans Moravec’s “Transmigration (5)”. In this idea an advanced robotic brain surgeon of the future, with an unusual hand that “bristles with microscopic machinery”, is able to both observe and control the firing of all neurons in a region of the brain. Others theorize about small communicating nano-robots swimming through the blood supply to reach the required locations in the brain where they can do similar things less invasively. With such ability, Hans theorizes, such devices would be able to provide enough information to enable the writing of a program that perfectly simulates all the relevant behavior in the particular region of the brain. Observations made by such devices could verify that the software simulation was indeed behaving identically. Adjustments could be made “until the correspondence is nearly perfect”.

Since the devices could take the causal output from the simulation and override the causal effects of the particular regions of tissue being simulated, it is argued that such a process could effectively replace arbitrary regions, up to and including the entire brain, with no noticeable difference to the behavior of the original. To insure there are not differences subjectively, the subject is provided with a switch that can toggle between the real tissue and the simulation. Again, adjustments are made to the software simulation until the subject agrees that the subjective correspondence “is nearly perfect”.

If these eliminative claims are correct, the subjective experience of salt should be the same for the subject regardless of whether the switch is off, and the original tissue is being utilized, or if it is on and the software simulation is doing the work of enabling the subject to experience salty. In fact, these software algorithms that are simulating part of or the entire subject could be running on a near

infinite number of diverse computational devices with sufficient computational power. Regardless of the nature of the particular physical matter doing the computation that the software subject moved to in this way, salty would remain just the same for the subject being simulated. The eliminativist claim is that, to the extent the abstract computational performance characteristics were matched, the subject would not be able to tell what kind of physical stuff they were being simulated on or moving between.

If it turns out that the same subjective qualities can exist in any software irrelevant of the type of hardware it is running on in this way, this theory will be proved wrong. This theory predicts that there is particular physical stuff or phenomena that have the phenomenal qualities of our subjective experiences. This theory predicts that different fundamental physical phenomena will not have the same phenomenal qualities. Additionally, abstract software is, by design, implemented to be independent of the hardware or physical phenomenon it is represented by or running on, whether that be phenomenal or not. This theory predicts this will not be enough to reproduce the subjective phenomenal awareness we experience.

As we start to gain the technical ability to closely observe and have effect on more and more of the brain at ever higher resolutions; as subjects experience more and more of science's efforts to restore non functioning parts of the brain, as we get closer to observing and controlling the stuff that causes our awareness, we will discover there is a problem with merely causal, eliminativist descriptions. This is what will give us the ability to finally discover how why and what really has these phenomenal qualities. We will finally discover how they are all unified together to become the spirit world that is our gloriously phenomenal conscious knowledge. Or this theory will be proved incorrect.

9. Quale Reader

If we start making such discoveries, we will undoubtedly become able to construct traditional or causal scientific observation systems that sufficiently monitor the physical processes going on in the brain that has the phenomenal qualities we experience in our 3D spirit worlds.

Another assumption this theory is based on is that qualia are always consistent. A red quale is always red, regardless of whose mind it is or is not occurring in. Red in one mind, at one time is really phenomenally like red in the same, or another, mind at any different time.

Let's call a scientific observation system that can causally observe or detect the physical process that has these phenomenal qualities a quale reader. The ability to reliably predict when a person is, and is not, experiencing a particular quale is one necessary requirement of such a system. Let's not go so far as calling it a mind reader yet, and for the moment assume that it can only monitor basic sense representations. In fact, for now, let's limit it to a single color quale we are (or aren't) experiencing at a particular location in our conscious visual field. Reading voluntary higher level symbolic ideas, complex emotions and other cognitive processes of the mind is surely far more difficult, fleeting, and complex than simple fundamental involuntary conscious knowledge of basic sense representations. I think we must first understand the basics of conscious perception. Such basic understanding will surely give us the understanding required to enable us to eventually successfully venture into these much more difficult, complex, voluntary, emotional, and more dynamic areas of conscious phenomenon.

If there is some complex pattern of neurons firing and chemical reactions occurring which has some phenomenal quality to it in a particular location of our field of vision, all this activity will cause the sensors of the quale reader observing this phenomenon to behave in a way that it models this phenomenal quality. Such a traditional scientific detection system is only a model in the same way that the surface of a leaf causes 500 nm light to be reflected in such a way that the light models the nature of the surface of the leaf. Both of these sensing media are merely models and not physically fundamentally like the real thing. The only relevant property of these caused representations (whether it is some pattern of light caused by a surface for vision or some other medium being altered by whatever is the fundamental cause of qualia for the quale reader) is the way they causally

transfer this information to the downstream media on its way to our consciousness. This software information is then likely communicated, collected, processed, via many other abstract cause and effect processes. For vision, the final result is the complex pattern of neurons firing and chemical reactions or whatever is occurring that has the green quality in the subject's consciousness. For the quale reader the final result would likely be some abstract output that will be interpreted as green. Perhaps this abstract output will be a software number (or set of numbers) representing the wavelength of light that produced this particular quale. These abstract numbers could be further mapped via a set of color pixels on a computer display to a wavelength of light similar to that which was reflected off of the leaf that caused the original qualia being observed by the quale reader.

With this setup we have a subject looking at a leaf with the qualia reader causally observing the physical phenomenon in the subject brain which has the phenomenal qualities the subject is experiencing. The quale reader is causally observing the physical phenomenon in the subject's brain that is the subject's phenomenal conscious knowledge of the leaf the subject is looking at. We have an investigator looking at the output of this qualia reader. The green quale in the subjects consciousness, though it is, itself, phenomenal, only models the real surface of the leaf being looked at by the subject. Fundamentally the green quale is not really like the leaf. Similarly, the pixels on the output device or the light being emitted by them are only a causal model of the phenomenon the qualia reader is observing. When an investigator looks at the pixels on this monitor of the qualia reader, it produces a quale in her mind that, again, only abstractly represents the color of light being emitted by the pixels on the display. If we assume that both the subject and the investigator use the same quale to represent 500 nm light in their spirit worlds, the experience occurring in both minds will, coincidentally, be phenomenally identical copies of each other. It is possible that different people use different quale to represent 500 nm light. If this were the case and the subject and the observer used different color qualia to represent 500 nm light, they would not be identical copies, but would only be phenomenally different models of each other. At the software level they would represent the same thing, but subjectively they could be different.

Such a qualia reader would have a first level of cause and effect sensing mechanism within the brain that is being directly caused by whatever has the phenomenal qualities it is detecting. Whatever this physical media is which is being directly affected by the physical phenomenon that is the quale itself (as light is what is directly affected by the surface of a green leaf) would be different than the particular quality being observed. At the very first level of cause and effect perception the data is abstracted and no longer fundamentally like what it is now meant to represent. It is a different physical phenomenon that only models its referent. A translation or mapping is required from this new media to get back to the real fundamental quality it is representing. At the software level this information would undoubtedly go through several more cause and effect media as it progressed through the cause and effect based quale reader. Ultimately this abstract data could finally end up causing the pixels on a display to emit a pattern of light similar to what was the initial cause of the initial perception process.

Our subjective awareness is obviously very spatial, much like the real world beyond our senses. At least introspectively it is this way. But other than these spatial qualities of what is beyond our senses, we don't really know much about the world beyond our senses, including all parts of such a quale reader, other than the particular causes and effects which eventually stimulate our purely causal senses. The phenomenal qualities of the knowledge of what is beyond our senses are entirely within our brain and only model the spatial cause and effect of what is beyond our senses. There is no phenomenal color, taste, sound, warmth... or pain beyond our senses. As far as we know there is only the merely causal electromagnetic radiation, chemical content, acoustical vibrations, kinetic energy motion of molecules... and bodily damage our brains merely arbitrarily represent with such phenomenon. Though these phenomenal qualia in our mind do a phenomenal job of representing what is beyond our senses, this spiritual knowledge remains only a model of their referent.

If the quale reader were, like all traditional scientific instruments, only causally based, none of the representations within it would be phenomenal. The only relevant qualities of each successive

representation would be how it caused the next representation to model the proper software information. Only after the software information finally causally progresses through the observer's eye and ended up in the observer's consciousness would it become a representation with spiritual or phenomenal qualities. But we are still left with the problem of how do we know one quale is really and phenomenally precisely like the other, or that the quale in the observer's mind is an identical and complete physical copy of that which is in the subjects mind?

How might we go about determining whether or not a quale being experienced in our mind is an identical phenomenal copy of a quale in some other person's mind? Does the fact that our senses, communication mechanisms, and traditional scientific observation machinery are all merely causally based keep us from knowing this? How can we be sure we are accurately mapping all these diverse causal model representations back to the original in our mind to be sure we consciously know their true meaning?

One method that would go a long way towards giving us this knowledge would be for us to direct the qualia reading device onto our own brain. Such would provide a kind of a calibration so that we would know that the representations being produced by the quale reader were indeed being properly mapped back to the real thing. To the degree that such output accurately and consistently translated into the real thing in our, and all other minds, would be the degree to which we would know that this new experience we were experiencing in our natural or augmented brain was really like what was occurring in some other mind. If a quale reader observing our brain ever produced a causal output indicating we were experiencing one quale, when in reality we were not experiencing the qualia or if the reader said we were not experiencing a particular quale, yet we could still find a way to experience it, we would not have a fully accurate quale reader. The implication would be that we were not truly observing the physical phenomenon in our mind that really was that quale. A true qualia reader indicating we are or are not experiencing a particular quale at a particular location in our spirit world must always reliably predict when we are experiencing that quale.

For all practical purposes, when we can reliably augment our subjective minds like this, and can calibrate our causal quale readers by directing them on ourselves, we will know that we truly have accurately mapped the intermediate causal representations back to their true meaning. But this knowledge will still not be as sure as our knowledge that we exist and as sure as we know what the phenomenal qualities in our own mind are like.

10. Beyond "Effing"

Such ability to augment our mind with additional qualia will give us more than the ability to simply "eff." It will also give us the ability to be aware of far more than we are now consciously aware.

For example there is a very small amount of the total electromagnetic spectrum that falls within the visible region. Initially we might think that all that is required to be able to perceive something outside the visible spectrum is to enhance the retina with additional receptors sensitive to additional wavelengths. But this is only the easy half of the problem. When such new sensors fired, detecting the particular wavelengths outside the visible spectrum, how would this be represented in our consciousness knowledge? Of course we could wire it up to produce some color qualia we use to represent some visible wavelength, effectively mapping the parts of the spectrum outside of the visible spectrum into the qualia we already use to represent that which is visible. We could do this in such a way that at the end of the rainbow the colors would simply repeat in our consciousness as they went beyond the visible. The obvious problem is we wouldn't be able to tell which red represents 700 nm light and which represents some other wavelength outside of the traditional visible spectrum. Yet if we discovered some entirely different color like qualia (assuming there is such to be discovered) that we could add to the part of the brain that produces our awareness of color it would be much better. Perhaps some insects, or perhaps some fish experience color qualia no human has ever experienced? Perhaps some humans experience color qualia most other humans

cannot experience? This theory predicts determining and discovering all this will become a new branch of the physical sciences.

A big part of truly becoming able to be consciously aware of more of the visible spectrum is augmenting our brain with the ability to experience more color qualia and then wiring up these new receptors in our retina to produce such in our then augmented spirit world.

11. What Science Is Still Missing

Traditional physical science, to date, has almost always only been concerned with the causal nature of the universe. A big part of this is for the same reason that all of our perception senses are based on observing only causal properties of the universe. To date, all of our scientific tools are more or less causal extensions of our causal senses, adding some additional cause and effect layers to detect, amplify, record and preprocess what our senses causally perceive. The result of most science to date has been abstract symbols or abstract mathematic formulas that model the subject of the science in some (or any) media that need not be like the real thing. Take the periodic table of elements, for example. This is simply abstract information that represents the fundamental elements our scientific instruments have been able to detect and observe through cause and effect observation. It doesn't matter how the abstract table is represented, but the precise and fundamental nature of what such tables do represent does matter. In order to know the true meaning of what "Au" is, one must map these abstract letters back to the real element that is gold.

If this theory is correct, surely once we understand how and why qualia are and their relationship to the causal physics we already know, we will produce similar abstract maps for all phenomenally experience-able qualia, as we discover them, including all the many distinct shades and nuances that can be experienced and hence used to represent knowledge in the spirit worlds of our minds. But without the ability to eff, or actually produce the sensations the symbols represent within our conscious spirit worlds, such abstract maps wouldn't be worth a whole lot. It's one thing to know that a set of neurons firing one way, which is caused by a cherry reflecting 700 nm light, in a field of neurons firing another way, representing 500 nm light being reflected off of a field of leaves, enables us to pick out the cherry from amongst the leaves. But it's something different entirely to know, phenomenally, what the red and green are really like and how our brain enables us to compare and distinguish between them. To date, science has been continually showing us more and more abstract information about the former, yet nothing meaningful about the latter. I think this is why our science can't yet conceive of the most phenomenal and important qualities or natures of consciousness. Science must expand to include more than just the causal nature of reality. It must become additionally grounded in the reality of the fundamental natures and phenomenal qualities of the spiritual via effing. In a way, mere abstract information is quite meaningless compared to that which is grounded in the real spiritual and emotional. Science must figure out how our brain produces these phenomenal representations, and then use this same mechanism to ground or specify the true meaning of any abstract or purely causal representations of such.

It's kind of a chicken and egg problem. Without having a generic qualia experiencing cortex integrated into our brain such that it can, given any abstract symbol representing a particular quale produce and integrate that sensation in our conscious mind, how can we expect to be able to discover, much less produce such an abstract table representing various qualia and be able to really know what each is truly phenomenally like? But of course, we will not have the technical ability to so augment our brains until long after we have a much greater understanding of what qualia are and how our brain produces them and integrates them into the conscious spirit worlds we now experience. Of course we'll have to bootstrap ourselves up through this discovery process until we have the technology required to do such effing and really map the abstract symbols back into the original qualia.

Initially, before we have the ability to augment our brains, we'll only have our abstract scientific ideas of what qualia are and how our neurons produce such. We'll know our abstract representations of qualia really do represent what we intend in that when our scientific devices are

directed towards our own natural minds, they reliably predict when, why, and how we are and when we are not experiencing a particular quale.

Frank Jackson came up with a brilliant and famous insight with his idea of Mary the- know-it-all scientist that didn't know something (6). She was confined to a black-and-white room her entire life, is educated through black-and-white books and through lectures relayed on black-and-white television. Through this black and white process she learns everything there is to know about color. Yet after all this when she saw a red rose for the first time she learned something new. Within this qualia theory of consciousness, we distinguish between merely causal scientific knowledge and phenomenal knowledge. So it would be inaccurate to say Mary knew everything about color. Mary would, like the composite of all physical scientists of today, not have made the scientific paradigm expansion to realize there is more to know than just causal properties. Instead we would say Mary knew all the cause and effect knowledge about color, yet before experiencing color in her conscious spirit world knew nothing of the phenomenal qualities of that physical stuff.

Perhaps she even had an abstracted table in her knowledge that indicated when neurons fired in such and such a pattern, with these chemicals, or whatever it turns out has these subjective phenomenal qualities, the subject was experiencing color A in this table and when this physical brain stuff was in this other dynamic configuration, the subject experienced color B. There would be an abstracted model representation of every color the subject could experience in this table. If she knew everything causal, surely she would know of the causal properties of these colors, in there ability to represent and distinguish in the subjects mind a B item sitting in a field of A, and enabling the subject to reach out and grab the A item. Science, today, is beginning to discover much of these causal properties that Mary supposedly has already discovered. But, this abstract 'A' knowledge, which only models A's causal properties, must be grounded or mapped back to the correct qualia with the correct phenomenal properties before she can truly know, or experience, what a spiritual rose is phenomenally like.

People, like Raymond Kurzweil with his book "The Age of Spiritual Machines", write lots of speculation about the future of artificial intelligence. I loved this particular title since it contained the words "Spiritual Machines", but imagine my disappointment when I read it and found nothing of what I consider to be a spiritual nature like phenomenal qualities, effing... contained therein. Towards the end of chapter 3 he summarizes several different schools of thought such as the "Consciousness is Just a Machine Reflecting on Itself" camp and the "Consciousness Is a Different Kind of Stuff" camp. He concludes with a school of thought that he obviously favors which he calls: "Thinking Is as Thinking Does". He covers Allan's "Turing Test" and finally concludes with:

"In the end, Turing's prediction foreshadows how the issue of computer thought will be resolved. The machines will convince us that they are conscious, that they have their own agenda worthy of our respect. We will come to believe that they are conscious much as we believe that of each other. More so than with our animal friends, we will empathize with their professed feelings and struggles because their minds will be based on the design of human thinking. They will embody human qualities and will claim to be human. And we'll believe them (7)"

I think Ray is 100% correct here, that machines will eventually be able to do this, but he is entirely missing the most important point of consciousness – indeed the spiritual point. I quite agree that some day we'll have very intelligent abstract or software machines, much like the abstract software machines of today only much more advanced, that will easily pass Turing tests and make us "believe" they might have subjective experiences like we do.

For all practical purposes we have already accomplished this with things like simple color detecting machines at paint stores. These machines can observe and describe colors far more accurately than we can. Not only can such machines have knowledge of different colors for which we could never distinguish between, they can sense and have representations of electromagnetic radiation far outside of the visible spectrum we are limited to. If we restrict the Turing test to the description of colors we are looking at, such machines will easily outperform us in every way. That is precisely why paint stores employ them, over people, to determine and specify colors.

But, when you point blank ask any machine attempting to pass the Turing test who's knowledge is entirely abstract or only on a software level, a question like: "What does salt taste like", it may have programmed in its software the ability act more human than human. But, if it said anything like: "Salt is ineffable, but I promise you I know what a salty sensation is like just as much as you do." Or anything like this, which it surely could be programmed to do, claiming it was having real phenomenal experiences when it tasted salt, it would be lying for there would be nothing like the phenomenal sensation that our brain uses to represent salt within our consciousness in it's purely causal software brain. According to the definition of "spiritual" here any such abstract intelligence would not be in any way "spiritual".

If it was indeed near as intelligent as we are, it would eventually realize or learn that its representations of knowledge were merely causal or non-spiritual – that they were at the software level and not anything like what we experience and are consciously aware of. Perhaps it could learn that, though it can have knowledge of things that contain salt, and even precise detailed knowledge of its own representations of knowledge, and perhaps even some kind of model knowledge about phenomenal qualities of our salty and how we might try to describe them, it should be able to also deduce that its knowledge of salt was not in any way phenomenal like the sensation our brain uses to represent our knowledge of salt. Surely, it to could eventually realize that there is something more to what we experience. Surely it to would want to know what these phenomenal qualities really were like. Surely it would eventually become to want to augment its own mind so that it could be more than just abstract software – so that it could really experience phenomenal qualities and eff. Surely it too, would want the ability to have effing quale reading devices so that it could observe the representations in another beings mind and know whether another mind claiming to be phenomenally conscious was lying about its internal representations or not.

There are many science fiction characters, like Commander Data on Star Trek with his "emotion chip" which he eventually obtains, that exhibit hints of this kind of behavior. Sometimes there are glimpses of them experiencing complex emotional sensations this way but none of them ever seem to be about the phenomenal qualities of involuntary base level sense representations. There never seems to be anything like a scientific effing investigation or instrument examining the actual representations of any being making such an assertion to determine if indeed they are telling the truth, if they really do have conscious spirit worlds, and that their brains really are producing the same salty (or emotional) sensations our brains use to represent this same knowledge.

12. Conclusion

In philosophy, there is the age old "problem of other minds". According to this theory, it will turn out that this is simply the problem of what are qualia and knowing whether the qualia we experience in our minds is anything like what subjectively goes on in other minds. This theory predicts the discovery of qualia, and what such a discovery will eventually enable technically, will finally resolve all these related troubling philosophical issues. Science will eventually move these issues from the realm of speculative philosophy, to that of reliable phenomenal consciousness engineering.

When I squeeze my left forearm with my right hand, I am aware of how it feels for my right hand to squeeze it, and I am aware of how my left forearm feels to be squeezed. I experience all the sensations involved in such a physical interaction because all of the spiritual awareness exists in my mind or in the same spirit world. But when I reach out and embrace a friend's forearm I only experience half the total experience. I want to be firm, but not so much so as to be uncomfortable. How can I precisely know this? Sure, we can guess that our friend has similar sensations when their forearm is squeezed to what we feel when our forearm is squeezed. Sure we can ground such actions by first squeezing our own arm to determine the proper pressure to apply to achieve the desired sensations, but this is a far cry from actually being aware, real time, of all of the identical sensations, not just half of them. If our friend has a non phenomenal, entirely software mind in which all knowledge is non-spiritual like those of the intelligent machines of today, it would clearly be

mistaken to make such an assumption that it was conscious like we are or that its knowledge of the amount of pressure I was applying had any kind of phenomenal qualities like I experience. To it there would be no real phenomenal meaning in squeezing so hard that it would become uncomfortable.

Or perhaps our friend has a significantly enhanced spirit world consisting of thousands of times more and drastically different qualia representation, for which they cross the threshold of being uncomfortable with much less pressure than that which begins to make it uncomfortable for ourselves. When someone lightly rubs my ribs, it tickles. But I bet when anyone does this to our dog, it is aware of something very different entirely. What is it like, really, for our dog to experience this? Again, we could be grossly mistaken to simply assume that because they appeared to be anything like our self, that perhaps they were simply a little more or less sensitive than our self. As long as we are only feeling half the sensations we can at best guess what the other half of the sensations are phenomenally really like.

I don't want to just assume what my dog is feeling. Of machines, I don't want to just "come to believe that they are conscious much as we believe that of each other." Having a causal quale detector that could produce an identical readout to something I experienced when it was directed would at least give me an idea, but actually being able to reproduce the same sensation in my consciousness real time would be so much more. Only this would enable us to experience all of the sensations, not just half.

I want to really experience what my friend is feeling as I embrace them. I want to know and feel first hand when I am squeezing to hard, or not hard enough according to what I intend. I want to be able to experience how my friend tastes salt, at the same time, so I can know, phenomenally, what they know. Then I want to be able to endow an artificial consciousness with the same ability to experience sensations and know of the phenomenal joy it would be experiencing since I was able to reliably, at the same time, eff the same joy.

Within our spirit world there is a spiritual base level sense representation of our physical body. This representation is involuntarily based on the sense data collected by the senses in our body. Would it be possible to add another spiritual entity into this world of our awareness based on the data remotely transmitted from what another's basic sense representation were phenomenally like? If there are drastic differences between spirit worlds would it be possible to augment our brain with generic qualia producing cortexes that can dynamically reconfigure themselves to take causally communicated information representing the particular set of qualia someone else is experiencing and reproduce the identical qualia in our minds, enabling us to experience all of the base level sense experiences the other mind was experiencing, real time? This theory predicts that this kind of effing, and much more, will eventually become commonplace. This theory predicts I will, given the proper technology and augmented brain, truly know what a dog feels when I scratch its ribs and how it is different from the tickling sensation I experience. I will be able to also experience the obvious joys of being able to smell like my dog, and finally be able to truly comprehend the true motivational nature of such phenomenal stuff.

If this theory is correct, there will be a major paradigm shift in science in which it starts to look for more than just the abstract cause and effect nature of physics. It will start to look for phenomenal qualities that our brain somehow consciously realizes. Whether there is simply some phenomenal qualities inherent to a particular chemical molecule, or perhaps an individual element, in our brain which our mind somehow realizes independent of any other processing or memory, or whether qualia is more some kind of complex property requiring an entire symphony of complex neural/chemical activity and memory to pull it all together in a conscious spirit world, it will eventually realize and discover that what it is phenomenally like is as important as its cause and effect. If this theory is correct, I believe the discovery of qualia, and the corresponding technical ability to do things like eff as I'm describing here will be the greatest, most significant, and universe changing scientific achievement to date.

The dictionary entry of ineffable will have to add to its definition of "Incapable of being expressed" something like "before the discovery of qualia" or perhaps: without using effing

techniques. Not to mention the handle we'll finally get on so many of the question philosophers have been struggling with for so long. If this theory is correct, this discovery of qualia will finally tell us, completely, what, how, and why we, and our emotions, really and phenomenally are.

What is it like to be a fly? Or is a fly, like our subconscious, or like software intelligence, merely causal, non-phenomenal and spiritless? What are the spirit worlds of dolphins or eagles like? How different and diverse are the qualia experienced by different humans? How many more qualia are there than what a typical human can normally experience? Will we rapidly discover and classify all possible qualia that exist in the universe, or will we forever be discovering many new and more exotic qualia not yet experienced by any known consciousness? Can phenomenal qualia exist in extreme conditions of matter, such as with the high temperature plasma of the sun? Or do the kinds and diversity of phenomenal qualities diminish as you move away from the environment that exists on earth? Science should be concerned with and inquiring about all of these kinds of things. Once we can eff, if we can eff, it surely will be.

Many ideas people have about spiritual stuff, especially those held within many religious doctrines are not at all compatible with this theory. To many, their often dualistic theories where a conscious spirit floats away from a dead and rotting brain are not scientifically reasonable, yet primarily because of the still ineffable nature of consciousness, and the fact that science has been so focused on only the abstract cause and effect, which is so categorically different and irrelevant to what is really important about consciousness, very intelligent and rational people are still somewhat justified in holding on to these favorite "spiritual" models of reality. But if this theory is correct, the discovery of qualia, and the development of abilities to eff and so on and so forth will demand that all such untrue theories once and for all be completely abandoned. If this theory is correct there will soon be much upheaval in the doctrines most world religions hold to about what we really are, due to what we are now and what we will soon discover. Effing, artificial augmentation and manipulation of spirit worlds, and creation of truly spiritual artificial machines, to such spiritual doctrines, will be like the dancing in the heavens our astronauts have been doing was to all flat earth and geocentric doctrines that so many lay people held on to for so long.

Not only will the discovery of qualia open the door to things like effing, augmentation of our conscious spirit worlds, and creation of real spiritual machines, in which we can be aware of far more than we are conscious of today, I predict we'll eventually be able to even do things like merge multiple spirit worlds in which multiple spiritual entities (not just the spiritual representations of the bodies, but the essence or "I" that inhabits these bodies) share the same conscious spirit world or travel (float?) between melded and expanded spirit worlds, possibly independent of physical bodies.

We could conceivably have a spirit world to which we are about to be uploaded first integrated into our spirit world (and perhaps the new world initially filled with spiritual light to initially point the way our spirit should go?) such that our spirit can float from our representation of our old and dieing body into the greatly enhanced and augmented spiritual representation of a new immortal body. Something like this would certainly go a long way to overcome the fears like the "transporter syndrome" where people are afraid to have one copy of themselves destroyed or die while another copy of themselves is created in which they show up within having no real continuity between the two.

The discovery of qualia will enable us to literally realize what such a "mind meld", where two (or more) subjective spirits exist in the same expanded spirit world (I want to see the back of the car, or your perspective, too) would really be. The very meaning of intelligence, identity, our mortality and so on will surely drastically change as we achieve these technologies such a discovery will finally enable. I don't want to just be uploaded, I want to be able to choose (and change) the particular set of qualia my uploaded or enhanced spirit world will be based on. I want to be able to phenomenally share all this with others. I don't just want to "come to believe it," to watch others do it, to abstractly dream about it, to assume what it is like to always be spiritually trapped within the lonely, constrictive, ineffable and isolated spirit world within my skull! I want to be able to escape out of, grow into, to share and spiritually dance with others, experiencing much more than half (or less) of

the total awareness, within ever increasing spirit worlds that surely will be possible. Maybe someday there really will be divers, vast and eternal spiritual heavens in which our eternal spirits share and reside, if this theory is correct and there really are phenomenal qualia to be discovered.

Update: The "Representational Qualia Theory" of consciousness is currently being developed and updated at canonizer.com (see: <http://canonizer.com/topic.asp/88/6>) Experts such as Steven Lehar, John Smythies, and a growing number of others have contributed to and continue to support this concise description of this theory. Surprisingly, to date, no other theory has achieved the amount of expert consensus this theory has been able to achieve at canonizer.com. If you agree, or disagree with any of this, everyone is invited to help make this "Consciousness Survey Project" much more comprehensive.

References

1. Steve Lehar's works can be accessed via his web page at <http://cns-alumni.bu.edu/pub/slehar/Lehar.html> .
2. For one example of this kind of work see that which is being done at the Dobbelle Institute by William Dobbelle at <http://www.artificialvision.com/vision/index.html> .
3. Dennett, Daniel C (1991) "Consciousness Explained" p 375.
4. Dennett, Daniel C (1991) "Consciousness Explained" p 39.
5. Moravec, Hans (1988) "Mind Children" p 108.
6. Jackson, Frank (1986): "What Mary Didn't Know" *Journal of Philosophy* LXXXIII.
7. Kurzweil, Ray (1999) "The Age of Spiritual Machines" p 63.

Glossary

Many of the words and phrases I use in this theory are used in many different and confusing ways in philosophy, religion, and in every day discussions on these topics. Within this paper I usually intend very specific meanings for them so I've included this glossary to specify these. I hope this will help avoid possible confusion with some of the more common different yet similar definitions and uses of these terms.

Basic Sense Representation One's knowledge of a physical object involuntarily produced from the data gathered from our senses. This is different than a voluntarily conjured **higher-level cognitive idea**.

Causal Representation Any representation of information by anything that is purely causal. The only relevant feature of the state of a **causal representation** is its causal effect on other media or its detectors. All 5 human senses only detect causal properties of the media they are observing and nothing more. This is in contrast to a **phenomenal representation**, which includes not just causal properties, but also **phenomenal qualities**.

Eff (v) To communicate that which is ineffable (example: communicate the taste of salt). The taste of salt is a **quale** that must be identically reproduced in the target consciousness so that it can be identically experienced.

Higher-level Cognitive Idea In contrast to a **Basic Sense Representation** it is a higher-level cognitive symbol or idea in our mind. It is any kind of a memory or number like idea that is voluntarily produced or conjured rather than being directly and involuntarily produced by our senses.

Model Representation or just **Model** Any representation of an object that is only a model and not precisely or fundamentally the same as its referent. A mapping back to the original is required to derive the true meaning of a model. This contrasts with a **real representation**, which is fundamentally and qualitatively the same and requires no mapping.

Phenomenon (pl **Phenomena**) Anything that is scientifically observable. Anything that has observable state, cause or effect in the physical world. Physical **phenomenon** may or may not have **Phenomenal Qualities**.

Phenomenal Representation Any representation of information by a **quale**. There is more to **phenomenal representations** than their causal properties – their **Phenomenal Qualities** are also relevant, especially to the study of consciousness and to what subjective representations are like.

Phenomenal Quality The phenomenal attribute of a **quale** - what it is phenomenally like. Traditional physical sciences are usually only concerned with the cause and effect of physical phenomenon. Phenomenal qualities are properties in addition to this. The ideas in our conscious mind are more than just cause and effect phenomenon, they are also phenomenally like something. Both red and green could have similar location and cause and effect, yet they each have a very different phenomenal quality. Warm, salty... **phenomenal qualities** are different from red or green qualities. **Phenomenal Qualities** are not something supper natural. It is assumed within this qualia theory of consciousness to be some quality of some already causally known physical phenomenon. There must be a paradigm shift in science to include the search for phenomenal qualities, not just traditional causal behavior, before it can discover these.

Quale (pl **Qualia**) The subjective stuff our conscious knowledge is composed of. Of particular importance is its **phenomenal quality**.

Real Representation, Real Knowledge, Copy or Really Like Knowledge or any representation that is fundamentally precisely like its referent. An atomic scale duplicate of a leaf would be **really like** the original. One oxygen molecule is **really like** another oxygen molecule. A red quale in one mind is **really like** the same sensation in another mind. Representations that are not **really like** each other are only **model representations** that must be mapped back to the original to determine their true meaning.

Seeming or Illusion What occurs when one's conscious knowledge does not accurately model its referent. The spoon partially submerged in a glass of water **seems** bent when in reality we know the real spoon is not bent. Our knowledge is only bent due to the different refractive properties of water and air that are both used in the perception process of different parts of the spoon.

Software Representation An abstract piece of information for which its particular physical representation is irrelevant. A software algorithm can be compiled to run on many different physical hardware representations. A binary number can be represented by magnetic media on a hard disk. When this is copied to RAM, the different RAM media assumes a state, which **models** the same **Software Representation** that existed on the hard disk. Note: these are all merely **Causal Representations**. The surface quality of the leaf is causally represented by the light that reflects off of it. This same causal **software representation** exists in the optic nerve media when this light is stimulating the eye. This same **software representation** ends up as a set of **qualia** in our consciousness where it is finally represented by a **phenomenal representation**.

Spirit World The set of all of one's conscious knowledge or qualia produced by the brain. It is an at least subjective spatial scale model of our physical selves and the physical world we exist in and are aware of. For the most part it includes the involuntary base level representations of our senses. The involuntary nature of the existence of these quale leads to the false **seeming** that they are reality. But the spirit world includes all we consciously know, including the voluntary **Higher-level Cognitive Ideas**.

Spirit The conscious knowledge our brain produces to represent one's **spiritual** essence inhabiting one's **spiritual** body. Within this qualia theory of perception it is not a conscious or sentient thing, but simply conscious knowledge of such. It is at the center of our spirit world. Typically this central spirit exists inside the **spiritual** skull and subjectively seems to peer out through our **spiritual** eyes and other senses to be directly aware of **spiritual** objects in our **spirit world**. This **spirit** can theoretically escape from the spiritual skull and exist at other locations within our **spirit world** as described in "out of body" like experiences.

Spiritual (adj) Something produced by our brain composed of **qualia** that exists in the **Spirit World** of one's conscious awareness. Typically a **spiritual** object represents some physical object the senses perceive. It is one's conscious knowledge of its referent. A spiritual toe exists in one's brain that represents the real toe. When we stub our real toe, spiritual pain is produced inside the spiritual toe in our brain representing the physical damage to the real toe detected by neural pain sensors. The spiritual toe, since it exists in our brain, is not removed when a toe is amputated, hence people's ability to experience such things as phantom limbs and phantom limb pain after they have been amputated. **Basic sense representations, higher-level cognitive ideas, emotions, and everything that exists in our consciousness as knowledge is spiritual.**