OBSERVATIONS 2 5 21

qualia, time, interpretations of quantum mechanics, consciousness

1. When we die, our body is, for example, buried 6 feet underground in a wooden casket. Eventually, the physical body and brain decays into the material around it, into the casket and surrounding dirt. The molecules of the brain start interacting with the molecules of the casket, dirt and further outward into the earth, quantum mechanically. But this physical brain was, in one way or another, correlated to subjective experience. It is not implausible that the subjective experience was in fact correlated with the *information* contained in the physical brain. And, in quantum mechanics, *information is never lost*. Thus this consciousness would continue on, only now the physical part of the information continues to spread out, into the casket, into the dirt around the casket, into the earth, into the earth's atmosphere and, from then on, further out into the universe. (e.g. the (quantum) zero-point field does not stop at the earth's atmosphere.) The information continues—so so does the awareness.

One must make the Schopenhauerian distinction between 'pure awareness' and the more contingent aspects of consciousness like experiencing 'green' when the eyes are exposed to photons of wavelength 540 nm.

The 'information' has to be sensitive to the finite speed of propagation of signals between the brain's various parts, both after *and before* decay. And it certainly may be possible to have a semi-unified collection of information lead to a unified awareness, as it does before the decay of the brain.

This has already been confirmed empirically to some extent. After death of the brain at the EEG level the atoms are still behaving quantum mechanically, and

(A) “We can study what people experience when they’ve gone beyond death, and the evidence so far suggests that that entity we call the human mind, consciousness, what the Greeks called the *psyche* that was later translated into *soul*, does not become annihilated just after a person has died, even if we write them a death-note and certify them as being dead. That entity continues. And it continues even when the brain does not seem to be functioning…” (1:08)
…
“...or, you may also argue, well if consciousness was able to continue when the brain was not functioning, why would it suddenly disappear away a few hours later?” (2:24)

Sam Parnia, Assistant Professor of Medicine, SUNY Stony Brook, in conversation with Robert Lawrence Kuhn, *Is Life After Death Possible?,* Closer To Truth, https://www.closertotruth.com/series/life-after-death-possible

(B) “Once again, I do not have any scientific explanation for that. We just know that it is there. All these [after death] phases, all these experiences are well-described, and occur all over the world.” (12:33)

Thomas Fleischmann, Technische Universitat Hamburg-Harburg, *From life to death, beyond and back*, TED TUHH, https://www.youtube.com/watch?v=mMYhgTgE6MU

These are *reproducible* and *falsifiable* and therefore a valid subject of study for any self-respecting scientist.

2. Suppose Alice chooses of her free will the orientation of her Stern-Gerlach device and measures the orientation of the spin of an electron that goes through her device. Suppose Bob then chooses of his free will the orientation of his Stern-Gerlach device and measures the orientation of the spin of the electron that goes through his device, these two events events space-like separated from Alice's choice and measurement outcome. One expects the classical correlations in experiments. But one gets *greater-than-classical* correlations, namely, the quantum correlations.

Suppose the statistics of these (previously entangled) pair of electrons, even if up only to stochasticisity, is a function of (events/processes in) the intersection of their past lightcones. Extrapolating backward, one gets to the big bang. This, super-determinism, establishes all correlations in the universe at the big bang. But then why don't we see *greater-than-quantum* correlations? … But we never observe such greater-than-quantum correlations, only quantum correlations. Therefore, the observed statistics of the universe are not consistent with the theory of super-determinism. Instead, they are consistent with free will.

3. I walk on some sidewalk. But then, relative to my head, I'm moving the entire earth under me. The point is, little 'ole me, with just a little bit of will power, can, relative to my head, move the entire earth.

(This is a non-inertial frame of reference, *but that's not the point*.)

4. Aren't you glad you were born human? There are two answers: one conditional on you-*then* and one conditional on you-*now*: 'two-dimensional semantics'.

5. McTaggart's A-series (future/present/past) and B-series (earlier times to later times) can be varied independently. Therefore they *cannot* be the same temporal series, and Minkowski space is incomplete.

6. Is there emergence? The quantum state of two entangled electrons is given by a function over the whole system (both electrons at once), and is explicitly *not* given by two functions over the electrons individually. So the properties of even a ‘most basic’ physical system are not functions of the properties of its ‘parts’, even at the ‘bottom’ quantum mechanics level. This would seem to satisfy some definitions of emergent, but maybe not others.

7. Say a structural property P of a system M is *computably emergent* if it is not a (mathematically) computable function of the parts of M, m_i, and their properties, p_j. Say a structural property Q of a system N is *NP-complete emergent* if it is not a (mathematical) NP-complete function of the parts of N, n_k, and their properties, q_l. Etc. (This line of thinking assumes that ‘parts’ and ‘properties’ are well-defined in some sense.)

8. The teeth of the Anthropic principle are based on what one conditions on. If one conditions on *potential* universes, then it seems things could have been very different (and is each possibility equally likely?) If one conditions on the way we (humans) are now, here on earth, it seems which universe is the *actual* one is constrained to be the one it is. There are in-between cases. This is also an instance of ‘two-dimensional semantics’.

9. In a perspectival ontology, there is no question of ‘why the *whole* thing?’ because there is no perspective from which the whole is surveyable (either 1. logically, or 2. causally, or 3. temporally, depending on which of these is supposed perspectival). Perspectivalism gets rid of Leibniz’s problem of where the *whole* series comes from.

A perspectival oroboros works in this connection, too. In this (implausible) case, each part of the oroboros has an 'explanation', but there is no ontological perspective from which the *whole* oroboros needs an explanation.

10. If we make *no* assumptions about the beginning, do we have *nothing,* or do we have *possibilities* of things? Having possibilities might require an assumption. On the other hand, having nothing might require an even stronger assumption (see literature).

Leibniz: the 'something' must be a necessary entity whose mere possibility contains within it the seeds of its actuality.

11. What is this mysterious relationship between mathematics and physics? Mathematics is a language of patterns, and physicists look for patterns in nature. That's it. There is nothing more mysterious than that.

That is a different question than why there are patterns to be found in nature in the first place.

12. Everything we do now is temporary in some sense, since extrapolating the exponential rate of the advancement of technology from the available data implies the technological singularity is in 2045. [Kurzweil].

13. There are only 113 years between the fist detection of radio signals from space in 1932 and the technological singularity in 2045, which is almost nothing on the scale of billions of years. Any aliens smart enough to detect or send radio signals would soon have their own singularity. After a singularity a species would lose interest in contacting a species at our current (pre-singularity) level of development and intelligence.

14. To the materialist I would ask: what *would* count as a proof (or demonstration, or persuasion) that there *are* qualia that are not reducible to the physical in any way? (If you say: ‘they have to *do* something’ then you have not understood the question.)

15. People (including Chalmers [refs.]) have noted the following progression. One may start out as a materialist. But one should eventually be able to understand dualism at the most basic level, for oneself. But that's not (necessarily) and endpoint. From dualism, one can go to panpsychism, monism, idealism, etc. For example, an electron has the properties of spin, charge, and so forth. But what is the electron itself *made* of? Instead of proposing some 'other' stuff called 'the material', it is more parsimonious to suppose that the stuff electrons are actually made of are qualia ('atoms' of subjective consciousness), as this is required by and consistent with our macroscopic subjective experience (consciousness), and it is consistent if these qualia have the structural properties of spin, charge, and so forth.

16. Suppose it were discovered Aristotle had been right all along and the seat of consciousness is in the heart... we'd have different correlates, and different ideas about the correlates of qualia, but we'd have the same qualia. Therefore qualia and their physical correlates cannot be the same thing (somewhere in the literature).

17. The answer to the hard problem must itself be an experience (see below) if it is to contain qualia in the answer, which it must). So when we get enough technological additions to the brain, then we can *calculate* brain processes (for example the combination of the processes of the class 'explanations', the

processes of solutions and the processes of the quale green). Then we could *induce* what the brain processes would be that are correlated to the experience of the *solution* to the hard problem. *Then* we'll experience the solution to the hard problem, if there is one.

18. The water a fish is in, one wants to say, may not be obvious, but is nevertheless self-evident, to the fish ('modulo' intellectual ability). The same with our unadorned awareness (fish) and our qualia (water). One can be aware of, for example, the color green (in the present). One can also have an *idea about* the color green. One can be aware of this idea as itself an experience of qualia, too. One can also be aware of both the qualia of the idea and the qualia of the color green at the same time.

That is the form (experience) that the answer to the hard problem will take. In that case, the *idea* will be *about* the correlates (such as a physical brain) of the qualia. (It's probably sufficient to just do the qualia green. If we include the qualia of the idea about brain state(s) it will be more complicated, and there might be an infinite regress (we might have to change the idea about the physical brain to accommodate the fact that we are experiencing both kinds of qualia, etc.), which might or might not have a limit).

19. It would be very surprising if the universe were fine-tuned for life in the *usual* sense of this question. Suppose the mass of the proton (or whatever) were changed by 10^{-22} (or whatever), so our universe would be different. But it could still be that the new universe had consciousness, with similar structures made of perhaps different particles (functionalism/structuralism). But we might not need the assumption of having the same structures, anyway. Moreover, assuming the figure above for the difference of the mass of a proton, there are 1000 universes that are different by only 10^{-25}. There are 1,000,000 universes that are different by only 10^{-28}, etc. Some of these would be very close to our own, and surely contain life just like in ours. But there could also be life very unlike ours.

20. I don’t *presume* to assign this or that property to God(s).

21. It is this way with *some* conceptions of God(s). (1) Suppose there is no God. Then there is no God. (2) On the other hand, suppose there is a God. Then there is a God. (3) there are no prior assumptions or facts that would adjudicate between the conclusions in (1) and (2). This is also a case of 'two-dimensional semantics.

22. Why is there something rather than nothing?... end points of the spectrum: only the observable (indeed solipsistic) universe exists, vs. all mathematically (para-) consistent universes exist. What would be the selector in between? It's not necessarily a linear order. Any choice? (Leibniz, Einstein, others.) The universe is not ‘only’ mathematical structure, because of consciousness.

23. *Why* would you make a universe that has *pain* in it? … could it have been otherwise? (Leibniz, Einstein, others.)

24. Why is there something rather than nothing? The best answer I’ve heard so far is 'so that love could be possible'. (Buddhism.) In my opinion this is more profound than it first appears, especially in light of the last stage of death in near death experiences (see the video in (A) in (1)).

25. What is at the center of the universe? The best answer I’ve heard so far is 'laughter'. (Buddhism.)

26. Star Trek or Star Wars? Star Trek happens mostly in our galaxy, whereas Star Wars happens in a galaxy far, far away. Therefore, they are in different galaxies, which could conceivably even have different laws of physics, so *we can have both*. It is my strong belief this has been underappreciated.

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30. The teeth of the Anthropic principle are based on what one conditions on. If one conditions on *potential* universes, then it seems things could have been very different (and is each possibility equally likely?) If one conditions on the way we (humans) are now, here on earth, it seems which universe is the *actual* one is constrained to be the one it is. There are in-between cases. This is an instance of 'two-dimensional semantics'.

31. In a perspectival ontology, there is no question of 'why the *whole* thing?' because there is no perspective from which the whole is surveyable (that is, for the (possibly infinite) collection of explanations (of 1. the logically previous, or 2. the temporally previous) of what came before the *whole* thing)… A perspectival oroboros works in this connection, too. In this (implausible) case, each part of the oroboros has an 'explanation' or 'cause', but there is no ontological perspective from which the *whole* oroboros needs an explanation.

32. People (including Chalmers [refs.]) have noted the following progression. One may start out as a materialist. But one should eventually be able to understand dualism at the most basic level, for oneself. But that's not (necessarily) and endpoint. From dualism, one can go to panpsychism, monism, idealism, etc. For example, an electron has the properties of spin, charge, and so forth. But what is the electron itself *made* of? Instead of proposing some 'other' stuff called 'the material', it is more parsimonious to suppose that the stuff electrons are actually made of are qualia ('atoms' of subjective consciousness), as this is required by and consistent with our macroscopic subjective experience (consciousness), and it is these qualia that have the properties of spin, charge, and so forth.

33. When we pass away, our body is, for example, buried 6 feet underground in a wooden casket. Eventually, the physical body and brain decays into the material around it, into the casket and surrounding dirt. The molecules of the brain start interacting with the molecules of the casket, dirt and further outward into the earth, quantum mechanically. But this physical brain was, in one way or another, correlated to subjective experience. It is not implausible that the subjective experience was correlated with the *information* contained in the physical brain. And, in quantum mechanics, *information is never lost*. Thus this consciousness would continue on, after passing on, only now the physical part of the information gets more spread out, into the casket and into the earth, and, from then on, out into the universe.

(The 'information' has to be sensitive to the finite speed of propagation of signals between the Brain's various parts, both *before* and after decay. I don't know if IIT would be a good starting point...).

34. The answer to the hard problem must itself be an experience (if it is to contain qualia in the answer, which it must). So when we get enough technological additions to the brain, then we can *calculate* brain processes (for example the combination of the processes of the class 'explanations', the processes of the *idea* green, and the processes of the quale green. Then we could *induce* what the brain processes would be that are correlated to the experience of the *solution* to the hard problem. *Then* we'll experience the solution to the hard problem, if there is one.

35. The water a fish is in, one wants to say, may not be obvious, but is nevertheless self-evident, to the fish (mod intellectual ability). The same with our unadorned awareness (fish) and our qualia (water). One can be aware of, for example, the color green (in the present). One can also have an *idea about* the color green. One can be aware of this idea as itself an experience of qualia, too. One can also be aware of both the qualia of the idea and the qualia of the color green at the same time.

That is the form (experience) that the answer to the hard problem will take. In that case, the *idea* will be *about* the correlates (such as a physical brain) of the qualia. (It's probably sufficient to just do the qualia green. If we include the qualia of the idea about brain state(s), there might be an infinite regress (we have to change the idea about the physical brain to accommodate the fact that we are experiencing both kinds of qualia, etc.), which might or might not have a limit.)

36. Why is there something rather than nothing?... end points of the spectrum: only the observable (indeed solipsistic) universe exists, vs. all mathematically consistent universes exist. What would be the selector in between? Not necessarily linear order. Einstein: any choice? Leibniz.

37. Why are we here? The full meaning of this question is an instance of two-dimensional semantics, among several other questions considered by scientists, some of which raise the form of Anthropic principles. Here are the two questions: A. why are we here *given* that there *was* a big bang and things could have been different and then finally we existed? One answer: random chemical reactions. B. Why are we here *given* that *we* exist (indeed solipsisticly in the extreme case)? One answer: God.

38. Politics. Theory: there is a spectrum of ways a person can live harmoniously with their surroundings. The two extremes on this spectrum are 1. change the surroundings to suit the person. 2. change the person to suit the surroundings. The former impulse gives rise to conservatism, and the later impulse gives rise to liberalism.

39. I am *not* arguing or asserting the bible is fictitious. However, finding contradictions in the bible is somewhat like finding contradictions in the works of Shakespeare. [refs.]

40. Feminism. They should take all of the TV shows for one day and switch the men and women: keep the same shows and writing but put women in the men’s roles and men in the women’s roles. Then they should show all those TV shows for one day (at least).

41. What makes Bach the greatest composer is that he had the most *fun* of any composer in history.

42. Bach should be played on a clavichord (not a piano and not a harpsichord) tried in Remeau temperament to start with and not too fast and definitely not too slowly. A whole note in one piece does not necessarily equal a whole note in another piece (or even movement). Each voice should project. The player should be in a meditating and/or praying position.

43. I was as much of a fan of Wittgenstein as anyone. Now I think: ‘whereof we cannot speak, thereof we must be silent’: well, *duh*.

44. Derrida: language refers only to language. That’s stupid. If I was a university student I’d go ask for my money back.

45. Whatever free will is, when does thing X have as much (and same quality of) free will as thing Y? This question could also be addressed in age studies, feminist studies, race studies, international studies, history studies, cultural studies, mental illness studies, addiction studies, nature vs. nurture studies, etc.

46. How much information would it take to specify (i.e. to be) the state of affairs ‘the possibility of X exists’ and how much information would it take to specify the state of affairs ‘the possibility of X does not exist’ (that is, whether the *possibility* exists). A default state would be one requiring information of 0, but it’s not clear if either of these have that. How much information would it take to specify the state of affairs ‘either the possibility exists or does not exist’? This does not necessarily require 0 information either.

47. ‘All a cell wants to do is divide.’ Then possibly we should look to that process/structure to find the minimal physical correlates to the subjective experience of love (in the context of Dualism).

48. It may be possible to experience G, green qualia. We could express P(G) that one subjectively experiences the proposition P *and* green qualia. We may specify that if one has P(g) then one subjectively experiences the proposition P but *not* green qualia. If (if) the two P’s can be the same for any P then there are problems of verification, as is well-known in the philosophy of consciousness (e.g. humans = G vs. Zombies = g).

49. It is *repeatable and falsifiable* that sometimes at some stages of awareness after death one gets into the presence of intense unconditional love. A possible mechanism for this was given in previous Observations. The biggest most pressing problem facing humanity is: which people get there (and what properties do they share) and which (if any) do not. This is a bigger more pressing problem than international peace, world hunger, global warming, etc. I stand by that.

50. confelicity

51. Inter-subjective agreement (and consensus reality) is different than objective reality. And the latter requires more assumptions.

52. Is entropy objective or subjective? Both. It is subjective in that a human may chose to measure/calculate the entropy of a system at some decided-upon volume, for example 1 m^3. But it is objective in that if space aliens came down and also measured/calculated the entropy of that system at the same 1 m^3, they would get the same answer. On the other hand, a human may choose to measure at a resolution of 8 m^3 and so (generically) get a different answer. But of course if space aliens chose to measure the same system at the same resolution they would get the same answer as we do.

53. The Lucus-Penrose thesis is that human minds can know things that finite mathematical procedures cannot in spite of the Godel incompleteness theorems. To put my cards on the table, I agree with this. Here is a theory that may or may not hold water. How do we know the truth of the true but unprovable sentence P from the formal system FS of e.g. Godel’s paper? Theory: The formal system’s terms refer

only to numbers and, in a back-handed way, the formal system's propositions. The system of *our* reasoning refers to numbers, propositions, maps between them, changes in all of these, and also other things in back-handed ways. Perhaps one place non-provable truth could come in is in what we (humans) apply a supposed FS to: the terms and objects of the FS, and the arbitrariness and changeability of those applications and FS's and terms and objects. (And surely the maps from the set P(S) of all subsets of S, where S is the (ill-defined) collection of FS's (machines?) to an object in mathematics (in the physical universe?) is non-computable. Indeed some of these maps could refer to other maps and, among many other things, one has the up-rise of non-well-founded maps (sets).)

54. For a simple but interesting example (see literature), suppose for formal system FS_1 we get unprovable but true propositions P_1. Then after 1 second adjoin (axiomatically) P_1 to FS_1 to get formal system FS_2, which will have its own unprovable but true propositions P_2. Then after ½ second adjoin P_2 to FS_2 to get FS_3 … and so on, halving the time unprovable but true propositions are adjoined at each step. After 2 seconds do we have a complete formal system? I think so—it's in the literature somewhere. It is not obvious, I claim, if a (quantum) machine could be constructed to do this for physical computability (I am not at all thinking one would have to rely on micro-tubules as in Penrose's and Hammeroff's early suggestion, but more abstractly—see previous 'Observations' and 'A Mechanism for Life after Death').

55. Turing: non-computability might be introduced by occasional mistakes in computations. Godel: "...for example if the logic depends on the meaning of the terms…" (or whatever). This is exactly the kind of thing that happens in two-dimensional semantics.

56. The idea that we are *finite* computers is absurd to begin with. The idea that consciousness is only computations is *self-evidently* wrong—even if not obviously so.

57. Leibniz: it should be that this universe is the most varied one possible. Einstein: we want to know if there are any alternatives to the existence of this universe.

58. With respect to non-locality, 1. Quantum mechanics is incomplete. 2. There can be no hidden variables that complete quantum mechanics. 3. Therefore, a complete theory must have non-hidden variables that quantum mechanics does not have. 4. The 'now' in the context of 'future-'now'-past' (the A-series) fulfills this role precisely, as I explained at length and used in several earlier papers (one of which is currently under review for publication, AGAIN), several of which are on PhilPapers.

How could it have been overlooked for so long? One reason is that there is a temptation to confuse, for example, *green* with a *thought about* green. The former is given by an experience of *green*. The latter is given by an experience of a *thought about*. These two experiences are not the same experience and thus cannot be equated.

Thus, the *present* cannot be equated to a *thought about* the present. For example, my *present* should not be confused with a (current) *thought about* a present that is 10 minutes in my future.

An experimental outcome is given only in the *present*.

59. The answers to the Hard Problems, if there are any, must be experiences, as each question contains at least one quale. Part of the brain-correlates of the experiences will be able to be inferred from looking at the brain-correlates of the subjective experience of 'this is an answer' in such-and-such cases and extrapolating. There is a different Hard Problem for each qualitatively different subjective experience.

60. One of the best attributes of string theory is its parsimoniousness: different particles are different vibrational modes of a *single* kind of thing—and 'vibrational modes' themselves are a *single* kind of thing. Moreover, these single kinds of things are related in a simple, familiar, and natural way. These profound points are often underappreciated.

Suppose string theory *is* right. Then wouldn't it seem kind of silly to insist on experimental predictions at the current stage of things?

Technical question: is a particular kind of particle that is 'frozen in time'--but that keeps its kind —given by the frozen state of the vibration or by the continuing vibrations in the mode? If the latter, two series for one dimension of time are needed.

61. Zen koan: what was your original face before your father and mother were born?

Jesus: before Abraham was, I am.

62. Alan Watts simply didn't know what he was talking about and that's all there is to it. Eckhart Toll knows what he's talking about.

63. As of this writing, whenever physicists talk about time being an increase in entropy, they never address whether this is correlation only or if it is causation (post McTaggart it is more complicated).

64. 'I went to a restaurant that serves 'breakfast at any time'. So I ordered French Toast during the Renaissance.'

-Steven Wright

'He asked me if I knew what time it was. I said, 'Yes, but not right now.''

- Steven Wright

65. The largest set is said to be such that any property that it has is also held by a smaller set. Going up the ladder instead, one smaller set could have property P and a different smaller set could have property not-P. Then the supreme set could have property P and it could have the property not-P, but it need not have the property 'P and not-P'.

66. Somebody should write up the logic of ineffable terms using perspectival logics.` The pressing question is what is the relationship between quantum logic and A-series perspectival logic. If they're the same, we're done.

67. In quantum mechanics there are non-commuting observables, which encode incompatible experiments. The issue in the perspectival interpretation of quantum mechanics is incompatible *beables*.

68. Godel's incompleteness result is only 'surprising' if you expected sets of axioms to be complete to begin with.

69. Dualism apparently requires two-dimensional semantics (to capture the full meaning of a Dualist proposition). There are various completeness results for modal logics with two modes…

70. One way *our* reading of Godel's incompleteness result goes beyond the formal system under study is that we have a truth predicate.

71. If consciousness is really not causally efficacious then survival is purely a matter of random physical natural selection. But if that's the case then why did we not evolve to have minds that are no better than *random* at having sentience? (The subjective state of an evolved brain should, on that hypothesis, be no better than a random subjective state—as the subjective state is not relevant to the evolutionary selection of the brain.) Yet this is certainly not the case.

72. It cannot be that 'time' is just an entropic gradient. Take some billiard balls in the corner of a pool table and let them evolve (give them random velocities for example). Then the entropy of the configuration grows and time goes on, we are told. But after a long-but-finite 'amount of time' the configuration will return to one with low entropy—all the balls in another or the same corner—conspiracies aside (and such a conspiracy would itself be low-entropy). But how is that possible? How could the system evolve *toward* a state of low entropy? In the gradient theory the system would at most evolve to a state of maximum entropy and stay there (freeze). But that is not how time goes in *our* universe. It misses the A-series entirely, and (the ontology of) Hawking's no-boundary proposal is wrong for the same reason.

74. Suppose that a consistent system—*contra* Godel's second incompleteness theorem—could prove its own consistency. This would be of utterly no value, because an inconsistent system can prove its own consistency, too.

75. Non-perspectival realist interpretations of QM have the severe disadvantage of having philosophical justification only *after* the fact.

76. It is not that science cannot handle qualia, it's just that they have to be treated differently than 3rd-person phenomena. Take a green quale G (I should say: a quale of greenness) and a red quale R (a quale of redness). We may write

(1) G ≠ R

as a 1-st person equation—and not an equation about photon wavelengths.

For example we may put on colored glasses and the wavelengths of the incoming photons could be changed to compensate appropriately. The subjective G and the subjective R stay the same, so we have the same equation. One can even ask: what is the set of 3rd-person configurations of stuff that yields this equation?

Eq. (1) should be compared with the 'actual' equation

(2)  ≠

It could be that tomorrow we discovered that the correlates to consciousness are radically different than what we now think they are. But the 1-st person eq. (2) would have the *same meaning*. It would be the same equation involving qualia—it is a *qualation*, if you will. (1) is not a qualation.

An instance of the 'actual' hard problem, or the hard problem involving qualia—a *qualoblem*, is

(3) Why does such-and-such a brain have an associated 1st-person experience  ?

(No doubt (3) could be refined.)

Also,

(4) Why does such-and-such a brain, as it evolves in AB-spacetime, have an associated 1st-person experience [redacted]?

77. I don't *presume* to assign this or that property to God(s).