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**Carbon-based Brain,
Consciousness and Cognition:
Understanding Cognitive States in
Context of the KK Thesis**

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Abstract

This paper examines the nature of epistemic awareness or cognitive states in the context of the KK thesis and defines the relationship between cognitive states to neural/brain states. The paper begins with understanding what this indubitable epistemic awareness entails and ends with understanding when and why beliefs can be held as ‘true’ with, without, against or regardless of empirical evidence. To know is to: know *that* we know, know what we know, know how we know (what we know), and know when what we know is considered as true or false. To know is to be cognizant of: why beliefs are considered basic or non-basic; when epistemic justification for belief is considered internal or external; when we have control over beliefs and when we do not; when evidence can provide the basis for beliefs and when evidence cannot guarantee beliefs. It is noted that we do not choose to possess epistemic awareness nor can we choose to negate epistemic awareness— we cannot choose not to know that we know—though we may or may not choose to know what is known. From Gettier we learn that TAK (JTB) can only prevent lucky guessing but cannot prevent lucky truth. Since then many authors have questioned what makes beliefs true or false and how beliefs can be affirmed or falsified. Knowing what we know of the basis, process, content and truth of cognitive states our concern here is not to know which cognitive states can be considered as knowledge but to understand why and when our carbon-based brain allows us to hold beliefs with, without, against, or regardless of empirical evidence. Ideas used are from Plato, Edmund Gettier, Alvin Goldman, John Searle, David Rosenthal, David Chalmers, Keith Lehrer, Ned Block, Louis Pojman and Sartre.

Keywords: Cognition, Epistemic Awareness, KK Thesis, Mental States, Brain States

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Introduction: Understanding Cognitive States in the Context of the KK thesis

Consciousness is a brain process¹; so is cognition. What determines how cognition occurs and why epistemic awareness is a fundamental part of our carbon-based brain are necessary questions to address if one is to understand human nature. The epistemic awareness that we know is the basis for the KK thesis--to know is to know that we know. Knowing *that* we know implies not only knowing what, how, and whether what we know is true or false, but also knowing when and why we choose to believe with or without, against or regardless of evidence. How do we account for such a given? Volitionists like Kierkegaard argue that some of our beliefs can be held without evidential consideration.² Non-volitionists resist the notion that we can acquire beliefs independent of evidential considerations. Why what is known is held as true or false is perhaps the most interesting aspect of the nature of cognitive states. We may or may not choose to know but once we know that we know, we cannot choose not to know what we know nor choose the veracity or falsity of what is known. The acceptance of the veracity or falsity is not a matter of choice if what is known is an empirical (verifiable) given.³ As Bertrand Russell would say, "we cannot make them true or false."⁴ However, if what is known is not observable or verifiable as true or false then we must know why we choose to accept it as true or false independent of evidence.

The Basis of Cognition: Being Conscious of Cognitive States

How insentient neurons turn sentient or conscious is a difficult question to address.⁵ However, epistemic awareness (of cognitive states) is made possible because of what Rosenthal calls 'state consciousness.'⁶ It is state consciousness that provides the basis for cognitive states, which in turn entails the KK thesis: "to know is to know that one knows." The importance of cognition is not the content of cognition but the fact that we are conscious of cognition. It is because of this that we can give a phenomenological account of what is entailed in cognition. What are cognitive states? Are they brain states or mental

¹John R. Searle "The Irreducibility of Consciousness," Heil, John. *Philosophy of Mind: A guide and anthology*. (New York: Oxford University Press, 2004) 701.

²Louis P. Pojman, "Believing, Willing, and the Ethics of Belief." *The Theory of Knowledge: Classic and contemporary readings*. Wadsworth Inc.: Belmont (1993) 527, 525-544.

³Bertrand Russell, "Truth and Falsehood," *Contemporary Readings in Epistemology*, 174. The mind can create beliefs but cannot make them true or false. Truth is not an intrinsic matter but an extrinsic matter.

⁴Ibid. 174.

⁵Colin McGinn "Can we solve the mind-body problem?" *Philosophy of Mind*, 785. "Water of the physical brain is turned into the wine of consciousness."

⁶David M. Rosenthal, "Explaining Consciousness," Chalmers, David J. *Philosophy of Mind: Classical and contemporary readings*. New York: Oxford University Press. (2002), 407. "Water of the physical brain is turned into the wine of consciousness."

states? We know that all mental states are related to brain states but that does not mean all brain states are cognitive states. Only certain brain states become mental or cognitive. Property dualists would argue that cognitive or mental states are non-physical properties of brain states.¹ The process of knowing and cognition can be understood as two aspects of brain states. While how we come to know is a brain process, cognition is a mental state, which by fMRI mapping is a detectable brain state. Supervenience theorists would argue that mental states are related to brain states, and can be understood as duplicates of brain states. The question then would be, are duplicates of brain states another brain state? Non-reductive materialists, like Searle, would argue that consciousness is an emergent, like liquidity in water. The advent of Functional Magnetic Resonance Imaging (fMRI) enables us to observe images that correlate to neural activity in human subjects allowing us to study human cognitive processes,² provided we appropriate data analysis methods to make sense of the imaging data.³ This in turn allows us to understand which, how, and why certain brain states become cognitive or mental. Cognitive states are both brain states and mental states. They are brain states, in that they are neural processes; they are mental states in that certain registered neural processes become sentient, intentional and phenomenal.

Explaining the nature of cognitive states in the context of the KK thesis⁴ is similar to Rosenthal's attempt to explain consciousness. From Gettier we learn that traditional analysis of knowledge (TAK) can only prevent 'lucky guessing' but cannot prevent 'lucky truth.' Many authors have questioned which cognitive states should be considered as knowledge. Still others have asked what makes beliefs true or false and how are beliefs affirmed or falsified. Instead of dealing with the ontological status of beliefs, this paper attempts to define epistemic awareness of the basis, content, process, and truth of cognitive states. And note the relationship of belief states to neural states. It can be argued that the best way to explain cognitive states is to explain them in the context of the KK thesis. This enables us to give a phenomenological account of what is entailed in epistemic awareness. Knowing that we know implies: knowing what we know, knowing how we know what we know, knowing whether what we know is true or false, knowing why beliefs are considered basic or non-basic, knowing when epistemic justification for belief is considered internal or external, and knowing when we do or do not have control over beliefs.

Both state consciousness and the KK thesis discuss about two levels of consciousness.⁵ Knowing and being cognizant is essentially being conscious of

¹Why does something physical have mental properties?

²Tom M Mitchell, "Learning to Decode Cognitive States from Brain Images" Machine Learning 57, 145.

³Ibid, 175.

⁴The understanding that 'to know' "p" entails that the subject knows that he knows that p. Taking K to represent knowing, the thesis can be symbolized as "Kp→KKp". (Jaakko Hintikka)

⁵ James L Fosshage, "How Do We 'Know' What We 'Know?' And Change What We 'Know?'" Psychoanalytic Dialogues 21. (2011), 56.

of cognitive states. The acceptance of state consciousness is vital in understanding the universe we find ourselves in. Consciousness can be understood as being reductive as U.T. Place would argue, non-reductive as Searle would argue, immaterial as Sartre would argue, or intentional as Brentano would argue. What ever consciousness is it must be accepted as fundamental as time, space, and matter. The KK principle of knowing that we know is an extension of the two levels of consciousness that humans possess. Knowing is a brain state, being conscious of cognition is an emergence of a brain process. As fMIR imaging helps detect when the brain is cognitive, it also establish correlatives. While it is generally held there is no place or location for consciousness, decoding fMIR data suggests that we can now know when the brain is conscious or cognitive by understanding the correlates based on the timing for a conscious sensory experience.¹ So, cognitive states are sentient states of certain brain states. Cognitive states are explainable in that cognitive states are a result of neural processes. Cognitive states are detectable or (image-able) co-occurrences of corresponding mental and neural states, in that fMIR can tell us if and when we are cognitive. So both the first and the second level of consciousness (being conscious and being conscious of being conscious) are associated with brains states.

Content of Cognition: Knowing what we Know

To know is to know what we know. We cannot claim to know *that* we know and not know *what* we know. Knowing ‘what’ is to be aware of the content of cognition. This is made possible because of what Ned Block calls access-consciousness, which allows us to access and report cognitive states. Accessibility and reportability are fundamental if what is known is to be communicated. Access consciousness deals with the ability to recollect, reflect and report on the content of cognition. Can we change what we know? Just as we cannot undo what happens we cannot ‘unknow’ what is known. In other words we may or may not choose to know (what is known) but once we know something we cannot choose to ‘unknow’ what is known or revise what is known. It is possible that we may forgot what is known but once we are reminded truth can once again be ascertained.

Defining cognitive states in a given language becomes necessary when we want to communicate the content of cognitive metal states to each other. According to Jerry Fodor mental language is different than spoken or written language.² Mental language is referred to as a “mentalese” or natural language. That is why the symbols of the mind are different than symbols on paper.³ Hence, we can perceive objects and or conceive ideas independent of a given

¹Benjamin Libet, *Neurophysiology of Consciousness*, (Boston: Birkhauser, 1993), 160-161; 164-195.

²Jerry Fodor, *The Language of Thought*. (Cambridge, Massachusetts: Harvard University Press, 1975) 55

³Fosshage, "How Do We ‘Know’ What We ‘Know?’ And Change What We ‘Know?’" 62.

language but we cannot communicate our thoughts or knowledge without a written or spoken language. We are able to define what we know through the use of language—words, sentences, semantics, and syntax. Words have meaning so that communication may be made possible between minds. Words have reference to real objects, people and concepts. Words connate and denote. Denotation implies using words to define words (intension) and connotation entails using examples to define words (extension). Words represent both meaning and reference. Language continuously develops as we continue to communicate. To know is to be aware that the content of cognition is always through a given language. The content of cognition becomes linguistic only when content is defined with the intention to communicate what is known with others. Reportability is possible only if verbal or written language is used. To understand the content of cognition is to understand the nature of access consciousness.

The content of cognition is either theoretical, practical, or propositional. Access consciousness (epistemic awareness) permits us to distinguish between these three types of knowledge. What is theoretical is abstract and conceptual. Here, what is known can be either abstract and unverifiable or abstract and verifiable. Abstract ideas such as freedom, self and the soul can be spoken of but are not verifiable. On the other hand calculus is abstract and conceptual but has grounds for verification and application. Practical knowledge is know-how knowledge. Here what we claim to know has meaning only if we can demonstrate what we do with our knowledge. All claims to knowledge must be demonstrable. Proportional knowledge is sentential. What is known is stated in a sentence; here we can put the emphasis on either the sentence itself or the claims of the sentence. The sentence is understood as a statement when the statement purports a claim.

To know *that* we know is to be aware of what is known in the context of what there is to know. Acknowledging the gap between what we know and what there is to know is humbling. Yes, truth (reality) can be understood as being absolute. But what we know of reality cannot be absolute. For what we know of reality is limited and can be erroneous. What is known is subject to addition or revision. We are aware that truth can be defined as an epistemic or a non-epistemic matter. What we know is indeed an epistemic matter. What there is to be known can be considered as a non-epistemic matter. Truth (what there is to know) is absolute but what we know about the absolute cannot be absolute.

The Process of Cognition: Knowing how we come to know what we know

Armstrong's definition and distinction of perceptual and introspective consciousness provides the basis of understanding how we come to know what we know. He argues that to be conscious we have to know and to know we have to be conscious. If we do not perceive anything we are not conscious. But

if we perceive then we are conscious.¹ To know is to be conscious of how we come to know what is known. To understand how we come to know what we know is to understand the perceptual and conceptual nature of consciousness. The third aspect of explaining cognitive states is knowing how we come to know what we know. The process of cognition (of how we come to know what we know) can either be sense-evident (empirical) or self-evident (rational). The process of knowing how we come to know what we know and the justification for what we accept as knowledge, (both internal or external) is important to note. However, it does not matter how one justifies what one knows. Epistemic justification can be either internal or external; Internalists argue that justification is an epistemic matter and externalists argue that justification is a non-epistemic matter. What is important to note is that we justify what is known before it can be accepted as knowledge. How we know and how we justify what is known as knowledge does not change the fact/truth of what is known. Accepted justification is required before cognitive states are understood as knowledge. No particular epistemic justification can dismiss or guarantee what we know as knowledge. To know something a priori is to know something as being self-evident. To know something a posteriori is to know something as being sense-evident.

On a perceptual level: we can phenomenally perceive what is as is, i.e. primary qualities such as size shape and solidity; we can perceive what is not as is, i.e. secondary qualities such as sight smell, sound and touch. Transducers send transductions to the mind and the mind interprets the transductions as color, sound and taste etc. Further, we can perceive what is phenomenally a given as what it is not. For example we cannot perceive sourness and sweetness when we are sick. This happens when one's transducers are not functioning properly. Mirage is an example for perceiving something that is not as is. While we have access to reality, we do not have access to objective reality objectively. We have access to objective reality only subjectively. So in a phenomenal sense we can perceive what is real as real, perceive what is not real as real, perceive what is real as not real-- but we cannot perceive what is not real as not real.

On a conceptual level we can conceive what is as is and conceive what is not as is. Our minds can envision (conceive) a BMW as we have seen it. We can also envision an idea of something (i.e. invention) and leave it at a conceptual level; we can think of making a pen completely of gold and decide not to have a pen made of gold. Furthermore, we can conceive what is as is not. We can conceive of a time when there were no cars and imagine times when there were only buggies on the roads. We can also conceive of what is not as is not. We can conceive of a brother or sister we wish to have and then delete them from our mind. Only on a conceptual level can we conceive of something that does not exist as not existing.

¹D. M. Armstrong "What is consciousness," Heil, John. *Philosophy of Mind: A guide and anthology*. (New York: Oxford University Press, 2004) 609.

The Truth of Cognition: Knowing what is known as True or False

On an epistemic level what we know is either true or false. While what is real either is, or is not. What we know of the real is either true or false. As such, every statement made is either true or false.¹ We can know something as true or false, but it does not mean we get to choose what is true or false. As Bertrand Russell would argue we cannot make knowledge true or false. The mind creates beliefs but the mind cannot be responsible for its truth. Beliefs depend on the mind for their existence but do not depend on the mind for their truth.² We can choose to know but we cannot choose the veracity or falsity of what is known, we can only know what is, as true or false. As mentioned in the introduction we are not interested in establishing what cognitive states are to be considered as knowledge. Instead we want to know why what is known is considered as true or false. This is an important question because consciousness can not only (rightly) know what is true as true but also (wrongly) know what is false as true and what is true as false or willfully know what is false as false (as in the case of lying). Is truth an epistemic matter or a non-epistemic matter? This depends on the meaning of the word truth. If by truth we mean, what we know of reality, then truth is an epistemic matter. On the other hand, if by truth we mean reality, then truth is not an epistemic matter. We are completely responsible for our beliefs. Descartes argued that we are responsible for our beliefs especially for our false beliefs. If we are held responsible for our false beliefs then we are also responsible for our true beliefs.

Understanding what we know as true or false is a given. That is why foundationalists state that beliefs are either basic or non-basic basic, depending on whether beliefs are supported by other beliefs. Justificationists argue that evidences for belief are either internal or external. Beliefs are either directly justified or indirectly justified as true or false. Positivists argue that evidence should be verifiable before we can argue for the veracity or falsity of claimed knowledge. Does the mind care to know what the difference is when we say we have evidence than saying there is evidence (internalist/externalist debate)? Why do we ask whether beliefs are basic or non-basic? Because we are aware that beliefs are either supported or not supported by other beliefs. We are aware that we know whether what we know is true or false. If we cannot verify whether what we know is true or false, then we are aware of why we choose to believe what we claim to know as being either true or false. That is why we can hold beliefs with, without, against and regardless of evidence.

While epistemic truth is either true or false, existential truth is an either/or matter that is why our the carbon-based brain allows us to hold beliefs with

¹Even the sentence –‘this sentence is false’ is a statement. And it can be considered as true or false. That is why we should not read the sentence –“this sentence is false” as a sentence but as a statement. Only the claims of the statement can be considered as true or false. (The obvious paradox here is if we go by the sentence itself—it clearly states that it is false but if you go by the claims of the sentence then the sentence is either true or false.)

²Russell, “Truth and Falsehood.”174.

evidence, without evidence, against evidence and regardless of evidence. On an existential level we can believe with, without, against and regardless of evidence because while evidence is the basis for establishing epistemic truth, no evidence can guarantee existential truth. Hence, it is an existential decision to believe or disbelieve what is known.

Are cognitive or mental states different depending on whether beliefs are held with evidence, without evidence, against evidence and regardless of evidence? We can know with or without evidence and we can also believe with or without evidence. However, while we can know without believing we cannot believe without knowing. That is why knowing is believing in empirical matters but knowing is not necessarily believing in non-empirical matters and existential matters. What part does willingness have in belief acquisition? Do we believe willingly or do we willingly believe?¹ One suggestion is that belief acquisition is a fiat of the will. If direct volitionalism purports that evidence is not a necessary part of belief then one can have beliefs with or without, against and regardless of evidence. If we have control over belief acquisition then evidence is not the basis for belief. Knowing is a result of perceiving or conceiving but believing is a result of accepting something as true or false. That is why we can know but not believe but we cannot believe and not know. In empirical matters, it is imperative to believe. In non-empirical or existential matters knowing is not necessarily believing. Hence, we have to choose to believe. The Christian belief in creation is not only without evidence but also a belief that cannot have evidence. If Christians believe in *ex nihilo* creation then, by definition, creation is 'out of nothing.' There is no factory in outer space where one can find the templates for atoms, ants, antelopes, or Adam. Belief in God (in any religion) can be held regardless of physical evidence. Evidence for the physical existence of God cannot be evidence for the essence of God. According to Kripke, names are given with identity in mind. We have no 'known ID' for God. If we could see God there is no way we would be able to identify him. That is why belief in God can be held regardless of evidence. We can also hold beliefs to be true against evidence as exemplified in the story Jonah and the great fish in the Bible. The evidence we have should a whale swallow someone is that we could not survive inside its belly for three days. If evidence is the only basis for establishing the truth or falsity of beliefs then what is known can be considered as either true or false only if there is evidence or not. Three questions can be raised with reference to evidence, (1) Is there evidence, (2) is the evidence given verifiable and (3) is there evidence that can guarantee belief? With epistemic truth evidence can provide the basis for the acceptance or rejection of beliefs, even though Kuhn pointed out that the principle of confirmation and falsification cannot be the only basis for establishing truth. But with existential truth no evidence can guarantee belief, that is why we can believe with, without, against and regardless of evidence because we know why we choose to believe.

¹Louis P. Pojman, 527

We can ascribe notions of truth and falsity only to what we know. When we state what known as a statement then what is stated is either true or false. The laws of thought, regarding statements of thought, is such that every statement is either true or false. No statement is both true and false; if it is true it is true and if it is false it is false. Aristotle states that, “To say what is as is and to say what is not as is not is truth—to say what is not as is and to say what is as is not is falsity.” As we have noted only declarative statements are either true or false- non-declarative statements are neither true nor false. Other statements such as self-assertions: “I am proud,” promises: “I will come,” moral statements: “abortion is wrong,” and paradoxical statements: “this sentence is false”¹ were until recently understood as neither true or false. However, with the introduction of the notion that truth is a disquotation by Tarski, we can now argue that any statement can be understood as true or false. For example, “x” is true if only if “X” is true. The acceptance of sense-evident truth is not an option because of its verifiable status. The acceptance of self-evident truths can be either verifiable or non verifiable. Mathematical truths are verifiable but moral truths are not verifiable, hence, we must choose to believe or disbelieve. Religious and existential truths are not verifiable and hence can be held with, without, against, and regardless of evidence.

Neural Basis for Cognitive States

Is there a neural basis of cognition? What is the link between cognitive states and neural activity? Current research in neural sciences suggests that mapping can be done between cognitive states and brain states. The advent of ‘functional magnetic resonance imaging’ (fMRI) gives us the ability to observe correlates of neural brain activity in human subjects to study human cognitive processes provided we develop appropriate data analysis methods to make sense of this volume of data.² Within this decade cognitive neuroscience is rapidly demonstrating the potential of relating psychological states to neural states.³ Decomposing the process of virtual perception into different psychological processes has already begun.⁴ If this is the case then we can assume that all mental states are related to the brain states though all brain states do not become mental states. So we could argue that any variations in mental states are variations of the brain state. Hence all cognitive states can be considered brain states. And all variations of cognitive states can also be understood as variations of the brain states. If every change in consciousness is accompanied by a corresponding change in brain activity we may say that it is

¹Every statement is either true or false. Here if one looks at the sentence itself—it is false. But if one looks at the claims of the sentence then one can argue that it is true- hence the paradox.

²Mitchell, “Learning to Decode Cognitive States from Brain Images” 145

³William Bechetel, Jennifer Mundale, “Multiple Realizability Revisited: Linking cognitive states and neural states,” *Philosophy of Science*, 66, (June 1999), 175.

⁴*Ibid*, 190-195. (here Bechetel and Mundale try to show the decomposing visual processes can help us understand cognitive decomposition).

impossible to change the content of consciousness without changing the content of brain activity. If sense-evident truth can have a neural base (and all knowledge as Kant argued begins with experience) then one can assume that self-evident truths must have a neural base also.

It appears that there is a conscious self that knows, a neural self that perceives and conceives, and a genetic self that determines what can be perceived or conceived. It is becoming more and more certain that cognitive states are related to brain states. Property dualists position is that certain brain states gain mental status which makes cognitive status possible. Current research suggests that consciousness is a brain process and if that is true then its cognates: cognition, choice and conscience should all also be brain processes. If EEG and fMRI and other tests can ascertain whether the brain is sleep or awake, dead or alive, conscious or unconscious—this should be a promising step towards ascertaining many other processes in the brain such as cognitive states.

Do we have control over belief formation and analysis? Current research suggests that the brain is understood as a “decision making organ.”¹ Decision-making is a vital component of human behaviour² and this must be true of belief formation and analysis too. While Libet might not agree that the conscious ‘I’ decides what we do or say he would argue that the neural ‘I’ makes decisions, which the conscious ‘I’ is aware of. In any case, either the conscious ‘I’ or the neural ‘I’ does the analysis of cognitive states. Here are some phenomenological conclusions: if the neural ‘I’ does the analysis then each of the following aspects of cognitive states can be understood as different neural parts of decision- making brain in the light of the KK thesis. To know is (1) to know that we know, (2) know what we know, (3) know how (process) we know what we know (4) know whether what we known is true or false, (and if not what is known is not verifiable then know why we choose to believe or disbelieve in what we known). (5) Know that we may or may not choose to know what we know. (6) Know that once we know what we know we cannot choose not to know what we know. (7) Know that we cannot choose the truth or falsity of what we known, (8) Know that what is known can be caused (perceived), chosen (intentional) or innate (like mathematical truths). (9) know that only *in what* we know can what we know be true or false (for what we don’t know is neither true nor false. (10) Know when the acceptance of truth or falsity is not optional and when and why the acceptance or rejection of what is comprehended is volitional or becomes an either/or matter, (11) know when beliefs are considered basic and when they are considered non-basic (depending on whether beliefs are supported by other beliefs or not.) (12) Know there is a distinction between the real and what is known of the real. (13) know that what we know is part of what there is to know. (14) Finally, know that what is known can be recalled (remembered), or reminded, for we may

¹Herbert Gintis, “A Framework for the Unification of the Behavioral Sciences” Behavioral and Brain Sciences, vol. 30 (2007), 2-3.

²Lesley K. Fellows, “The Cognitive Neuroscience of Human Decision Making: A Review and Conceptual Framework” Behavioral and Cognitive Neuroscience Review (2004), 3, 159.

forget what is known but when reminded we are able to acknowledge it as known.

Conclusion

Knowing (epistemic awareness) what we know of the basis, process, content, and the neural connection for mental states we can conclude the following: the nature of our carbon based brain is such that it is accompanied by mental states. Mental states are sentient states, sentient states are as epistemologists would state cognitive states. Cognitive states have content and the content is believed to be either true or false. The conscious self is aware of cognitive states as made possible by the genetic or neural self. Differentiation can be made between what, how and when what is known is true or false by either the conscious or phenomenal self or by the genetic or neural self. We are aware that we can know without believing but we cannot believe without knowing. We are aware that verifiable beliefs are considered as true or false, and non-verifiable or existential beliefs are considered as an either/or matter. As such, we are aware as to why and when we choose to believe or disbelieve in existential truths. Introspective consciousness differentiates data from access consciousness and tells us when evidence is required to believe and when it is not necessary to believe. It is because of this beliefs can be held as 'true', with, without, against and regardless of empirical evidence. We now know that fMIR mind mapping tests can detect conscious and cognitive states, the question is can it detect when cognitive states become belief states and can it differentiate beliefs based on evidence from beliefs held regardless of evidence. Even if decoding subject-driven cognitive states¹ collected from fMIR data can differentiate beliefs held with or without evidential consideration, we may still have to address the phenomenological given or concern as to why and when our decision-making carbon-based brain or the conscious self decides to believe with, without, against and regardless of evidence.²

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²Can we lie about beliefs that held as 'true' but its truth cannot be verified as being either true or false? Is it possible to take a lie-detecting test for belief and disbelief in God? Can a lie-detecting test reveal whether one is lying to oneself? Tests can ascertain conscious and unconscious states; establish correlates to cognitive and non-cognitive states. Can there be mapping that can differentiate between beliefs that are caused (causal theory of knowledge) and beliefs that are chosen. At this point we can only know why we choose to believe or disbelieve in the self, the soul and the sacred.

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