Limits of Physics and Consciousness

The Intrinsic Insolvability Of

The 'Hard Problem Of Consciousness' FAQ

Kevin Aylward
kevin@kevinaylward.co.uk
November 7, 2025

Why the Hard Problem Is Unsolvable

Introduction:

If physics is treated as a formal language, its vocabulary consists of quantities that can be defined by reference to standard operations or artefacts: kilogram, coulomb, metre, etc. Every physical law is built from relations among those quantities.

The moment physics is asked to handle a concept that has no reference operation, the language simply has no symbols to express it. It's not a failure of knowledge; it's a category error. Consciousness, in that strict sense, belongs to a different semantic loop.

Physicists often do not worry about this because they rarely have to define what an experience is. Philosophers of mind, on the other hand, tend to work with abstract logic and may not appreciate how tightly physics constrains itself to measurable entities. The result is that neither camp quite sees the logical disconnect that is described in the Two Loops Argument:

Loop 1 – Physical reference system

{mass, charge, distance, time, energy, …}

→ closed under measurement, defined by physical standards.

Loop 2 – Phenomenal reference system

{pain, colour, awareness, self, …}

→ closed under introspection, defined only by direct experience.

No mapping function f : Loop2 → Loop1 that preserves definitional meaning.

This doesn't make either loop less real; it just means they are orthogonal descriptive systems. Physics can describe every measurable event correlated with pain, but not pain itself, just as psychology can describe awareness, but not include it in Planck's equation.

This is why this argument is different from standard arguments: it's not a statement about the limits of current physics, but about what physics is by definition. Consciousness isn't an unsolved problem within physics; it's a phenomenon that lies outside the syntactic reach of the language of physics.

Q1: But we can measure brain activity that correlates with consciousness. Doesn't that mean we can solve it?

A1 (Rebuttal):

Correlation ≠ identity. Neural firing patterns are physical observables; consciousness is a first-person experience. By the Two Loops Argument, consciousness lies outside the definitional closure of physics. Measuring correlates does not define or produce the experience itself.

Q2: What about AI systems that mimic conscious behaviour?

A2 (Rebuttal):

Behavioural mimicry or algorithmic output does not entail experience. AI can reproduce correlations of consciousness (e.g., report, respond, simulate awareness), but it cannot instantiate the subjective phenomenon. This is consistent with the Two Loops Argument: consciousness is an

independent primitive, not reducible to physical or computational processes.

Q3: Could consciousness be explained as an emergent property of complex computation?

A3 (Rebuttal):

Emergence explains correlations and patterns, not first-person experience. Emergent phenomena are still defined within the closure of physical observables. Consciousness, being undefinable in those terms, cannot emerge in the explanatory sense from physics alone.

Q4: Operational definitions make consciousness measurable, so it can be solved.

A4 (Rebuttal):

Operational definitions reduce consciousness to measurable correlates (behaviour, neural activity). This is a redefinition, not a solution. The Two Loops Argument shows that the intrinsic phenomenon — what it feels like — remains outside physics, so any "solution" is partial and does not address the original hard problem.

Q5: Why do some philosophers insist consciousness is explainable?

A5 (Rebuttal):

Philosophers like Dennett adopt functionalism: if we fully describe the functions and behaviours, consciousness is "explained." This approach presumes subjective experience is reducible to function. The Two Loops Argument demonstrates this assumption is logically invalid — functions can be defined in physics, but first-person experience cannot.

Q6: Could future physics or quantum theories solve consciousness?

A6 (Rebuttal):

No, unless a new primitive axiom explicitly incorporates subjective experience. Physics, by definition, only handles physically definable observables. Without such an axiom, any future theory remains incomplete with respect to consciousness. This is directly analogous to Gödel's incompleteness: there exist true phenomena (qualia) unprovable within the system.

Q7: So consciousness is unexplainable?

A7 (Summary):

Yes, it's unexplainable by physics — not because we lack data or understanding, but because consciousness is logically outside the domain of physics. Any claim otherwise either:

1. Redefines consciousness in terms of measurable correlates.
2. Confuses correlation with the intrinsic phenomenon.
3. Assumes reducibility that the Two Loops Argument shows cannot exist.

Consciousness is a primitive fact: real, but non-computable and non-physical in the sense required by physics.

Summary:

This Fax makes the logical distinction between correlation, computation, and subjective experience clear — which is precisely what many discussions of the "solvable" hard problem tend to overlook.