

Plasticity, Phenomenal Character, and Brain Qualia

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One of the proposed solutions to the mind and body problem is Eliminative Materialism (EM). On this view, the seeming irreducibility of mental properties to physical states is resolved by eliminating mental states.¹ The foundation of EM is the argument that commonsense psychology, or folk psychology (FP), constitutes an empirical theory, which can be revised. It is part of Paul Churchland's eliminativism² that the actual replacement of FP will aid in the development of a scientific psychology. Folk-psychological categories such as beliefs and sensations are false, and cannot be reduced by a scientific theory.

The elimination of commonsense psychology leaves a conceptual void that can be filled by a scientific framework. Churchland argues that FP should be replaced as the most commonly used conceptual framework for the individuation of inner states. This kind of replacement entails the *actual* endorsement of a neuroscientific conceptual framework, along with the introspection of brain states as inner states. On this view, it would become an everyday occurrence for people to report brain states as such. It would, also, become usual to interpret and predict other's behavior by reference to brain states.

Speaking specifically about sensations, Churchland proposes perceptual plasticity as the solution to the irreducibility of qualitative states. Plasticity of this kind is also the solution of the puzzle posed by Frank Jackson's Mary.³ Perceptual plasticity is defined as the change in experience which results from conceptual change. Conceptual frameworks, according to Churchland, influence the manner in which entities are introspected or observed. What one sees is influenced by what one knows.

Eliminativism has often been challenged. Some have attacked the premise that commonsense psychology is a theory,⁴ others have attacked the claim that it is a false theory, which can be replaced.⁵ I countenance the argument that commonsense psychology is an empirical theory which can be replaced. My argument will be against the claim that reconceptualization to a neuroscientific framework will result in the elimination of qualia as such.

In the first section, I will elaborate on Churchland's argument for plasticity and its role in conceptual change. In section two, I will evaluate a new argument by Churchland proposing the

¹ This issue is often referred to as the emergence of mental states or properties.

² Churchland, P.M. (1989) *A Neurocomputational Perspective: The Nature of Mind and the Structure of Science*, MIT Press.

³ Jackson, Frank, (1991) "What Mary Didn't Know?" in *The Nature of Mind*, ed. Rosenthal, David, New York: Oxford University Press. See the response to Jackson's argument in Churchland, P.M. (1989), pp. 62-66.

⁴ Searle John R. *The Rediscovery of the Mind*. Cambridge, Massachusetts: MIT Press, especially. p. 58-63; ch. 8. Gordon, R., (1986). Folk Psychology as Simulation, *Mind and Language* 1, 158-171; reprinted in Davies, M. and Stone T., eds., 1995, *Folk Psychology: The Theory of Mind Debate*. Oxford: Blackwell Publishers. Dennett, Daniel (1987). *The Intentional Stance*. Cambridge, Mass.: Bradford. Books, p. 54.

⁵ See both Fodor, J. (1975). *The Language of Thought*. New York: Thomas Crowell, and Carruthers, P. (1996). *Language, Thought and Consciousness*. Cambridge: Cambridge University Press.

reduction of qualitative states of visual sensation.⁶ In continuity with Churchland's original views about conceptual change, the old vocabulary of sensations could be replaced in favor of a new scientific parlance. It will be my contention that adopting this new framework will result in new qualitative states, associated with the introspection of brain states. Reconceptualization will give rise to brain qualia, which will undermine reduction. Even if brain states and sensations are strictly identically, the qualia associated with each framework might be different.

In the third section, I will argue that perceptual plasticity cannot be the solution to the emergence of mental states. Eliminative materialism only establishes the conceivability of radical conceptual shifts, while perceptual plasticity requires their nomological possibility. I consider the implications of direct introspection of brain states. I conclude that a shift to introspection of brain states is either just a change in terms or a permanent stumbling block for reduction.

Section I--Perceptual Plasticity and Jackson's Mary

In a now seminal article, Jackson argues that phenomenal properties constitute facts not covered by the physical sciences.⁷ Jackson argues thusly: Mary is a brilliant neuroscientist. Mary has lived her entire life in a black and white room; she has access to a black/white television and can read about the outside world from books that also feature only white and black color. Mary learns all the physical facts about the human brain. The argument rests on the assumption that at the time Mary is reading about the human brain, neuroscience is a completed science. So, if reductionism is true, Mary should know all there is to know about human experience just by knowing all the physical facts about human brains.

Upon her release from the black and white room, Mary experiences for the first time the redness of a tomato. Now if Mary knows all the physical facts, and yet when she leaves the black and white room, she learns a brand new fact, physical facts do not exhaust all facts. "Therefore, complete knowledge of the physical facts of visual perception and its related brain activity still leaves something out."⁸

Churchland argues against Jackson in a few ways: he accuses him of an intensional fallacy; he objects to the narrow construal of scientific knowledge as propositional knowledge. Churchland also argues for a reconceptualization to brain science. The knowledge argument rests on the assumption that sensations are known to us through introspection, while brain states are not.

Jackson's argument can be reconstructed thusly:

- 1) My mental states are knowable by me by introspection.
- 2) My brain states are not knowable by me by introspection
- 3) My mental states \neq my brain states.⁹

⁶ Paul Churchland, "Chimerical colors: some phenomenological predictions from cognitive neuroscience," *Philosophical psychology*, Volume: Vol. 18, Oct 2005.

⁷ This kind of argument against the reduction of mental states is often referred to as the knowledge argument. Other proponents of this view include Thomas Nagel.

⁸ Churchland, (1989), p. 61.

⁹ Churchland, (1989), p. 60. The argument assumes Leibniz's Law by which two things are identical if and only if they have all the same properties.

According to Churchland, there is no reason to believe that one could not introspect in terms of a conceptual framework provided by neuroscience. Given that introspection for Churchland is a way of individuating brain states and individuation is done in terms of a conceptual framework: introspection of inner states is the outcome of endorsing a theory. This argument is made possible by the collapse of the distinction between theoretical and observational terms. As a result of this collapse, observational terms are said to be theory-laden, where what we observe is affected by the theory explaining the phenomena observed. Observations are not independent of the theory, but continuous with the theory of seen objects. It is possible, then, to have a change in observational beliefs as a result of change in theory.¹⁰ The institution of FP as a conceptual framework produced the human tendency to introspect mental states.

Churchland attempts to illustrate how this project would develop on the case of Jackson's Mary. If neuroscience is complete, then Mary will not be introspecting mental states but brain states. She will be doing this as a result of a "reconceptualization of the relevant perceptual space." She will not be identifying sensations, but she will reach out directly to mental states and identify "various spiking frequencies in the n th layer of the occipital cortex."¹¹ Although Mary in the black and white room might not have had her n th layer activated she would be able to imagine being in that cortical state. If Mary was trained to introspect brain states, she would not learn any new facts after she sees her first red tomato. Effectively Mary has reconceptualized to neuroscience, whereby brain states become her inner, introspectable states. Reconceptualization, according to Churchland, could resolve the puzzle posed by the knowledge argument. Assuming such a change in conceptual frameworks is possible; would Mary's introspected brain states have phenomenal properties? Would there be brain qualia associated with being in a cortical state? According to Churchland, reconceptualization would lead to the direct introspection of brain states, thereby eliminating sensational states producing qualitative states. Elimination construed thusly would resolve the emergence of mental properties. This argument would circumvent the traditional problem of the reduction of qualitative states to physical states. There would be no qualia to reduce.

In disagreement with Churchland, I think that even after reconceptualization to neuroscience, there would still be something it is like to be in a particular brain state. On the assumption that brain states could be introspected, there is no reason to believe that that type of introspection would not give rise to qualitative states. Instead of mental qualia, we would have brain qualia. One could still wonder about what it is like for one to be in a particular brain state, and there is nothing in Churchland's argument that would preclude that question having a positive answer. Elimination coupled with reconceptualization would only be the replacement of mental for brain qualia, not the elimination of phenomenal qualities as such.

¹⁰ This argument is supported in Churchland, P.M. (1979) *Scientific Realism and the Plasticity of Mind*. Cambridge, U.K.:Cambridge University Press, especially Chapter I. For a similar view one can turn to: Feyerabend, Paul. (1969) "Science without Experience." *Journal of Philosophy*, Vol. 66, no.22.

¹¹ Churchland, (1989), p. 65.

Section II--Reconceptualization and Reduction

Currently, Churchland is proposing a reduction of color qualia, whereby there is a “strict identity of human visual color qualia on the one hand and human opponent cell coding triplets on the other.”¹² Subjective qualitative states, on this view, are assumed to be systematically identical to neuronal coding vectors.¹³

I will present a brief exposition of this view. The colors that are perceivable by humans are said to bear a set of similarity and dissimilarity relations, which together determine the position of each color within a continuous manifold formulated by Munsell.¹⁴ An account by Hurvich-Jameson provides an empirical structure of the phenomenological color space for humans. One can provide an account of how this color manifold is instantiated in terms of the functioning of the various cells in the retina that are sensitive to different regions of the visible spectrum and the second rung color coding output cells.¹⁵

This is an example of how the activation of cones results in the activation of a Green/Red opponent output cell:

The...Green/Red cell is the simplest case, since its activation level registers the relative preponderance of the lone wavelength light over/under the medium wavelength light arriving to the cones at the tiny area of the retina that contains them. A local preponderance of long over medium excites the L cones more than the M cones, which yields a net stimulation at the Green/Red cell. This net stimulation sends its activation level above 50% by an amount that reflects the degree of the mismatch between the excitatory and inhibitory signals arriving from the L and M cones. The Green/red opponency cell will then be coding for something in the direction of an increasing saturated red. Alternatively, if the local preponderance of incoming light favors medium wavelengths....The activation level will be pushed below default level 50%, and it will then be coding for something in the direction of an increasing saturated green.¹⁶

And so on for the Blue/Yellow and the White/Black opponency cells. The input to the retina is four-tuple; the short, medium, and long wavelengths plus background illumination. The H-J model then converts the four-dimensional retinal input into a three-dimensional opponent cell output space. The range of possible activations in the retina is mirrored in the possible activations in the three-dimensional space of the H-J network. This three dimensional space of the H-J network, in turn, is isomorphic to the Munsell color manifold we mentioned earlier.

¹² Paul Churchland, “Chimerical colors: some phenomenological predictions from cognitive neuroscience,” *Philosophical psychology*, Volume: Vol. 18, Oct 2005. The cited reduction of color qualia should not be taken to be a change in Churchland’s more general strategy. Churchland’s position always was that the entities of FP that cannot be reduced should be eliminated, and he remains an eliminativist about propositional attitudes.

¹³ Churchland (2005), p.528.

¹⁴ Churchland (2005), p.529.

¹⁵ Churchland (2005), pp. 529-533.

¹⁶ Churchland (2005), p. 529.

“The isomorphism of internal relations is joined by an isomorphism in external relations as well. For example, the visual experience of white and the opponent cell coding vector (50, 50, 100) are both caused by sunlight reflected from such things as snow, chalk, and writing paper. The experience of yellow and the coding vector (50, 100, 65) are both caused by sunlight reflected from such things as ripe bananas, buttercups, and canaries. And so on for the respective responses to all of the objective colors of external objects”.¹⁷ Thus, Churchland’s view is colors are objective phenomenal properties of objects while subjective phenomenal properties are identical to opponent cell coding vectors. The H-J model provides, according to Churchland a reductive explanation of the color qualia of visual experience.

If the proposed reduction does not require reconceptualization, it is not clear what in his proposal poses a new challenge for the knowledge argument, and other arguments that make subjectivity a defining feature of qualia.¹⁸ Both Nagel’s¹⁹ and Jackson’s argument responded to reductionism in the first place. In the case of Mary in the black and white room, the strict identity between brain states and mental states is assumed. We can add to the story that Mary knows that there is strict identity between subjective color qualia and opponent cell coding triplets, but still does not know what it is like to be in a particular subjective state. Given that the arguments Churchland is attacking are supposed to work in principle for any physical reduction, it is not clear how the new proposal is any different from any other reductive view.

There are similarities between the old and new proposals. In his earlier writings Churchland argued that Mary could predict being in a particular brain states. As part of his current view, Churchland argues that H-J model can make predictions about “what it would be like” to have opponent cell activity for areas of the color manifold that are outside the normal visual experiences.²⁰ Examples of such qualia are chimerical qualia, self-luminous colors, hyperbolic colors. All of the listed color experiences are outside of the three dimensional color space of the H-J model.

Based on the H-J model, Churchland attempts to provide predictions about what it would be like to be in states corresponding to the points outside of the usual color space of the H-J model. Part of the reason this is possible is due to the complex relationships that color experience bare to each other such that Churchland can claim that:

Extrapolations from what we already know about the coding significance of the three major dimensions of the color spindle and the H-J opponent cell activation space, the anomalous activation triplet must code for color appearance that is:

1. fully as dark as the darkest possible black(...), but nevertheless is of
2. an obvious and distinctive hue(...), a hue that must be

¹⁷ Churchland (2005), p.538.

¹⁸ Churchland’s (2005) attacks Jackson’s, Nagel’s as well as Chalmers’(1996) arguments. See p. 428.

¹⁹ Nagel, Thomas, “What Is It Like to Be a Bat?” *The Philosophical Review*, Vol.83, No.4, October, 1974:435-450.

²⁰ These colors cannot be experienced via retinal activation because no real objects have those colors and also because the cells in the retina are limited to detecting only some wavelengths. Churchland (2005) provides images that are supposed to induce visual experiences approximate to those one could have if direct activation of the brain cells was possible or ethical.

3. more similar to blue than any other hue around the spindle's equator.²¹

This is Churchland's prediction about chimerical qualia and it should work similarly for the other unusual qualia. The described prediction about the qualitative states should help one recognize the chimerical qualia in the right stimulus situation. The H-J model can make predictions about possible qualitative states. Similarly, Mary could have predicted, based on her scientific knowledge, the qualia associated with a red tomato and been able to pick one out at the market.

To support his eliminative proposal, Churchland proposed reconceptualization. Given this new proposed reduction, is reconceptualization still needed? Churchland could continue to claim that it would be possible to drop the old vocabulary of sensations of red and green, in favor of a more scientific vocabulary. It is continuous with Churchland's argument for plasticity that it would be possible for humans to start introspecting activation in opponent cells instead of color qualia. In principle, the explanation of color qualia in terms of activation of opponent cells would make the folk-psychological framework obsolete. In fact, the predictive power of the H-J model far outstrips the predictive power of FP. FP is limited only to naturally occurring stimulus situations. I am assuming that Churchland would claim that FP would not be able to make a prediction about the phenomenal character of chimerical qualia.

The issue remaining is whether the subjective experience will be the same after reconceptualization. What it is like to introspect a red qualitative state and what it is like to introspect the activity in the corresponding opponent cells might not be the same despite the strict identity between entities. Even if the two states are identical, it is possible that introspecting one is not like introspecting the other. If brain states--the neuronal coding vectors, in this case--can be introspected directly, the framework will give rise to brain qualia, without reduction of the old color qualia. The phenomenology associated with the neuroscientific framework would be different from the one associated with common sense psychology.

Consider Churchland's old-fashioned, and much more intuitive example, of the experience of the chord for a laymen and a musician. To a child or a musically untrained person chords sound like undivided wholes, while a musician can discriminate the notes in the chords. Presumably the perceptual change that occurs is due to musical training, where the student moves from wholes to particular notes in chords. Also, the musical expert can hear a set of notes specified verbally and be able to recall the sound.²² The trainee can even imagine a new, never heard before, chord. This is how: "Specify for him (the trainee) a relatively unusual one -- a F#thadd13th for example -- and let him brood a bit. Then play for him three or four chords, one of which is the target, and see if he can pick it out as the sound that meets the description".²³ The chord is nothing but the notes of which it is comprised and yet the experience of the chord as a whole and the experience of the chord as comprised of, let us say, three separate notes are not the same. The change in framework will result in a changed experience regardless of the strict identity between the two entities. Similarly, the change from a framework introspecting sensations to introspecting brain activity via retinal cones might add up to quite different subjective states.

²¹ Churchland (2005), p.545.

²² Churchland (1989), p.65.

²³ Churchland (1989), p.65.

Hence, the reduction of the entities does not amount to a reduction of the phenomenal properties associated with introspecting those entities. This is true in principle, whether or not Churchland's argument asks for a reconceptualization. Each conceptual framework, then, has distinct phenomenal properties associated with it and in some sense reduction would entail the elimination of at least some of those qualitative states even for compatible frameworks.

Assuming that each conceptual framework will give rise to different phenomenal properties, plasticity cannot solve the emergence of the phenomenal properties of mental states. Reconceptualization cannot capture the phenomenal properties of the original folk psychological framework. Mary in the black and white room would still not know what it is like to see a red tomato *as per* FP, even if sensations of red are reduced in the way Churchland proposes.

Section III--Limits for Perceptual Plasticity

In the previous section I argued that phenomenal properties cannot be eliminated in the way Churchland proposes. In this section, I wish to examine the claim that brain states are introspectable and will argue against direct introspection of brain states. I will conclude that any reduction must contend with at least some phenomenal properties.

Churchland presupposes a very liberal view of perceptual plasticity, where any conceptual framework that is proven to be true, can then become part of the way we perceive whatever phenomena were under its garb. Churchland's broader view of eliminativism establishes the conceivability of such change, but the possibility of conceptual shifts rests on the assumption that plasticity has no bounds. Radical conceptual shifts require more than just perceptual adjustment in accordance with conceptual change. Perceptual plasticity presupposes the nomological possibility of perceptual adjustment to any theoretical framework.

The arguments that support eliminative materialism establish the conceivability of reconceptualization, which is not enough.²⁴ Plasticity is a claim about physical possibilities as well. The two must be distinguished. Broad logical possibility, or conceivability, yields the possible truth of the following statements:

1. 'There are unicorns.'

Or

2. 'This morning Superman was taking the train downtown.'

But the following statements are conceivable as well:

3. 'I once jumped from the top of the Eiffel tower and landed on my feet.'

Or

4. 'My grandfather once walked from Chicago to Mexico City in one day.'

In speaking of reconceptualization, one can rely on this broad conceivability only in cases where one is not concerned with actual truths. And Churchland emphasizes that his interest do not lie with *a priori* arguments, rather he wishes his view to be reliant and continuous with empirical claims about the brain. For Churchland's theory to be a viable alternative to other explanations

²⁴ For more on this view see Churchland, P.M. (1979).

about the mind, it should rely also on nomological possibilities, limited by scientific laws. On those criteria, the previous statements come out to be false. It is obvious that no human being could have walked the distance that was claimed in 4. The falsehood of claims 1-3 is similarly obvious, in terms of natural possibilities. Claims such as:

5. 'Brain states are introspectable directly.'

Or

6. 'One can introspect a triplet activation vector in one's visual cortex.'
cannot rest on conceivability alone.

It is not enough to propose a new conceptual framework that would solve the problems caused by the irreducibility of phenomenal properties, if it is not obvious how humans could adopt that conceptual framework. The framework suggested as replacement for sensations does not prove that the adoption of statements 5 and 6 is possible; rather it requires the truth of those claims.

Obviously, what is needed in order for a conceptual framework to be endorsed could vary. For example, the truth of statements 5 and 6 can vary in accordance with what is meant by 'introspection.' Thus, if one wishes to say that it is just a matter of using a different word, like in: "You say mind, I say activation vector triplet," the issue becomes trivial. Something about the entities in question should be altered in addition to the names. Change in conceptual framework should lead to actual change in experience.

If conceptual change requires more than only name change, the issue becomes whether the conceptual framework proposed as the replacement for reporting sensations can be adopted. This question remains even if one assumes the identity between entities, such as brain states and visual sensations. I argued that although brain states and sensations might be one and the same, one could see that there could be a difference in phenomenal character when one is introspecting a brain state *as such* as opposed to introspecting sensations. If differences exist, the proposed identification would not work, assuming Leibnitz's law--the two entities would have distinct phenomenal properties. In that case, we would have to pick between the two entities.

In order to decide if conceptual change from sensations to brain states results in changed experience, a determination should be made about the contribution of conceptual change to phenomenal character or experience more broadly. If one knows that something is true about a particular entity, it does not seem obvious that it must immediately contribute to the way that entity is experienced. In case I learn of the identity between a particular mental state, let us say my experience of red, and a brain state, the added knowledge might not change my experience of that state. I might just keep on seeing red the same way I did before, while being able to cite that my experience of red is a brain states. Thus, it is not that I experience the state differently; I just know more about the state experienced. What type of conceptual change is required to turn my usual qualia into a brain qualia?

In speaking of introspecting a state as a brain state, the change in parlance does not necessitate a change in experience. One could learn to report brain states in the following way. Every time one experiences a particular sensation, one takes the extra step of associating it with the corresponding brain state until the connection becomes automatic. The response would become

automatic once the inferential step is no longer explicitly made. At that point the reconceptualization would be complete. Still, if the conceptual change has not affected experience, the scenario strikes me as a more elaborate change in nomenclature.

In general, the issue of whether all conceptual change contributes to a change in perception seems difficult to determine. I will provide a more intuitive example as a model for other conceptual change. If I discover, after years of friendship, that my best female friend is actually a male, it seems that the discovery would significantly change the way I see my friend. The change is striking and I would be more compelled to say that I now see my friend as a male where that would assume some change in experience. A large number of previously unrecorded behaviors might be highlighted and be seen as an expression of my friend being a male. A large appetite or a really low voice would now be seen not as particularities of my friend, but as an expression of maleness.

In an alternative scenario, imagine I find out that my friend won a contest for making the best sour cherry strudel in the greater Belgrade region. In addition, let us suppose that my friend is a good cook and that there is nothing really out of the ordinary about her cooking or entering cooking challenges. In that case, my knowledge that she has won that contest does not seem to be of the type that would alter my overall experience. I would know that my best friend is the winner of that particular contest, but that knowledge would not make a difference to how I see her. I might even decide to do away with her name and start calling her “the-sour-cherry-strudel-contest-winner,” and every time I think of her I might make an effort to suppress my tendency to recall her name and use the substitute description. Thus, I have reconceptualized from individuating my friend as Ivana to “the-sour-cherry-strudel-contest-winner.” Despite the reconceptualization, it seems to me that all that has changed about my friend is the name I use to refer to her, but nothing about my experience. Is the change in phenomenal character involved in the reconceptualization from sensations to brain states like the first or second instance of conceptual change?

In the first example, one could argue, the perceptual change resulted from change in categories; my friend I thought was a female, but now I know is a male. Change in category resulted in changed experience. Applying this to mental states, the change from introspecting mental state to brain states might require a change in category, which should result in changed experience, or it could require just an elaborate change in names.

Unbound plasticity can be construed then as requiring only the change in name, or it could entail real perceptual change. Reconceptualization entailing only changes in terms does not seem motivated. If reconceptualization affects the experience of introspection, problems arise with reduction. Different frameworks will give rise to different phenomenal properties.

One way to resolve this problem is just to claim that the states that are reducing mental states are not such that they can be introspected directly. There are no such things as brain qualia. There is nothing it is like to be in a brain state as such, but there is something it is like to be in a sensational state and the two are one and the same.

Let us assume that a framework individuates as an internal state the number of white blood cells in a person's body. The adoption of this framework would then require the introspection of the count of white blood cells in such a way that there would be something it is like to experience that particular state, and that the experience of that state would be different than the side effects of having a change in the number of white cells such as dizziness or fatigue. In that case, one could make something of the notion of experiencing the white blood cells count directly, because there would be a distinction between the experience of the "count" as such and the experience of the side effects of the same. And one could not say that the experience of the new internal state is just the automated response to the side effects of that state.

The proposed framework would require the direct individuation of the white blood cells count. If such an individuation was not possible, the framework would not be such that it could be adopted. To venture a guess, the count of white blood cells cannot be introspected directly, in the way described. A state of that kind does not have a phenomenal property in addition to those of its symptoms.²⁵ There is nothing it is like to have a particular white blood cell count, if direct introspection is required. Thus, the conceptual framework requiring the direct, noninferential introspection of white blood cell counts cannot be adopted.

Similarly, the proposed framework of neuroscience is not such that it can be adopted if it requires the direct, noninferential introspection of states that cannot be accessed that way. And it is only to venture a guess but statements 5 and 6 seem less like introspectable states and more like states of the body such as the white blood cell count.

Churchland, I think, should welcome the restrictions on our perception and introspection, since the only other alternative is that each new thing learned about an entity could change its phenomenal properties. This would be an unwelcome result when it comes to the identification of entities, because no introspectable entity would have the same phenomenal properties as the entity reducing it. If introspecting a brain state entails an entirely different set of phenomenal properties than introspecting mental states, reduction would always be prevented. However, if Churchland accepts limits to perceptual change, and grants that brain states are not introspectable, he no longer has a solution to the emergence of mental properties.

Section IV--Conclusion

Eliminative materialism has had as its project the reconstruction of our commonsense psychology. The qualitative character of mental states is part of this commonsense view. While qualia can be taken as evidence for the existence of mental states, EM construes them as a negative outcome of folk psychology. The argument for the elimination is often gilded with reference to the problematic, irreducible, mental properties. There is no reason to believe, however, that the only conceptual framework about inner states which can give rise to qualitative states is our current commonsense psychology. On the view that brain states can be the object of introspection, it seems easily arguable that a neuroscientific framework could give rise to its own qualitative states.

²⁵ This is not to say that there aren't other ways of experiencing white blood cells. One could perceive them with the help of instruments, but the conceptual framework under review here proposes them as introspectable internal states.

The problem of reduction is then perpetuated. If each new conceptual framework gives rise to distinct qualia, no qualitative states can have physical explanations. Strangely, it seems to be an outcome of eliminativism, coupled with perceptual plasticity, that no reduction is possible. EM assumes that observation is an outcome of the endorsement of a conceptual framework. Any entity featured as part of a conceptual framework can be introspected. Any introspected entity can give rise to qualitative states. Each framework has distinct qualitative states. Thus, even strictly identical entities can have distinct qualia. If brain qualia are possible, elimination cannot resolve the problem of irreducible subjective properties.

Unfortunately, in case Churchland decides to countenance the existence of visual qualia and stand by a reductive view, he must deny that claim he made that brain states can be introspected directly. In case brains cannot be introspected, the reduction would be of the commonsense view about sensations; a theory notoriously embattled with science about the mind.