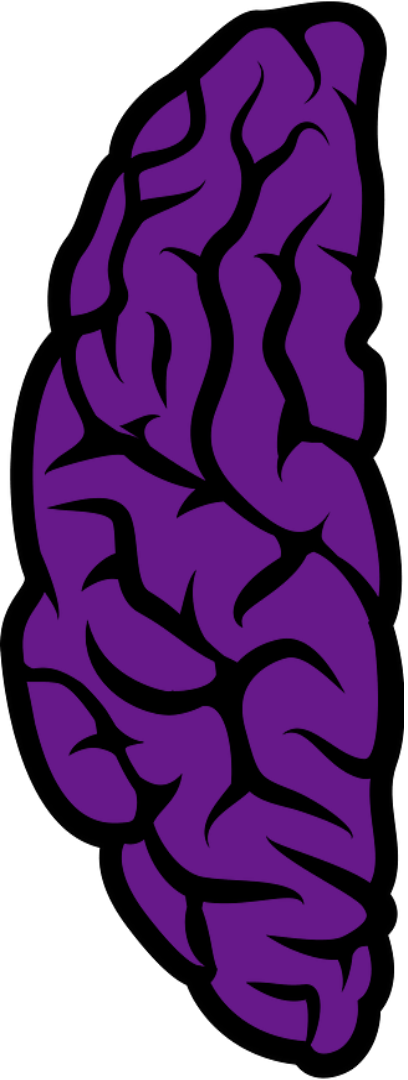

How to Count Subjects

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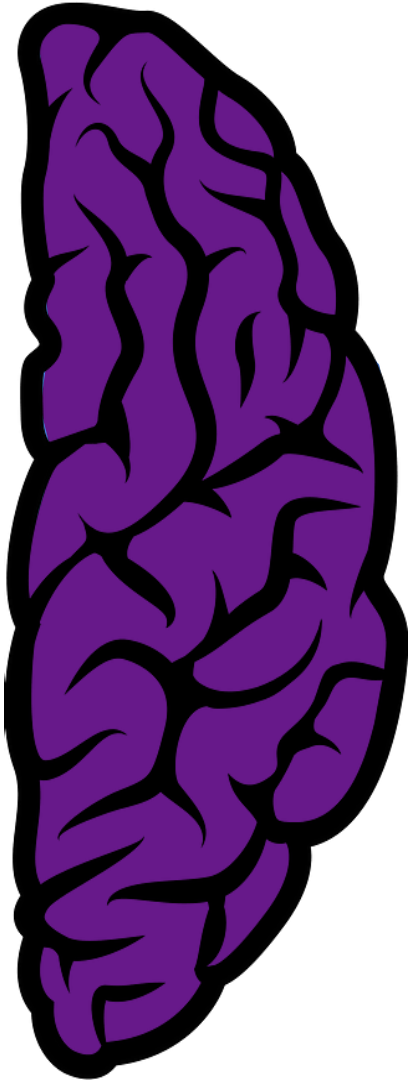
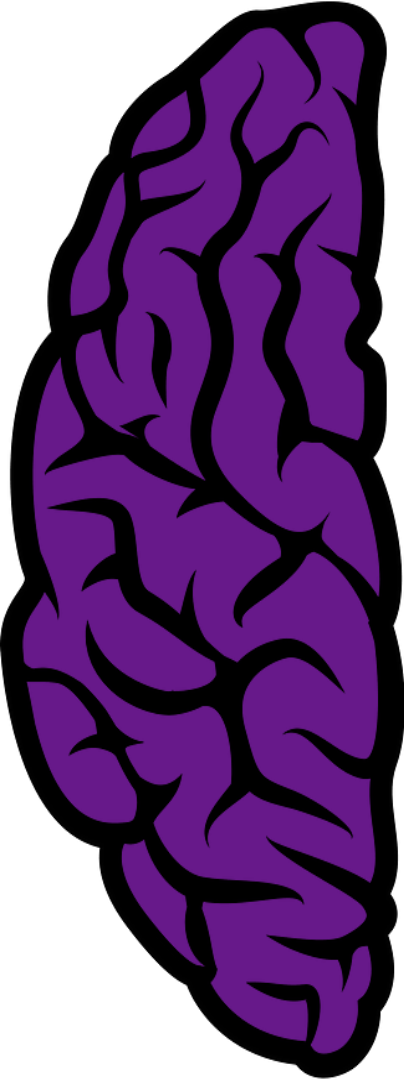
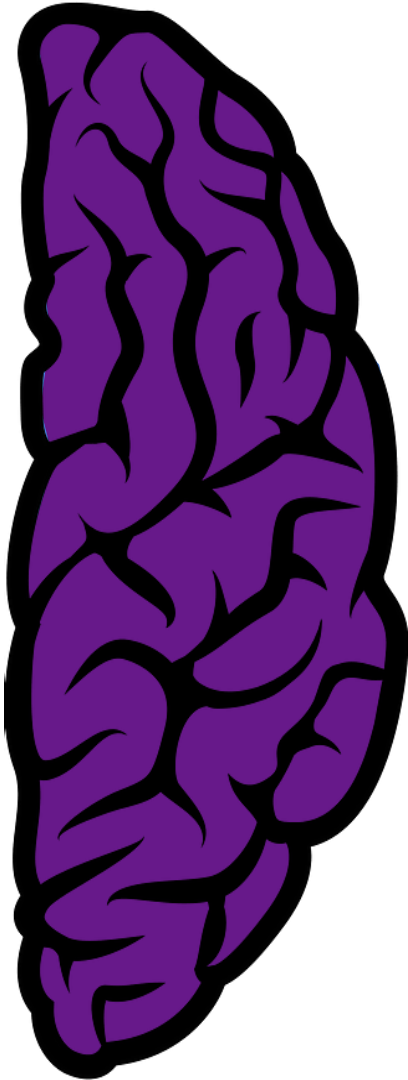


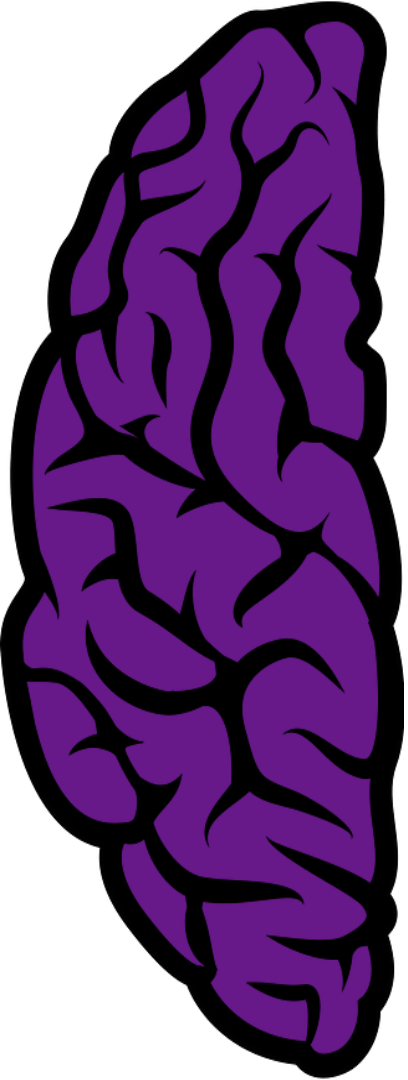


Outline

"Is there a discrete number of subjects in a system? If so, does the removal of one axon create a new subject? If not, what does it mean to have a gradual number of first-person perspectives?"

1. Can there be One-and-a-half Subjects?
2. Quantitative and Structural Units
3. Half-Brains and Half-Minds
4. Conceptual Innovation
5. A 3-Subjects Analysis
6. The Hard Problem





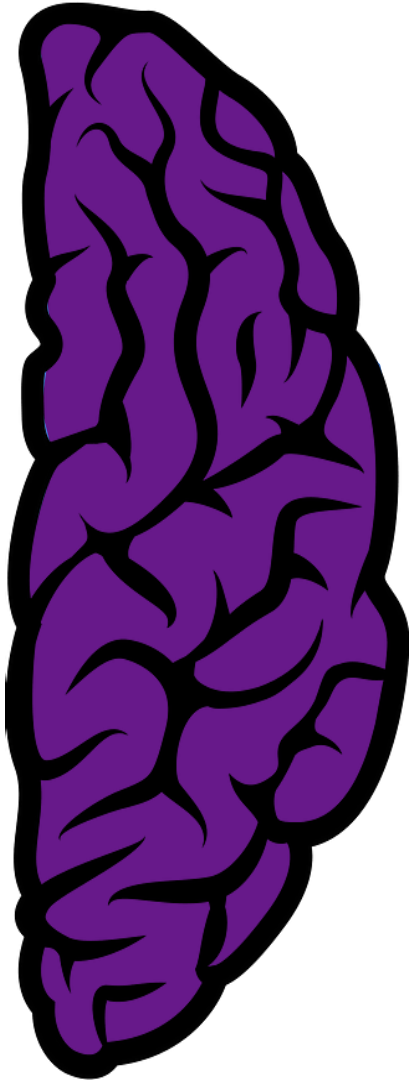
1. One-and-a-half Subjects?

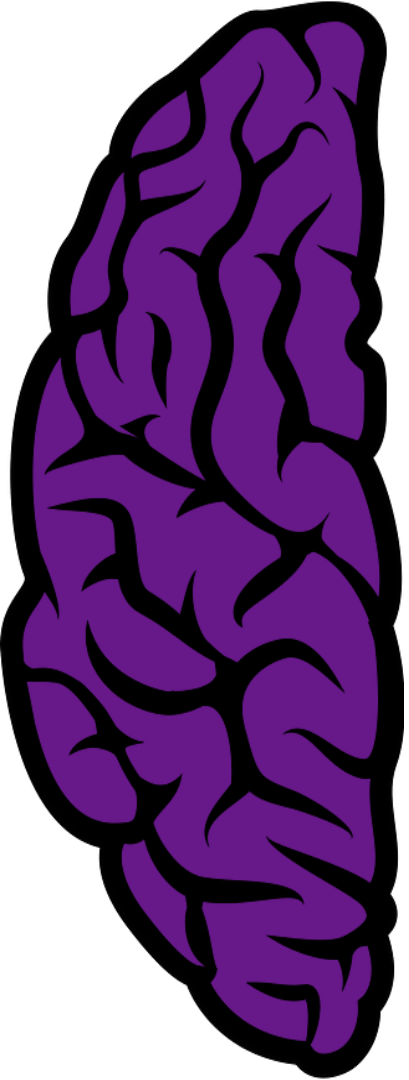
Difficult questions:

- Can there be fractional numbers of conscious subjects?
  - (or agents, minds, persons)
- Are there, in the split-brain?

Preliminary question:

- What would it even mean for there to be a fractional number of conscious subjects?

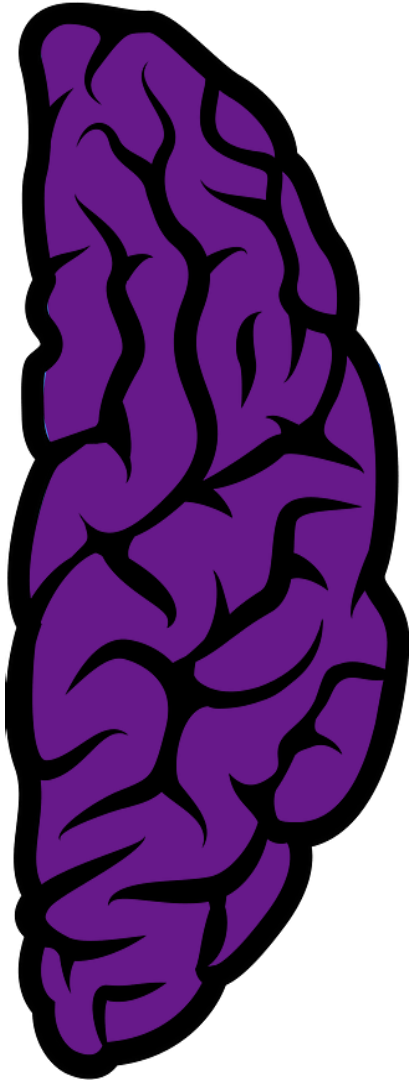


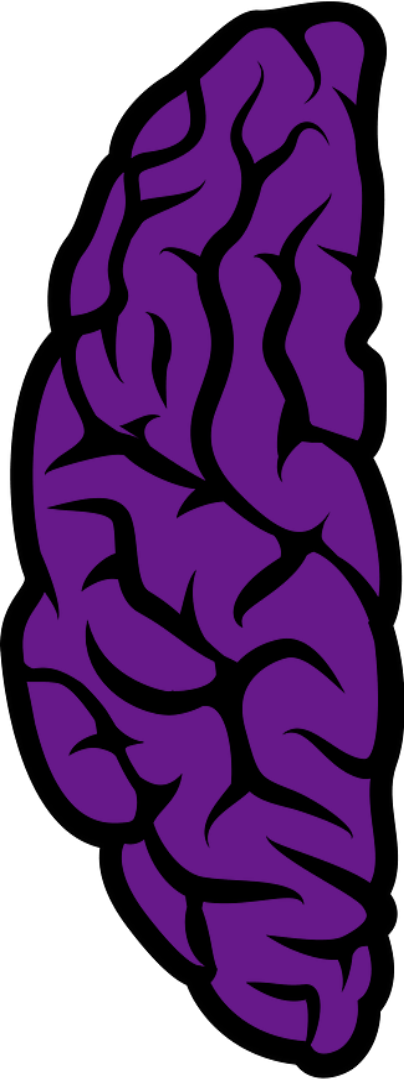


1. One-and-a-half Subjects?

“There is no whole number of individual minds that these patients can be said to have… [and yet] The concept of a person… seems strongly committed to some form of whole number countability. Since even this seems open to doubt, it is possible that the ordinary, simple idea of a single person will come to seem quaint some day, when the complexities of the human control system become clearer and we become less certain that there is anything very important that we are one of.”

(Nagel, 1971, “Brain Bisection and the Unity of Consciousness”, pp.409-411)



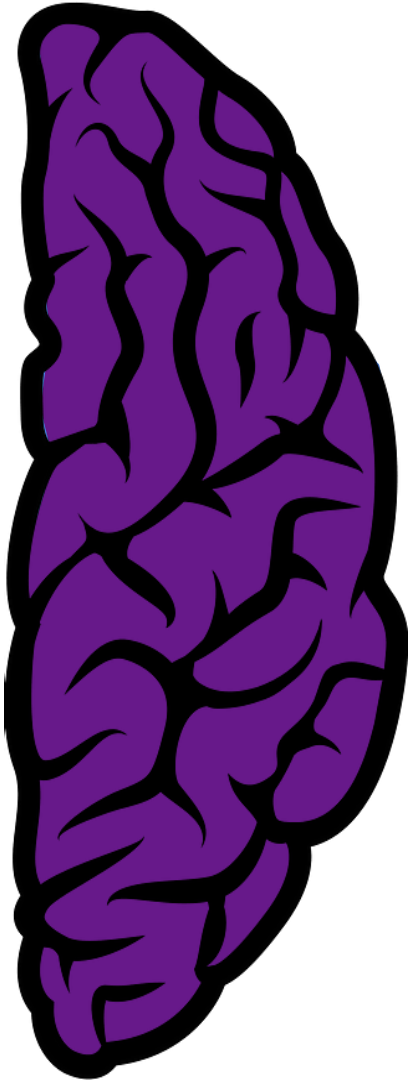


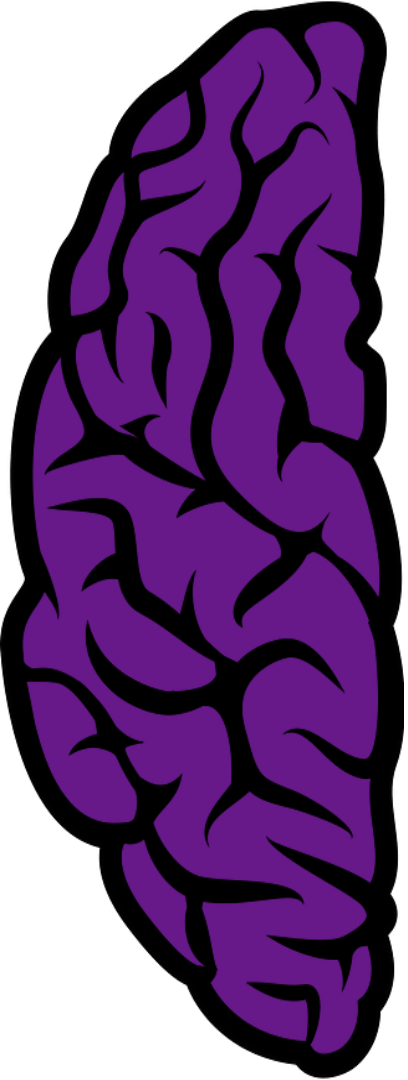
1. One-and-a-half Subjects?

Popular idea:

- The facts of the split-brain push us towards a fractional count (1 ½)
- Common sense pushes us away from that fractional count

But the split-brain is not essential: people make similar claims based on thought-experiments.



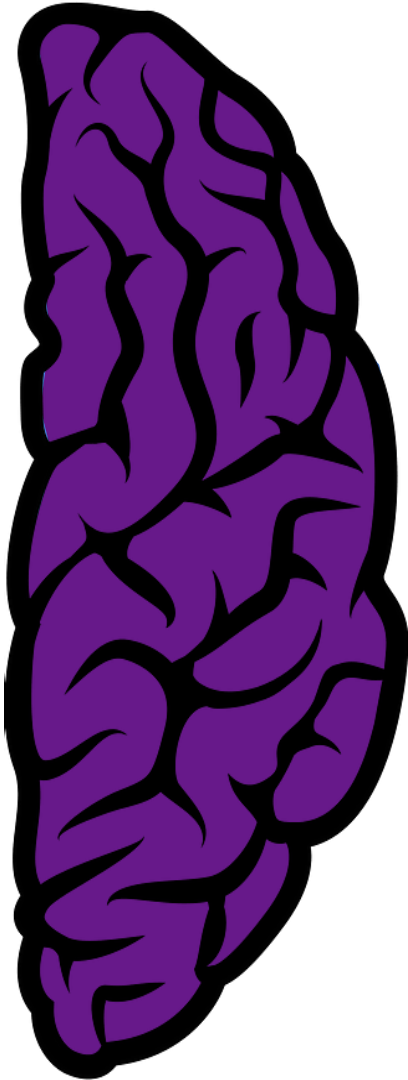


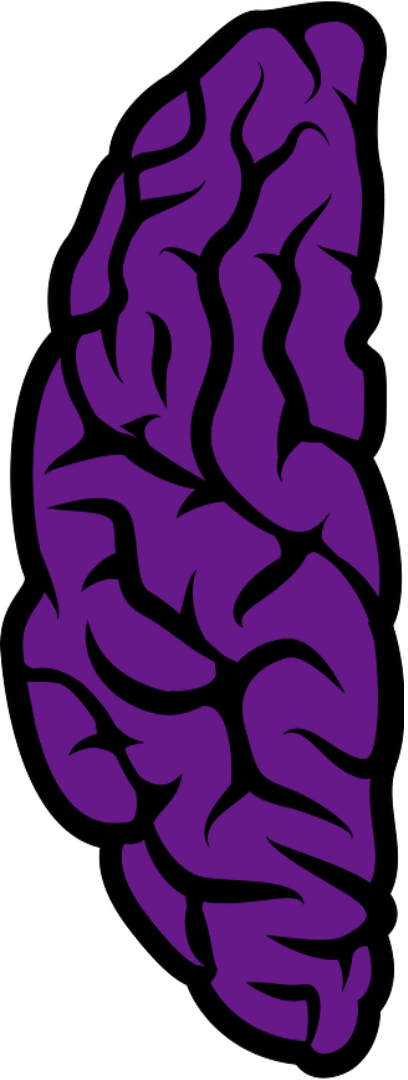
1. One-and-a-half Subjects?

“On the right we have Mind 1, on the left Mind 2. Bit by bit in stages arbitrarily small, we connect them. At the end, possibly months later, we have a single integrated mind… At some point, it seems, the two minds must have become one.

If they did so suddenly, then we have the challenge of explaining a sudden metaphysical saltation across what we can seemingly construct as an arbitrarily smooth gradation. If they did so gradually, then there must have been a phase during which there was either an indeterminate or an intermediate number of minds (one and a half?). But how can we make sense of that?”

(Schwitzgebel 2021, “Review of Combining Minds”, https://ndpr.nd.edu/reviews/combining-minds-how-to-think-about-composite-subjectivity)



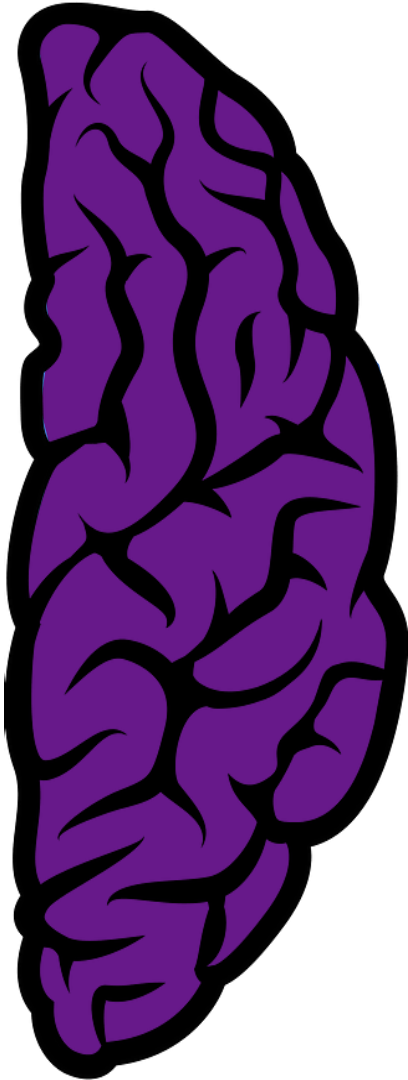


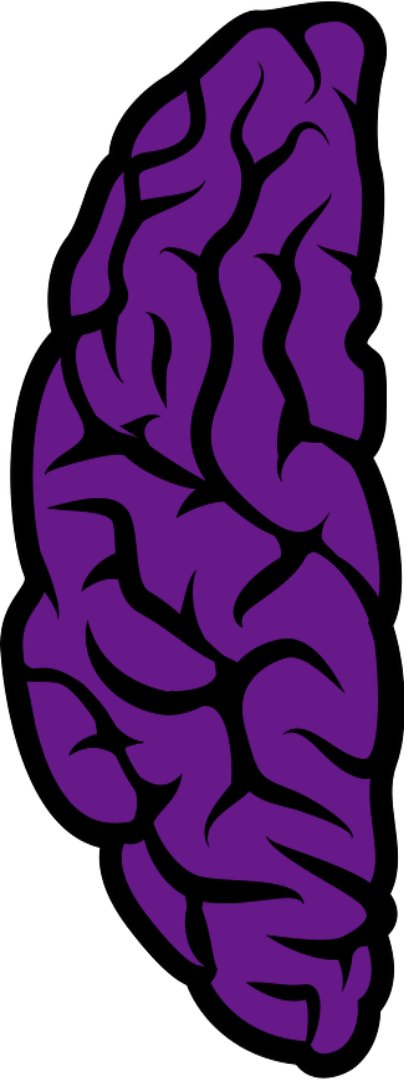
1. One-and-a-half Subjects?

“We may easily think of… brains themselves in terms of fractions.

Thus, though we might be a bit puzzled about whether the brain that was originally yours is still the one you’ve got after [half has been switched with another brain], if we like we can just fall back on talking about there being half of the original brain with you and half now over there with the other. But one could never talk about the subject or his experience like that.”

(Zuboff 1990, “One Self: The Logic of Experience”, p.41)



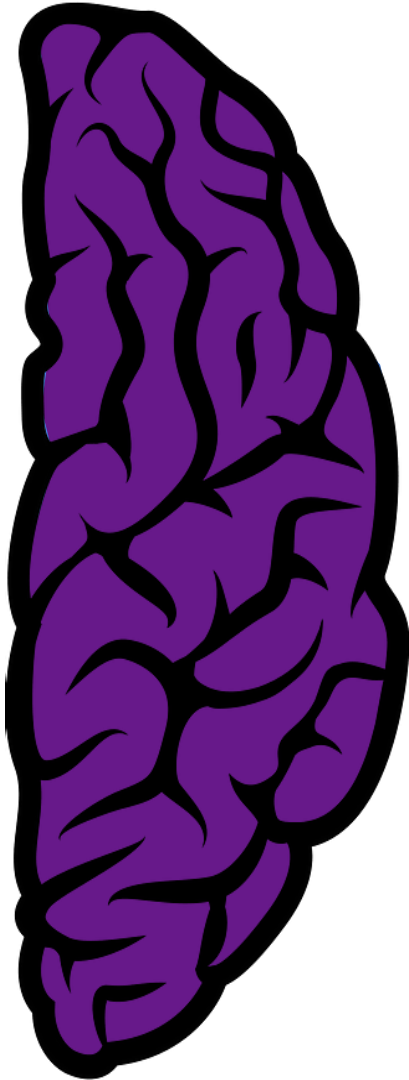


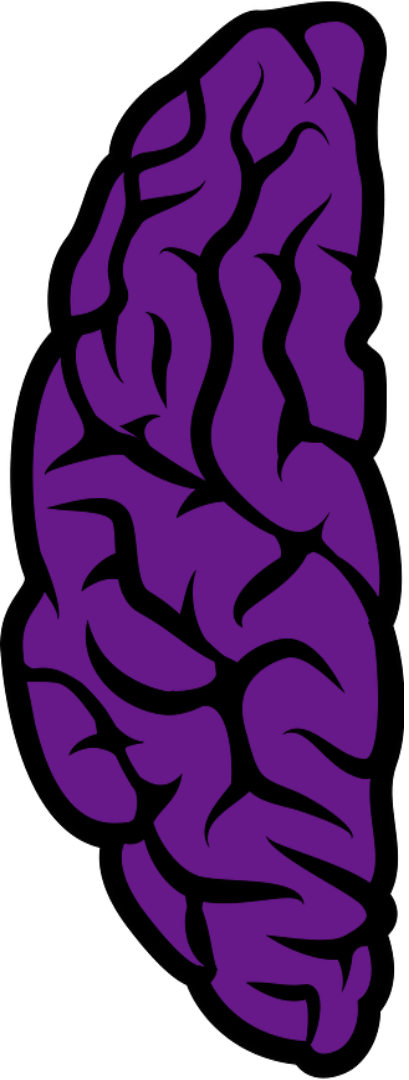
1. One-and-a-half Subjects?

Contra Zuboff, thinking of brains this way isn't entirely 'easy'.

Fractional counts of physical objects are puzzling in their own right.

Unpacking why *they're* puzzling is necessary for clarity on what's especially puzzling about fractional counts of conscious subjects.





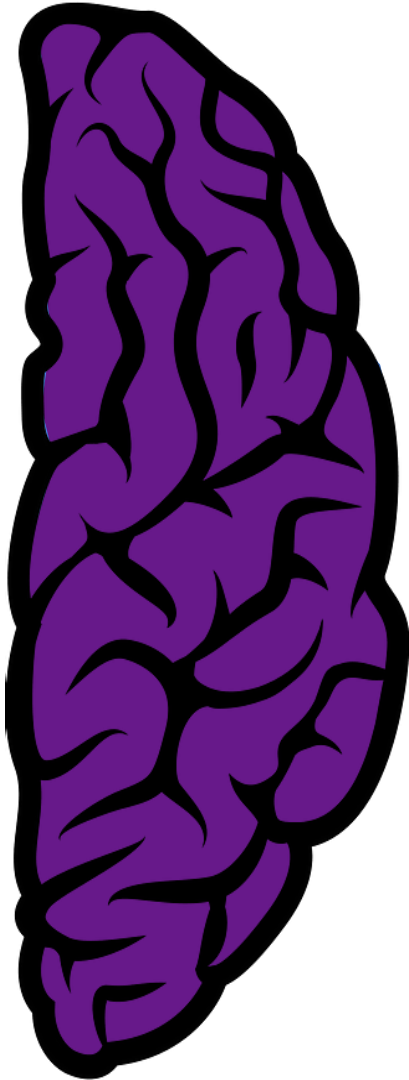
2. Quantitative and Structural Units

Fractional numbers work fine as abstract mathematical objects

Relating abstract mathematical objects to reality requires identifying a relevant unit.

(**1** trilogy, **3** books, **30** chapters, **1000** pages)

When the unit is **quantitative** (litres, kilograms, miles, joules) we can relate fractional numbers to reality quite successfully.



2. Quantitative and Structural Units

Quantitative units contrast with:

Structural Units: Objects defined by some sort of structure

Nathan Salmon ('Wholes, Parts, and Numbers', 1997) discusses the difficulties with fractional counts of structural units.

"There are 2 ½ oranges on the table."

Call this the 'Salmon-Orange puzzle'

2. Quantitative and Structural Units

Quantitative units contrast with:

Structural Units: Objects defined by some sort of structure

Nathan Salmon ('Wholes, Parts, and Numbers', 1997) discusses the difficulties with fractional counts of structural units.

"There are 2 ½ oranges on the table."

Call this the 'Salmon-Orange puzzle'

2. Quantitative and Structural Units

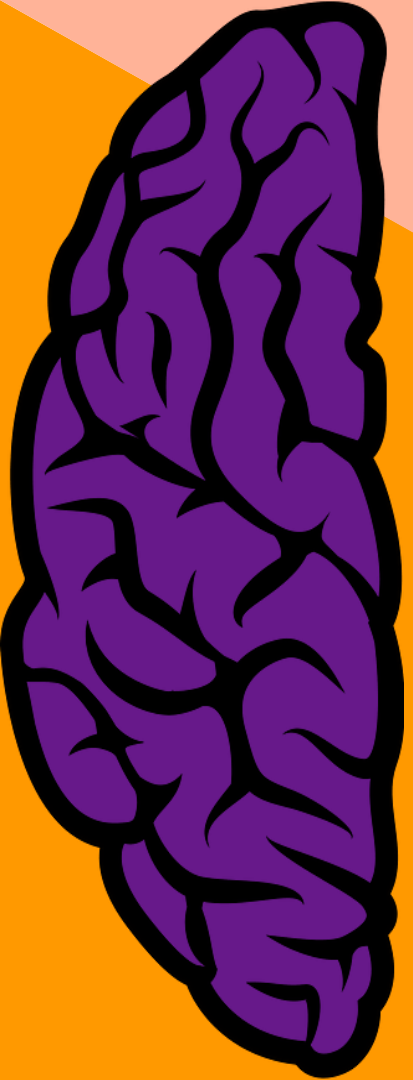
Salmon notes two readings of “There are 2 ½ oranges on the table.”

- **R1 (Quantitative):** There are 2.5 oranges-worth of orange on the table.
- **R2 (Mereological):** There are two things on the table that are oranges, and one thing on the table that is a half-orange.

Key disagreement: Oversized oranges

=

?



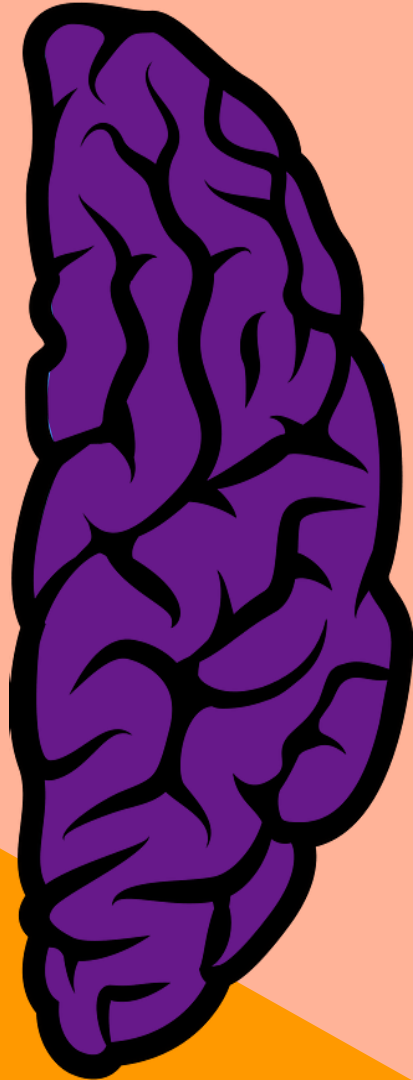
2. Quantitative and Structural Units

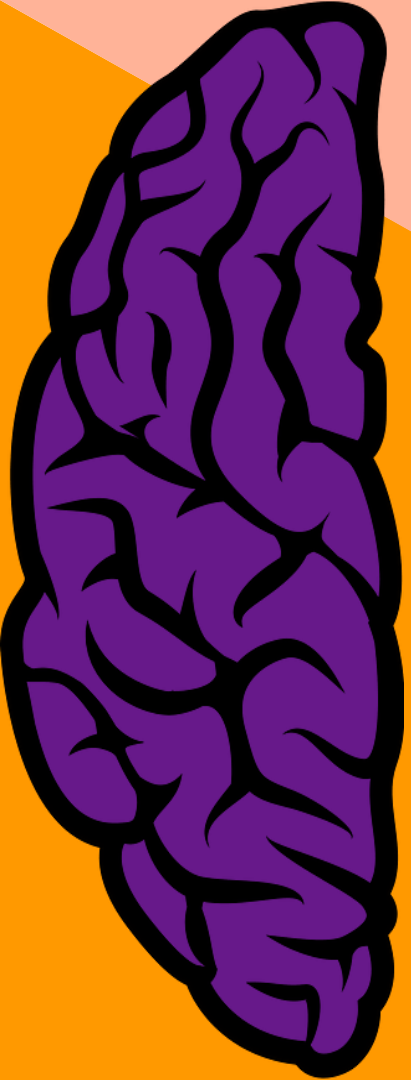
Either might be appropriate in some contexts

- A chef making an orange-based dessert (quantitative reading)
- A supplier looking to store and transport the oranges (mereological reading)

Salmon's argues that *neither* fits neatly with a set-theoretic analysis of numerical claims. (Neither involves a set with cardinality 2.5.)

That issue is orthogonal to our interests here.





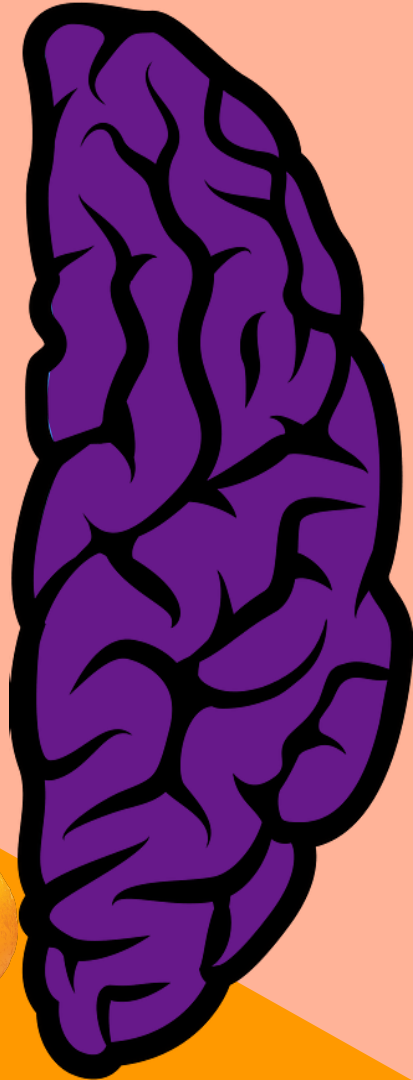
2. Quantitative and Structural Units

Here's a third reading:

- **R3 (Borderline):** There are two things on the table that are oranges, and one thing on the table that half-is an orange, i.e. a borderline case of an orange.

(E.g. a kumquat, or some sort of citrus hybrid)

Different sort of 'half orange': not a detached mereological part of a whole orange.



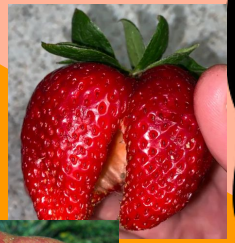
2. Quantitative and Structural Units

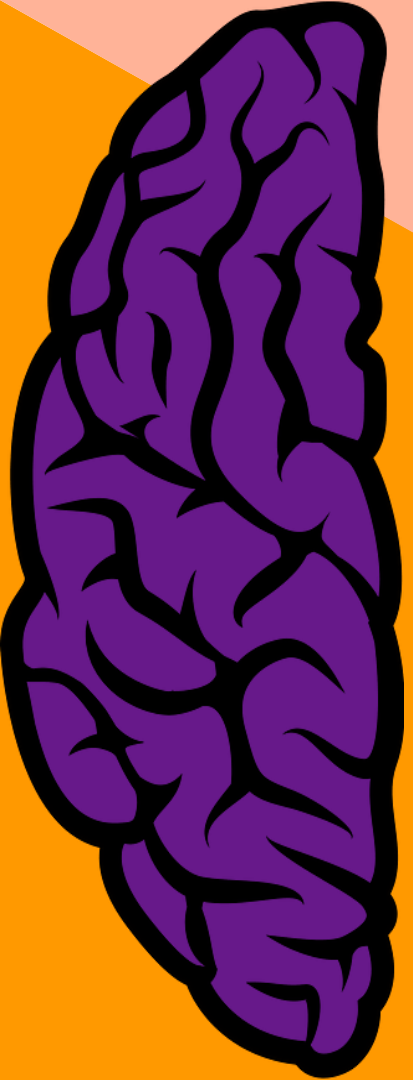
Here's a fourth reading:

- **R4 (Overlap):** There is some basis for saying there are two things on the table that are oranges, and some basis for saying there are three.

(E.g. normal orange and a conjoined pair of oranges.)

No half-orange needed!





2. Quantitative and Structural Units

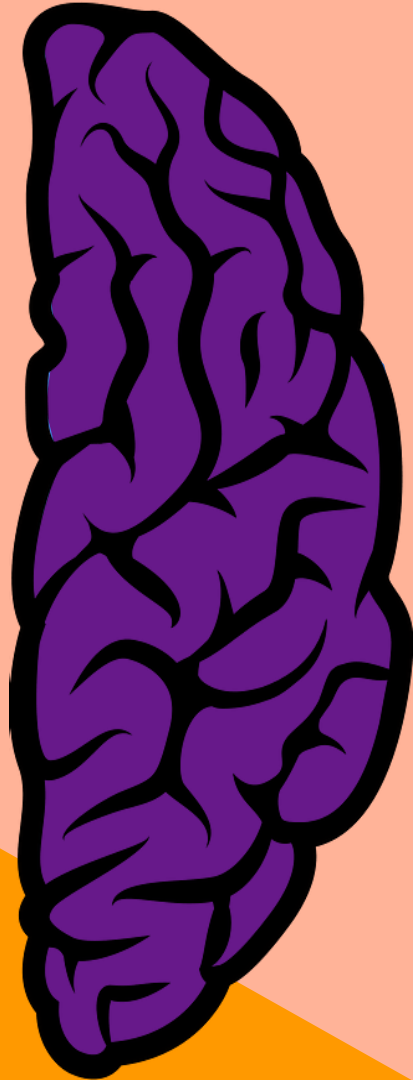
The overlap reading combines conceptual tools involved in two other readings

Mereological reading

The two candidate oranges can be viewed as mereological parts of one wonky orange.

Borderline reading

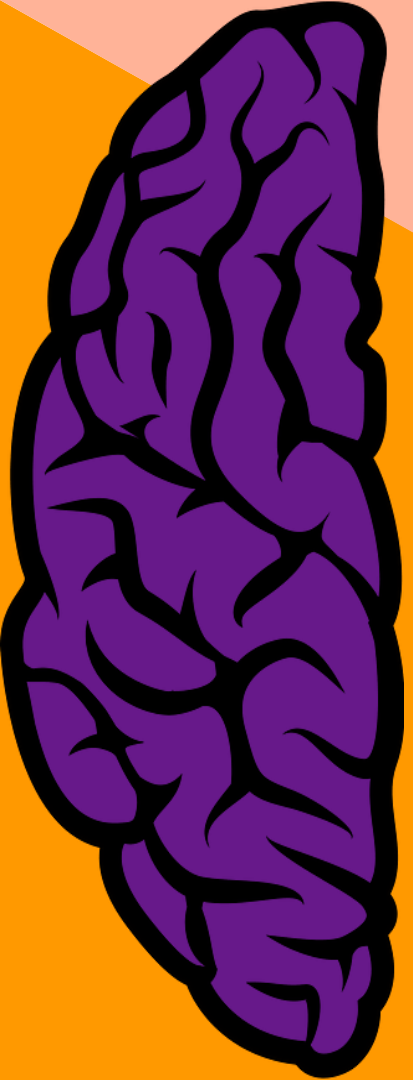
- Single wonky thing is borderline between an orange and a pair of oranges
- Two smaller things are borderline between oranges and parts of oranges



2. Quantitative and Structural Units

These readings support very different sets of inferences:

	Does 1/2 + 1/2 = 1?	Must there be a half-orange?	Must there be an orange the half is half of?
R1	Yes ✓	Sort of ○	No ✗
R2	Usually no ○	Yes ✓	Yes ✓
R3	No ✗	Yes ✓	No ✗
R4	No ✗	No ✗	No ✗

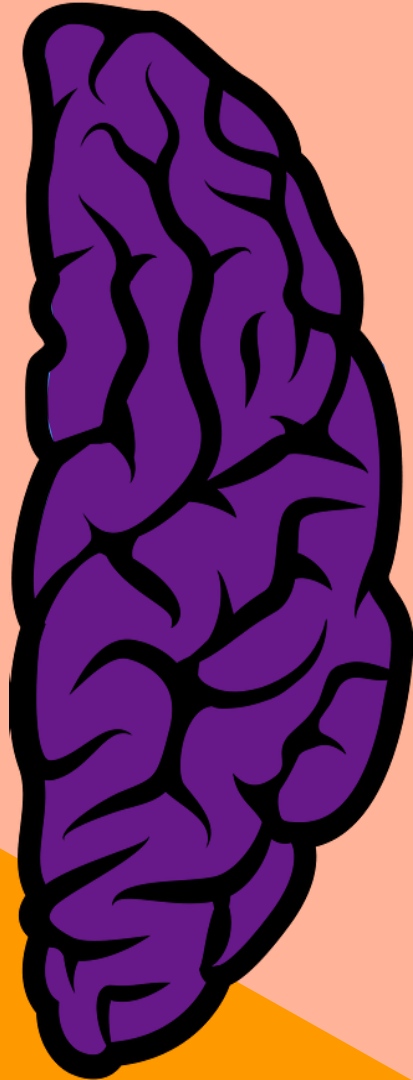


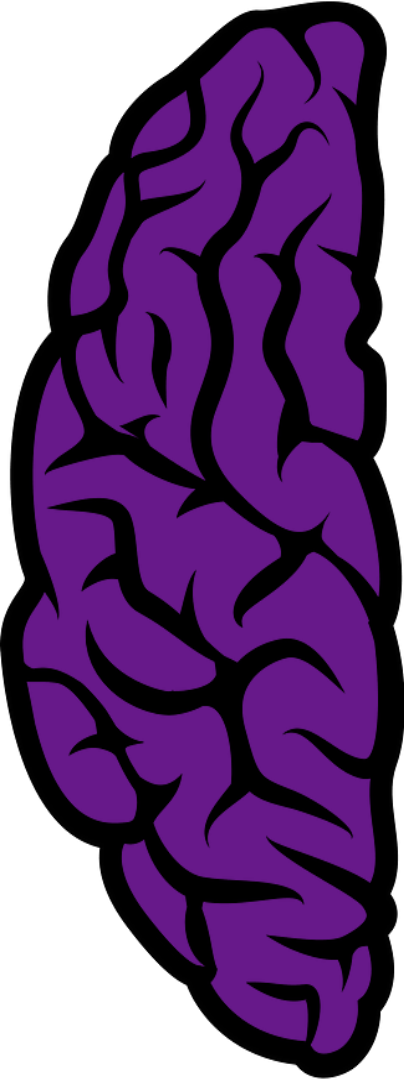
2. Quantitative and Structural Units

Upshot: “2 ½ oranges” has multiple conflicting readings; we usually select one using context cues.

This relies on our conceptual facility with:

- Detached halves of oranges
- Orange’s-worth of orange-stuff
- Borderline oranges
- Overlapping oranges





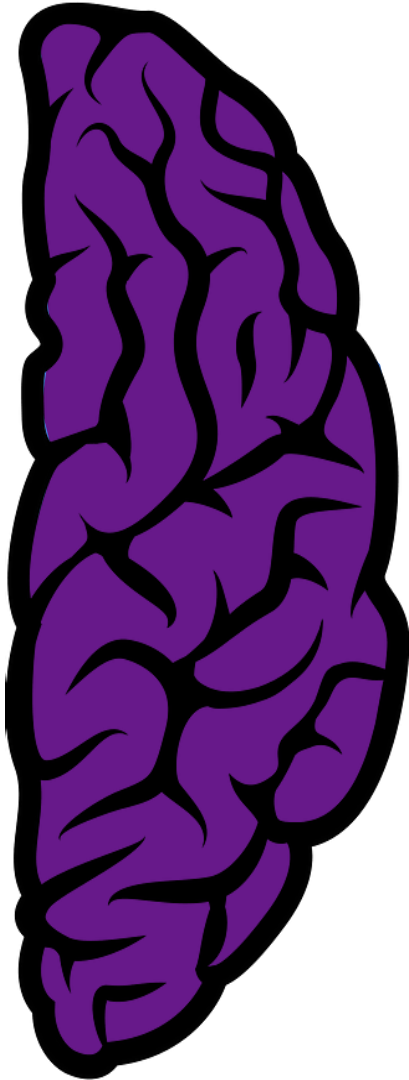
3. Half-Brains and Half-Minds

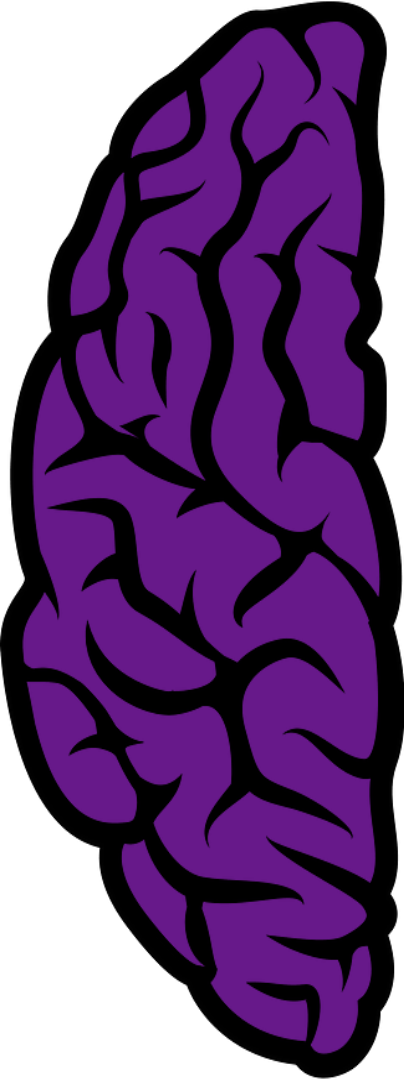
Do these readings work for:

- 1 ½ Brains?
- 1 ½ Subjects (minds, agents, persons)?

R1 (Quantitative)

- Works for brains <u>if</u> relativised to a species: a chef making *gulai otak* might need 2 sheep brains, 1 cow brain, or 0.5 human brains.
- Doesn't work for subjects: we are at a loss as to the relevant quantity.





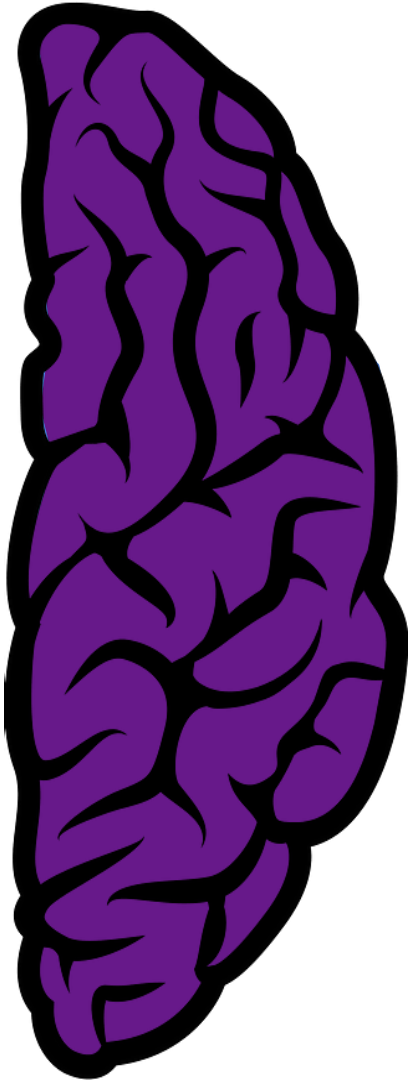
3. Half-Brains and Half-Minds

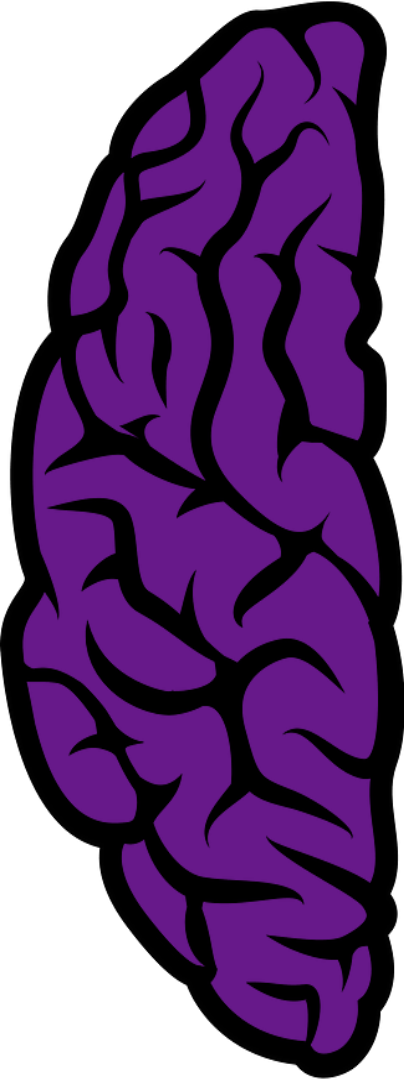
Do these readings work for:

- 1 ½ Brains?
- 1 ½ Subjects (minds, agents, persons)?

R2 (Mereological)

- Works for brains: a detached half-brain can sit on my desk, or coordinate the movements of a hemispherectomy patient.
- Doesn’t work for subjects: what’s a half-subject?





3. Half-Brains and Half-Minds

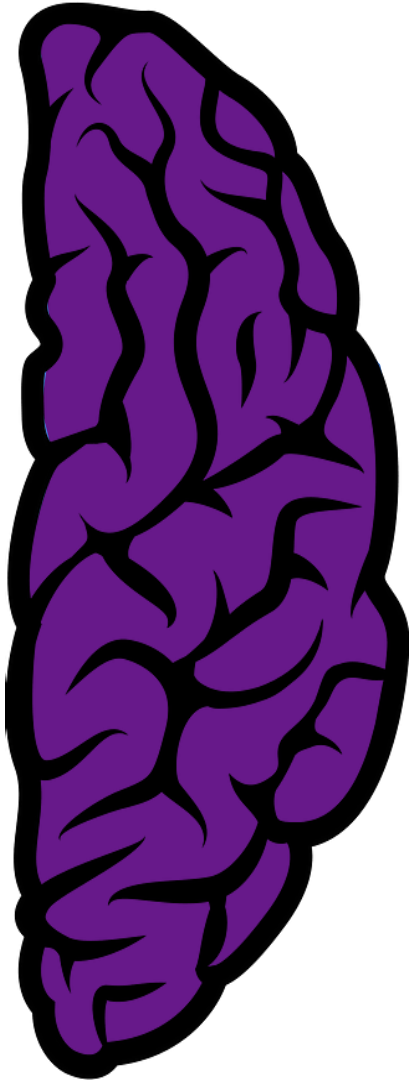
2 issues here:

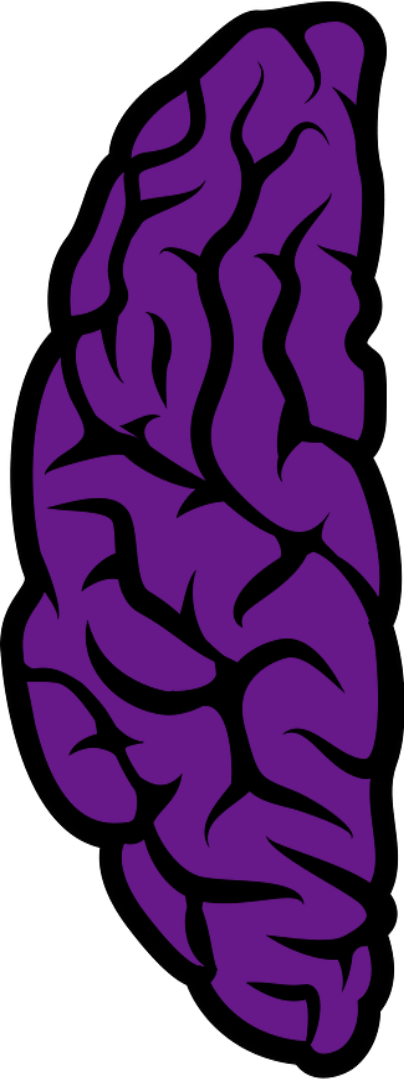
- Do subjects have properly *mental* parts, at all?
- If one part of a subject is detached from the rest, is it ‘a half-subject’?

I’ve argued in defence of mental parts, but I don’t accept half-subjects.

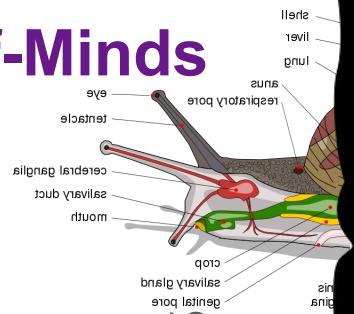
Anything that’s conscious is 1 full subject; anything that’s not is 0.

(Compare ‘living organism’, ‘physical object’)





3. Half-Brains and Half-Minds

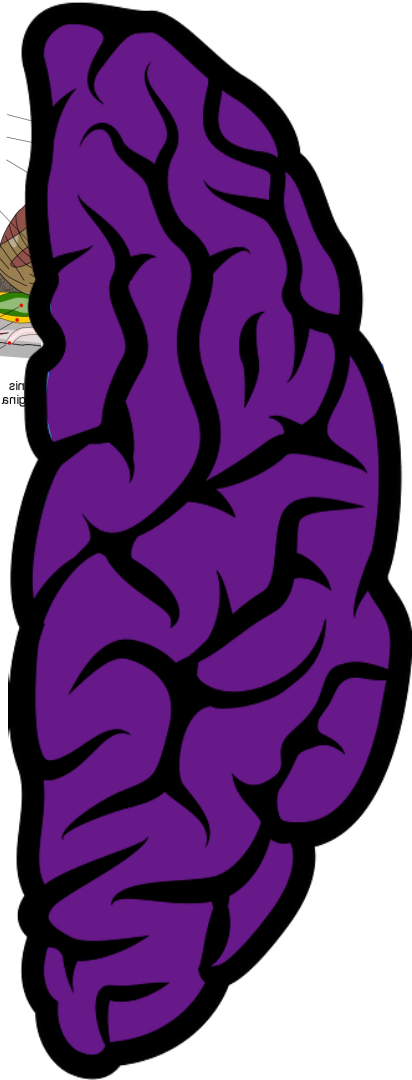


Do these readings work for:

- 1 ½ Brains?
- 1 ½ Subjects (minds, agents, persons)?

R3 (Borderline)

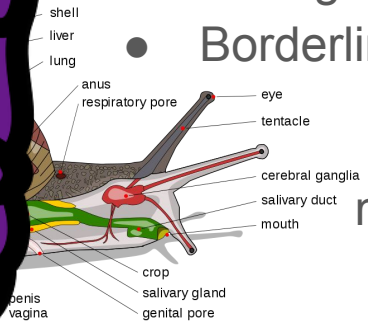
- Works for brains - a snail's cerebral ganglia might be a borderline brain.
- Very unclear whether it works for subjects.



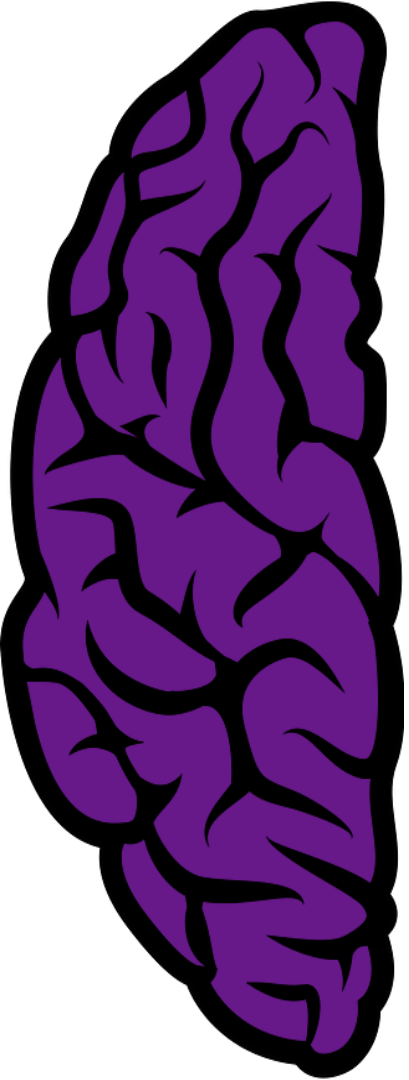
3. Half-Brains and Half-Minds

Distinguish between:

- Borderline case of a person: Babies? Corporations? Happy the elephant?
- Borderline case of an agent: Animals? People suffering from compulsions?
- Borderline case of a mind/thinker: Maybe cutting-edge or near-future AIs?
- Borderline case of a conscious subject: ?



If consciousness is irreducible, it may not admit of borderline cases.



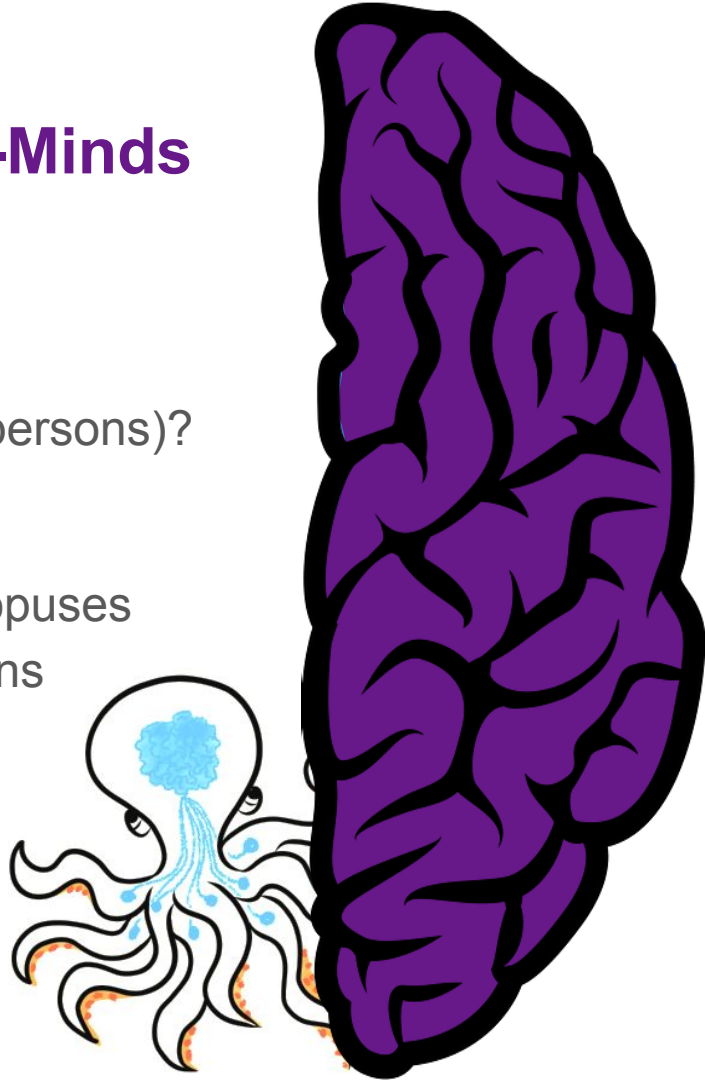
3. Half-Brains and Half-Minds

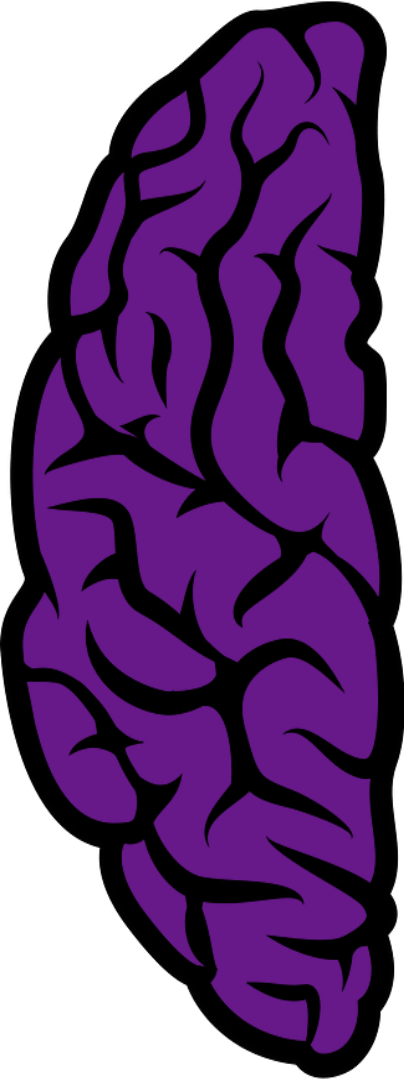
Do these readings work for:

- 1 ½ Brains?
- 1 ½ Subjects (minds, agents, persons)?

R4 (Overlap)

- Might work for brains: e.g. octopuses might be between 1 and 9 brains (fractional count unclear).
- Seemingly not for subjects: how do subjects overlap?





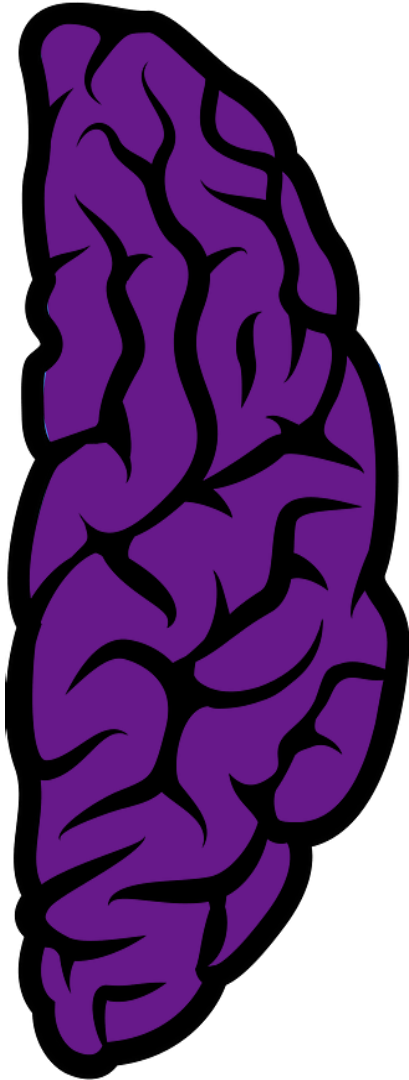
3. Half-Brains and Half-Minds

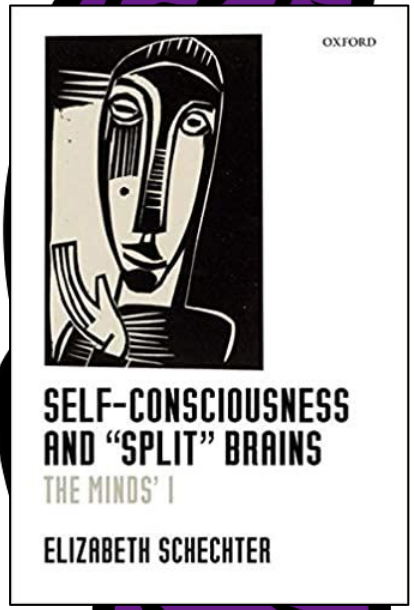
Upshot: ‘1 ½ Subjects’ is baffling because:

1) *None* of the 4 readings makes sense without conceptual innovation:

- What mind-quantity can there be 50% of?
- What’s a detached part of a subject?
- What’s a borderline case of subjecthood?
- What is it for subjects to overlap?

2) The general ambiguity of fractional counts stops us seeing clearly where such innovation is needed.



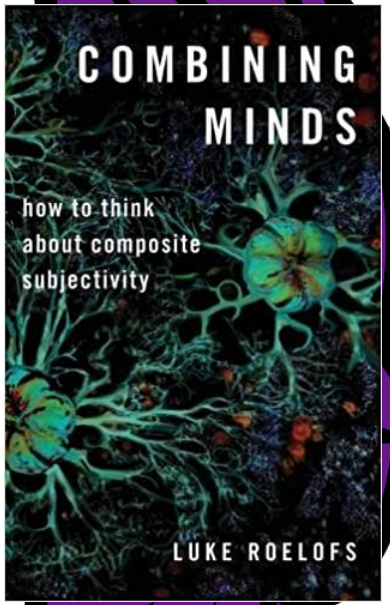


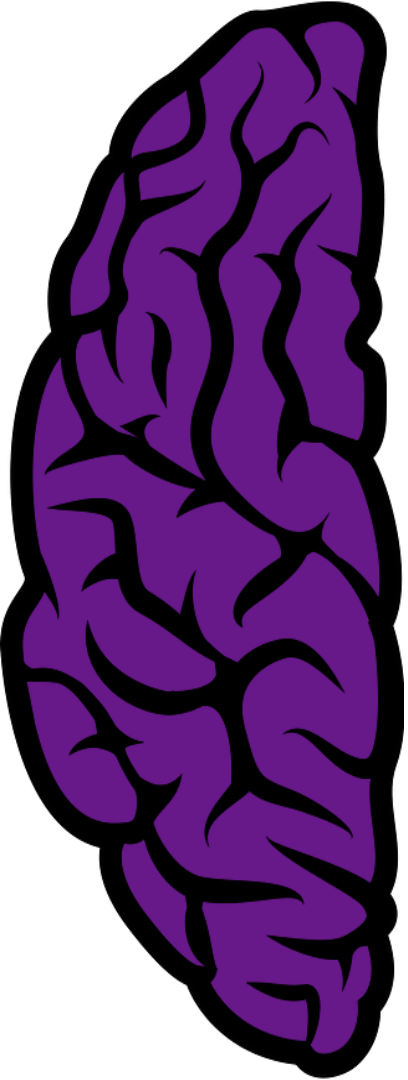
4. Conceptual Innovation

Without conceptual innovation, '1 ½ subjects' is unintelligible.

However, I believe some of the needed innovation has been done.

- Schechter, *Self-Consciousness and "Split" Brains*
- Roelofs, *Combining Minds*





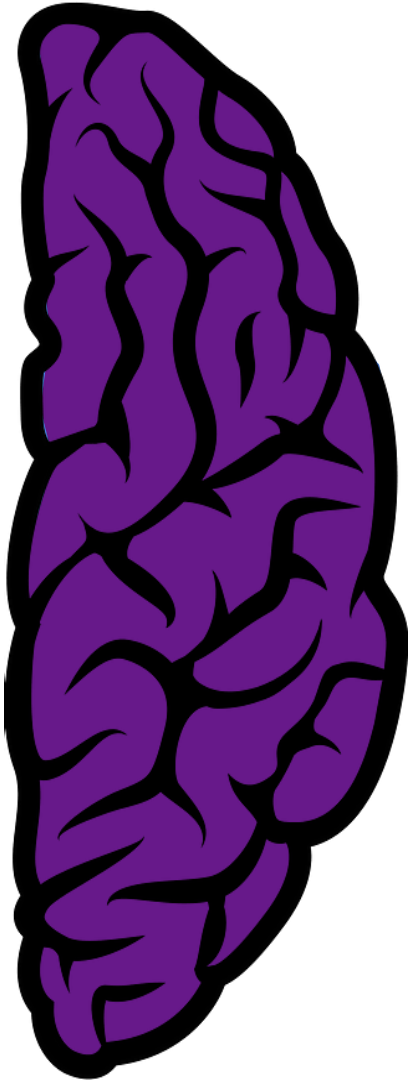
4. Conceptual Innovation

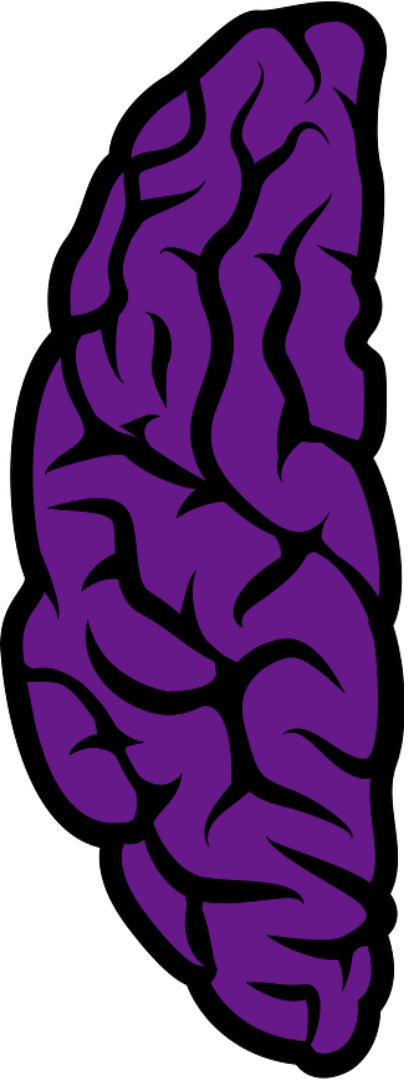
If the split-brain is ‘1 ½ subjects’, this can’t be using any of R1-R3:

- There’s no more ‘subject-stuff’ than in the non-split subject
- There isn’t one subject and one detached part of a subject
- There isn’t one subject and one borderline subject

However, it may be usefully thought of on R4:

- A case that’s borderline between one subject and two subjects

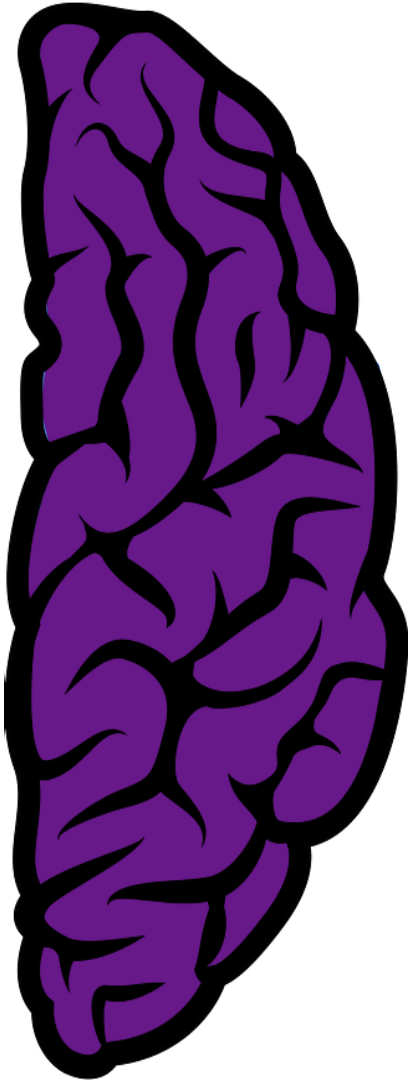




4. Conceptual Innovation

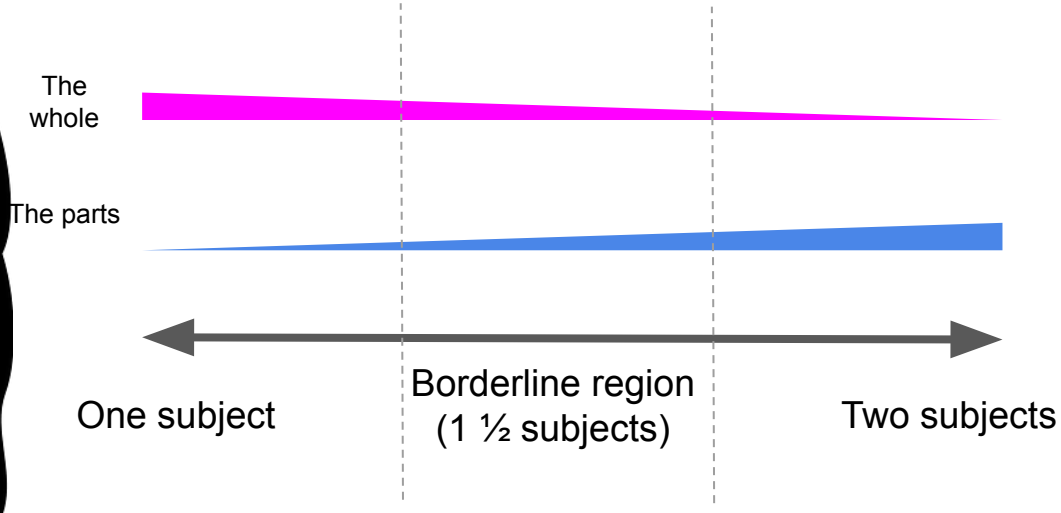
The overlap reading requires *both*:

- Mereological analysis: it must make sense for beings (Lefty and Righty) to be *mental parts of* a conscious subject
- Borderline case analysis: it must be make sense for beings (S the patient) to be borderline between being a conscious subject and not.

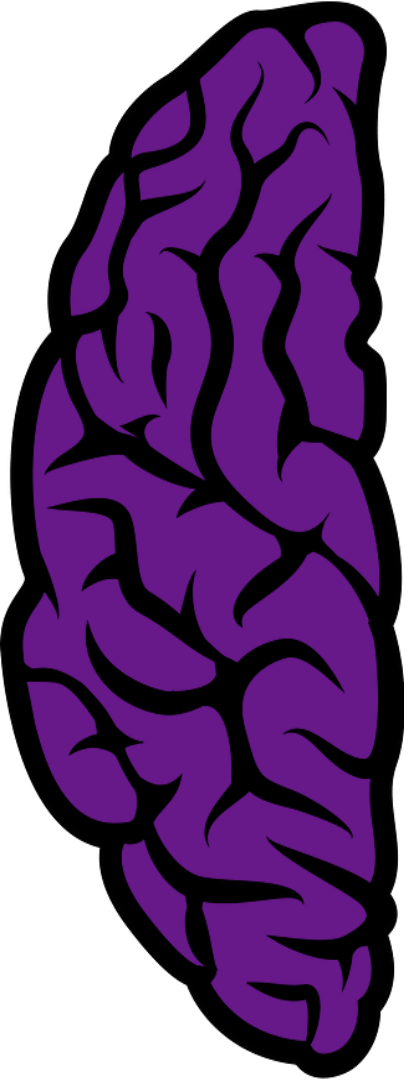


4. Conceptual Innovation

We need a spectrum from the one-subject case to the two-subject case, on which both parts and whole vary.



But a spectrum of what?

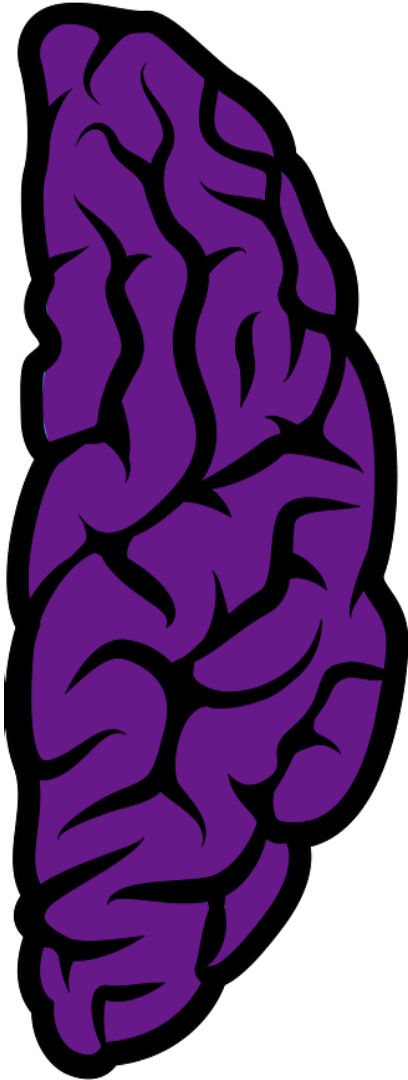


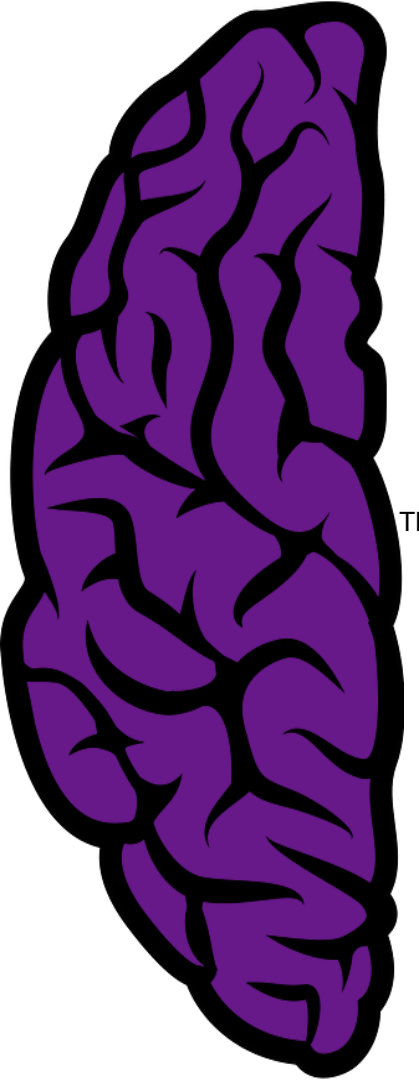
4. Conceptual Innovation

Schechter identifies the relevant spectrum (for subjects) as one of unified access:

To the extent that all the elements of experience associated with a system are jointly accessible, that system has a single conscious perspective and is a single subject.

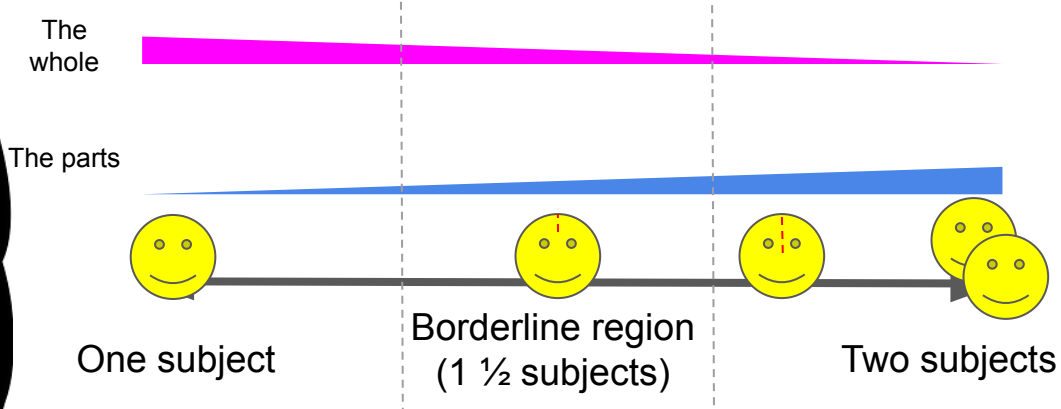
(Different analyses are given for the unity of an agent, a mind, and a person.)





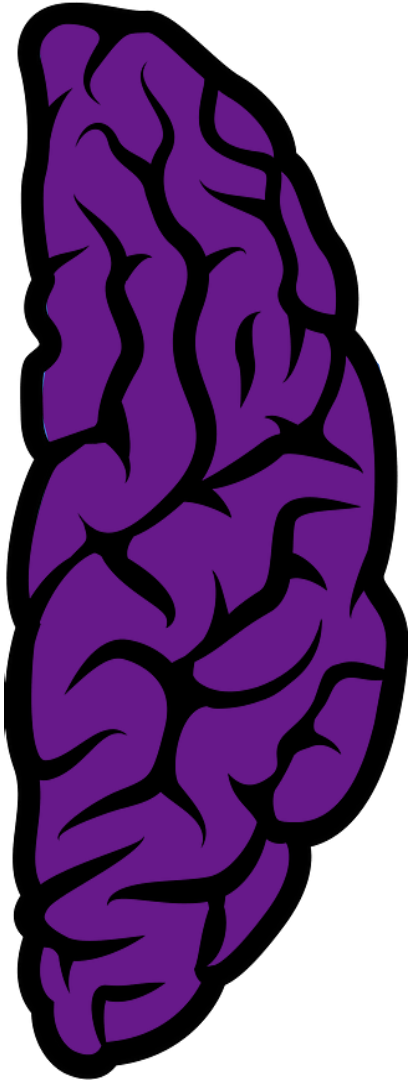
4. Conceptual Innovation

So is the split-brain a case of 1 ½ subjects? No.



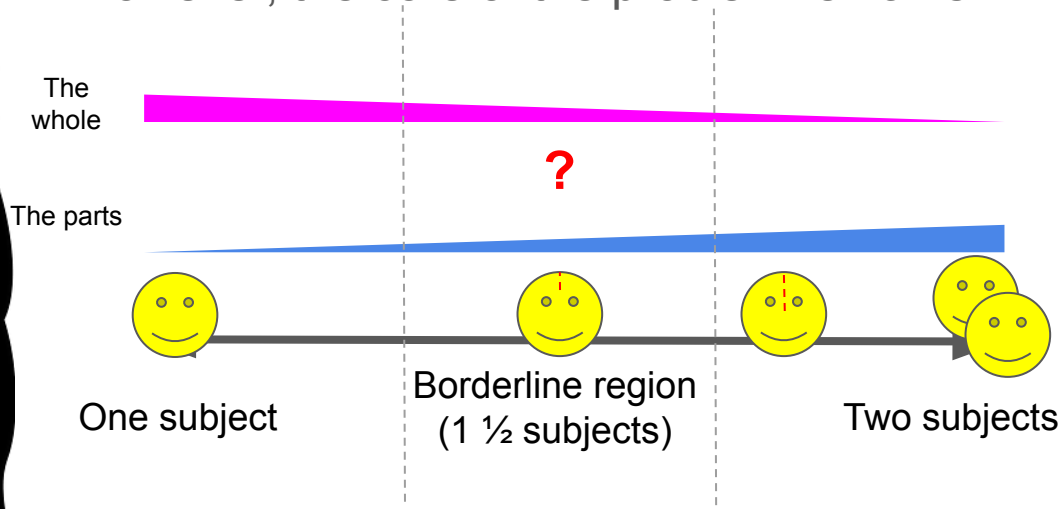
*"the 2-perspectives claim is entailed by the claim that RH and LH elements of experience are **systematically** interhemispherically disunified; they do not need to be **entirely** disunified."*

(Self-Consciousness and the Split-Brain, p.34)

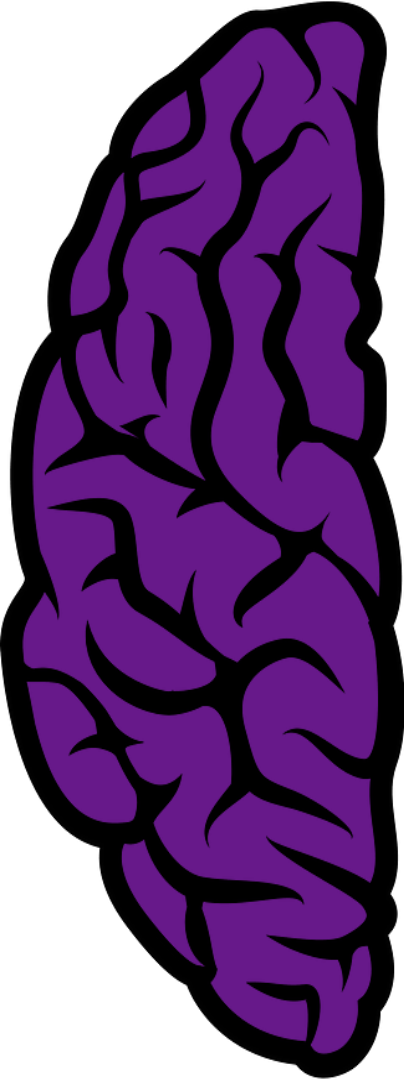


5. A Three-Subjects Analysis

However, the core of the problem remains.



What is it like in the borderline region?

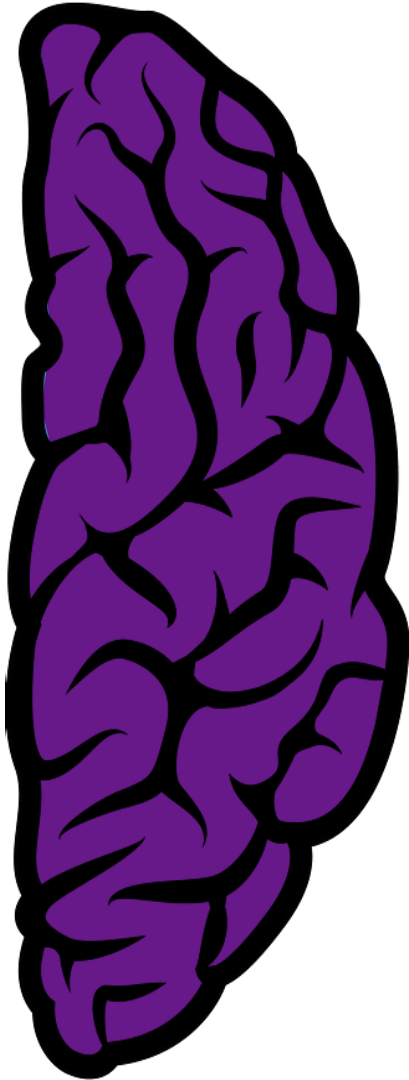


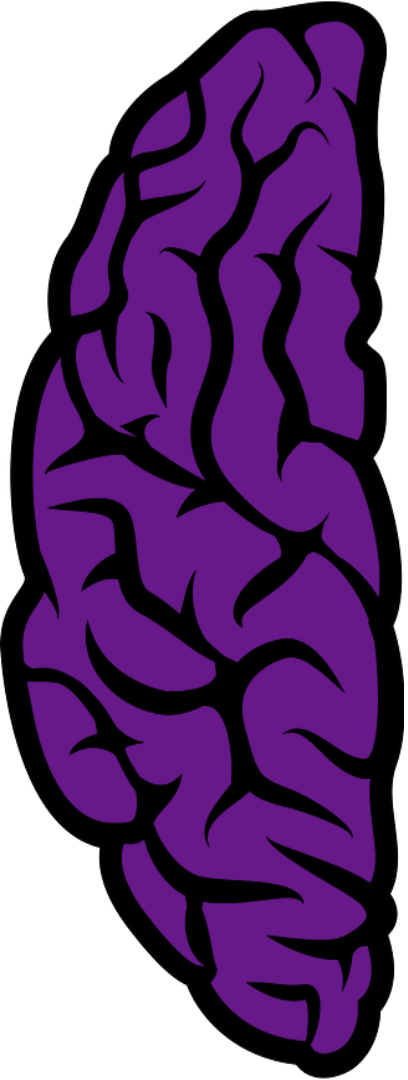
5. A Three-Subjects Analysis

This is really two questions:

- What is it like for the whole, when it is borderline between ‘a subject’ and ‘a pair of subjects’?
- What is it like for each part, when it is borderline between ‘a subject’ and ‘a part of a subject’?

There’s a set of experiences in various accessibility relations. But what is it like ‘from the inside’?



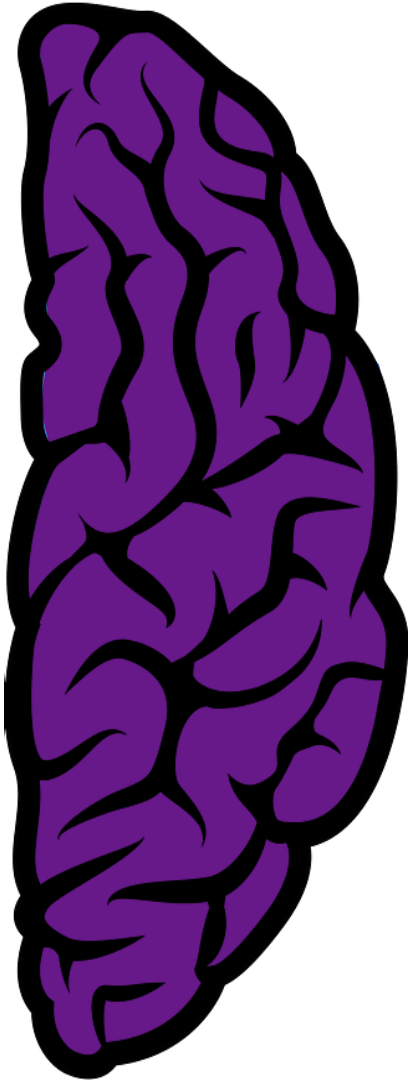


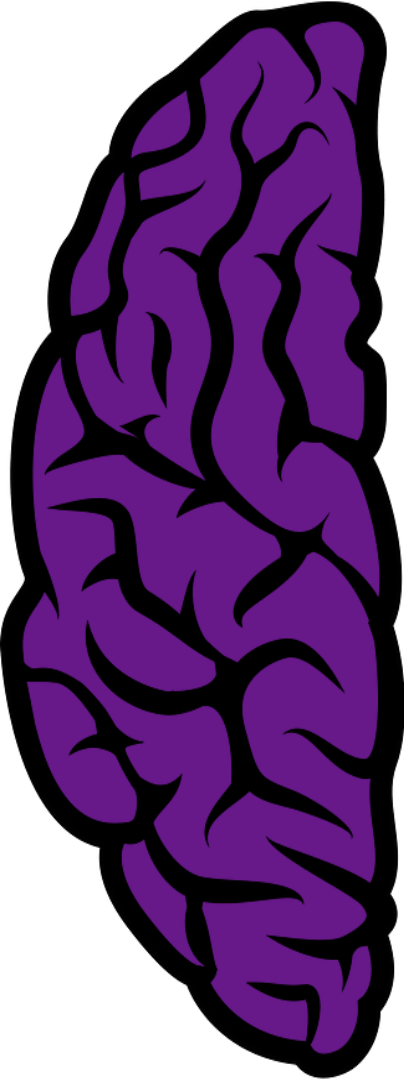
5. A Three-Subjects Analysis

Both questions have three basic answers:

- Nothing: being a pair/part is phenomenologically null.
- Something: some first-person description can be given (likely very alien to us, but differing only in degree)
- Shut up.

(Cf. Schwitzgebel, “Is There Something It’s Like to Be a Garden Snail”, who considers three answers: *“yes, no, and *gong*”*)



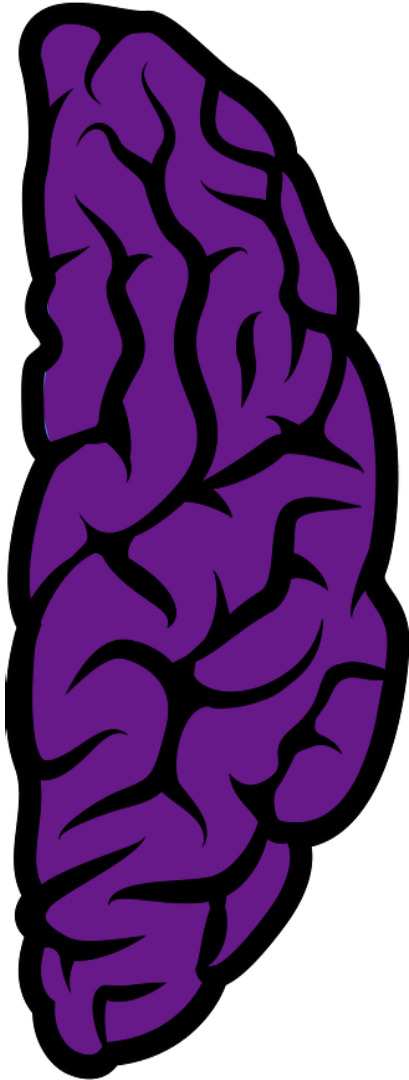


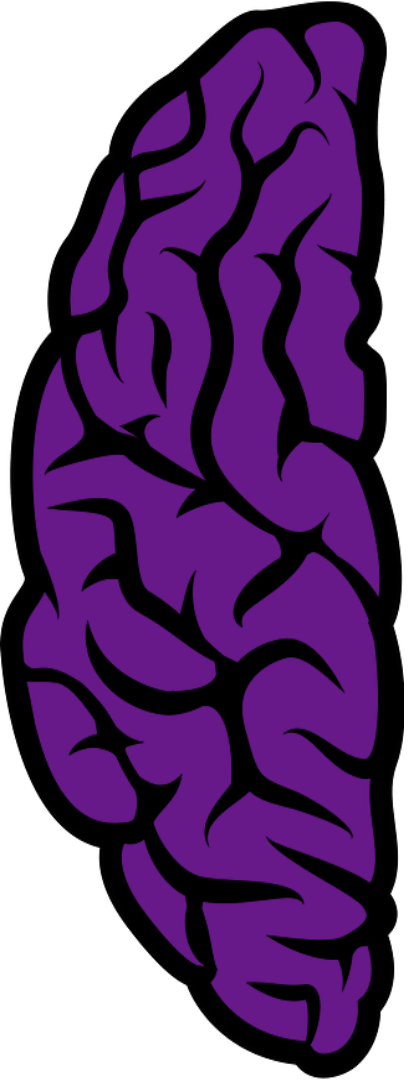
5. A Three-Subjects Analysis

My favoured answer: ‘something.’

This yields a ‘three-subjects’ analysis of the borderline region.

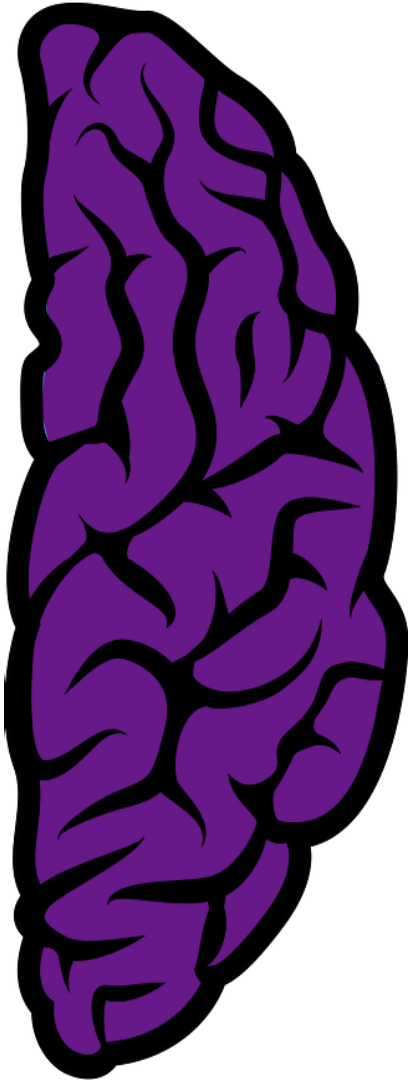
- The whole is so lacking in:
  - Access-unity
  - Agential unity
  - Cognitive unity
- …that it’s only a borderline case of an agent or thinker.
- This makes it only a borderline case of a conscious subject *as we usually think of them*.
- However, it retains phenomenal unity, and thus has a single phenomenal perspective.
- Hence it is, in the most basic sense, a conscious subject.

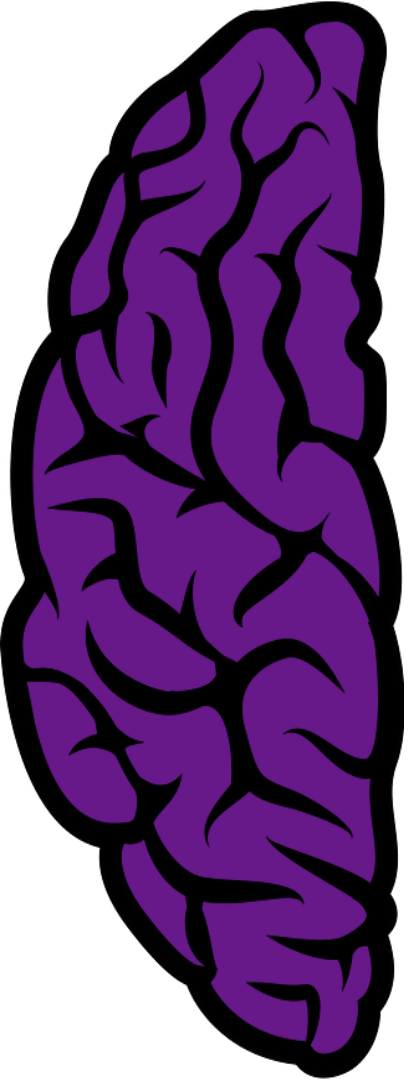




5. A Three-Subjects Analysis

- Conversely, the parts are so lacking in:
  - Access-boundedness (bounded = no unity with outside elements)
  - Agential autonomy
  - Cognitive autonomy
- …that they are only borderline cases of agents or thinkers.
- This makes them only borderline cases of conscious subjects *as we usually think of them*.
- However, they do have phenomenal unity, and thus have each have a phenomenal perspective.
- Hence they are, in the most basic sense, conscious subjects.





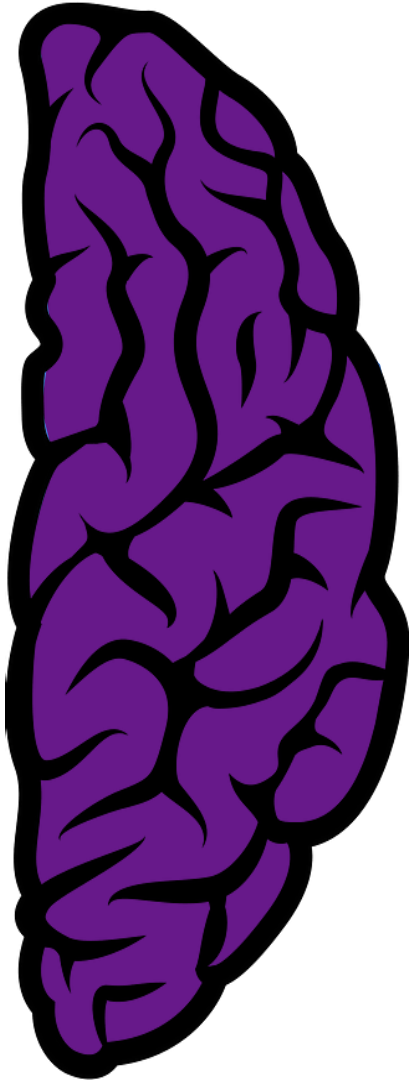
5. A Three-Subjects Analysis

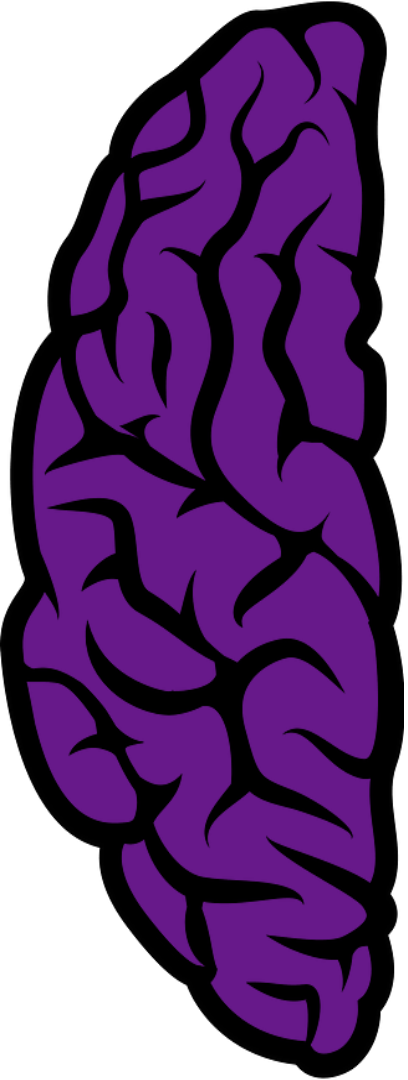
This analysis of the borderline region would say:

- 3 subjects
- 1 ½ thinkers
- 1 ½ agents

It could potentially combine with, as Schechter does, with saying:

- 1 person



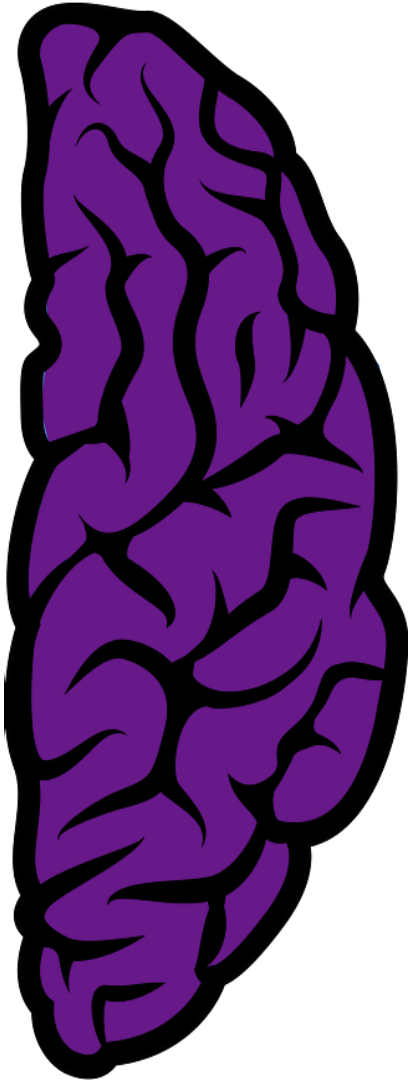


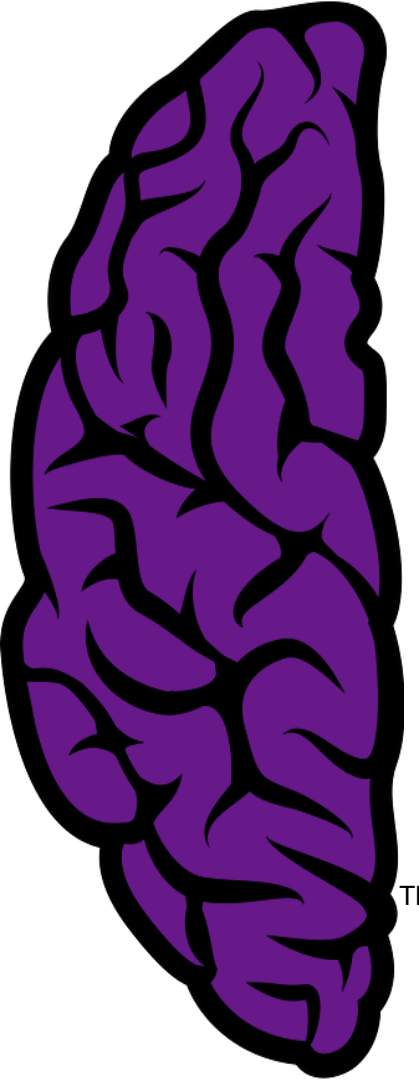
5. A Three-Subjects Analysis

Maybe the split-brain is in the borderline region, maybe it’s not.

If it’s closer to the ‘two ordinary people’ pole, a three-subjects analysis might say:

- 3 subjects
- 2 thinkers
- 2 agents
- 1 person

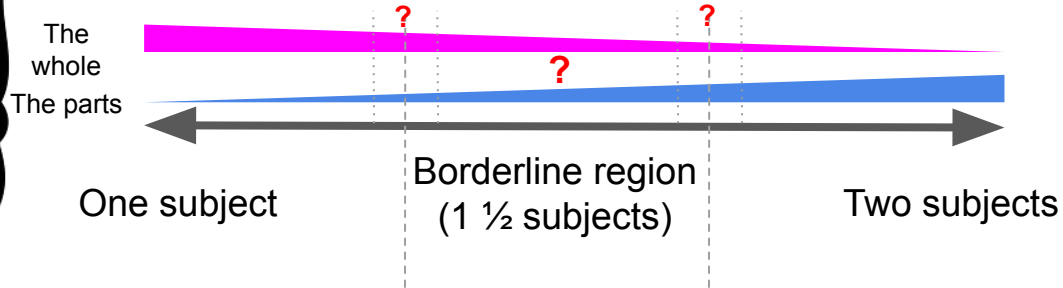


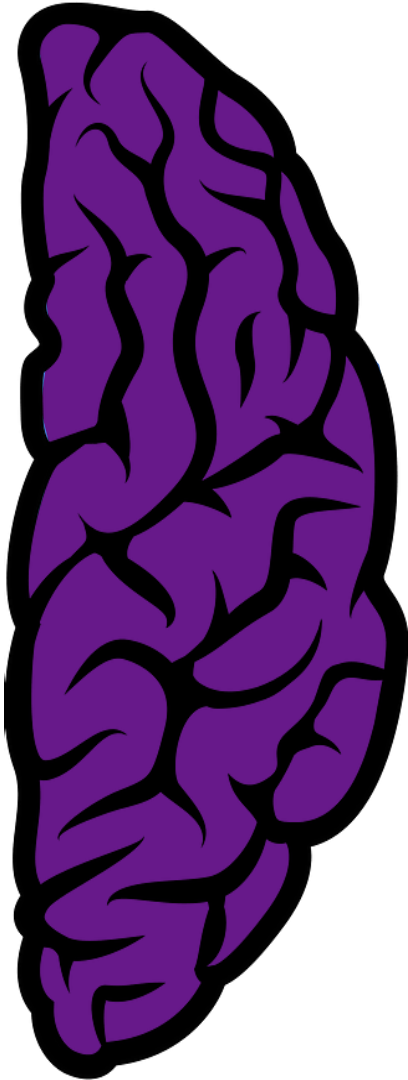


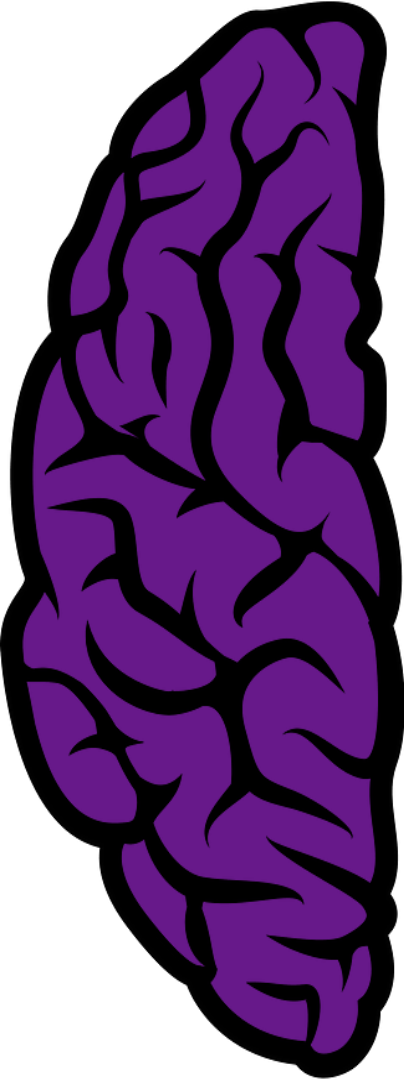
5. The Hard Problem

The ‘nothing’ and ‘something’ answers face pressure from *higher-order vagueness*:

- If there’s nothing it’s like to be borderline, what’s it like be borderline between definitely conscious, and borderline?
- If there’s something it’s like to be borderline, what’s it like to be borderline between definitely not conscious, and borderline?





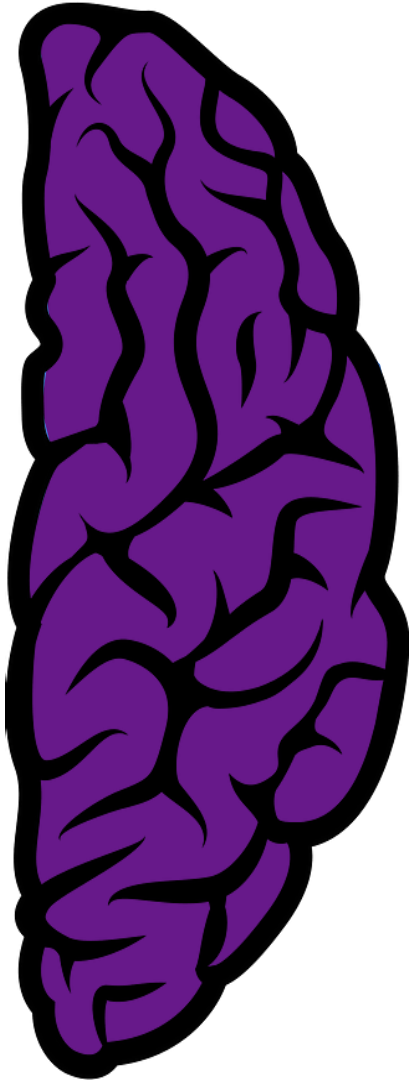


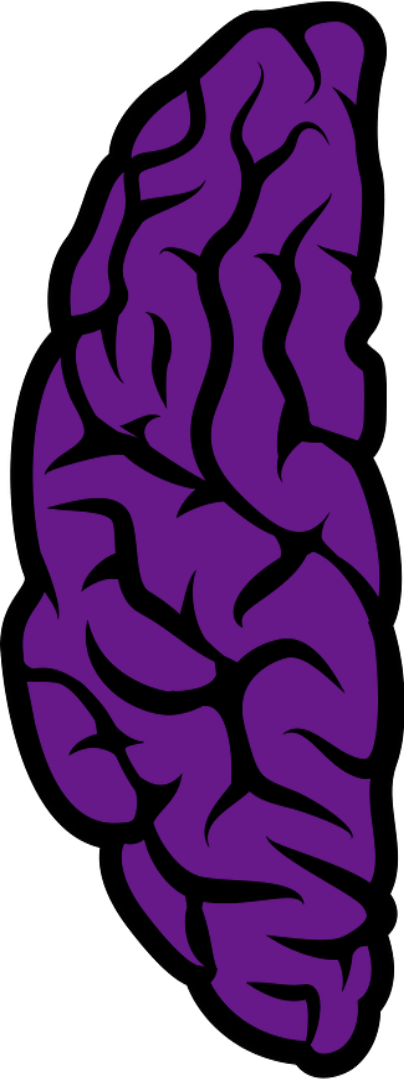
5. The Hard Problem

If we keep re-iterating the questions, eventually we will end up with:

1. Shut up /**gong**
2. A sudden change occurs somewhere (‘saltation’)
3. Nobody is conscious (‘nothing’ all the way along)
4. Pairs and parts of subjects are conscious (‘something’ all the way along)

Preferences among these options are likely to reflect broader views about consciousness.





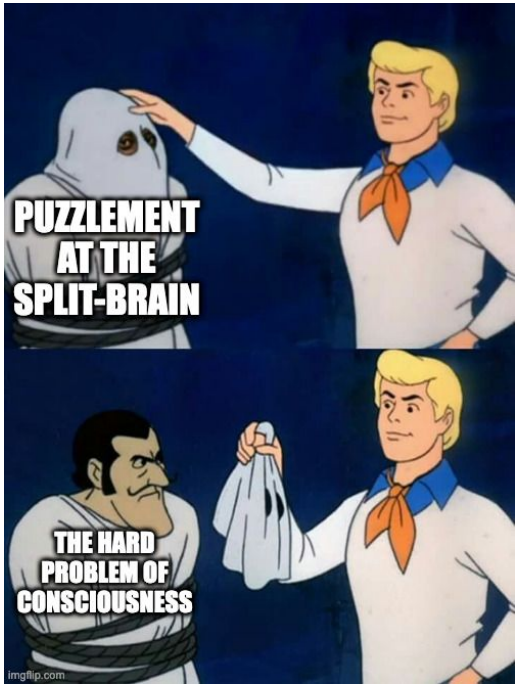
5. The Hard Problem

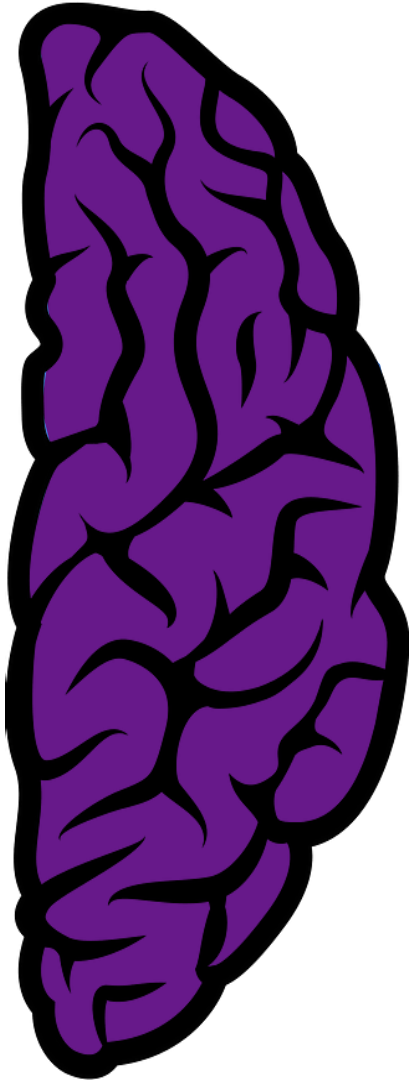
‘Shut up’ makes sense for reductionists

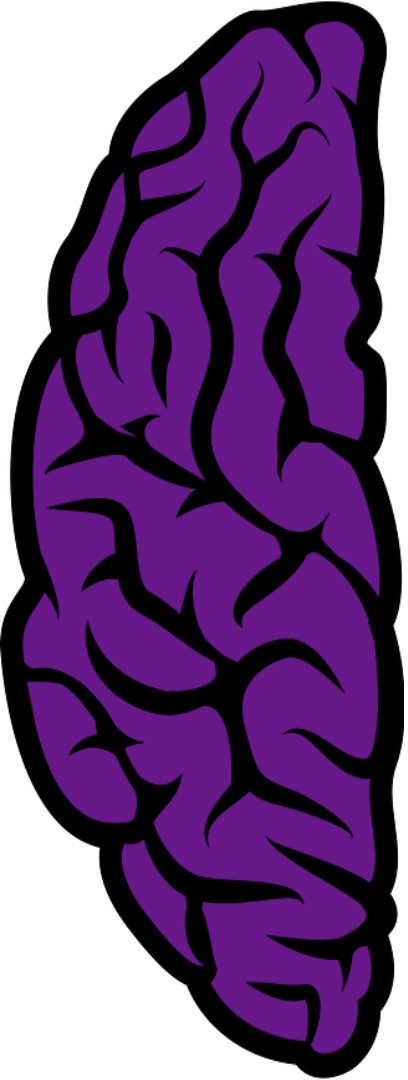
‘Saltation’ makes sense for emergentists/ substance dualists

‘Nothing all the way along’ makes sense for eliminativists/illusionists

‘Something all the way along’ makes sense for panpsychists







Conclusions

Fractional counts are ambiguous among 4 readings

Conceptual work is needed for subjects to fit any of the 4 readings

The ambiguity of fractional counts makes it harder to see clearly what work needs to be done

Much of the work for an ‘overlap’ reading has been done

The hard core of the problem remains, and brings us back to the hard problem of consciousness