Physicalist PanPscycsim why everything feels:

Why Occam's razor and the minimal information argument lead to the conclusion that every physical object/system has an internal experience that is equivalent to its physical state.

What is Physicalist PanPscycsim

The Physicalist PanPscycsim hypothesis is that consciousness or internal experience (i.e feeling/thinking) is equivalent to the physical state of a system. Hence, the internal experience is not emergent nor it is separate from the physical world, it is just the exact same thing as the physical state of the system. This is obvious for brains where the internal experience (feeling/thought) directly matches the physical state of the brain. However other theories have not expended this equivalence to other objects. Physicalist PanPscycsim assumes this equivalence to every physical system. To clarify the idea of the hypothesis is not that any object has human or human-like experience. But rather that every object or physical system has an internal experience that is equivalent to its physical state. Hence, a glass of water does not have self-awareness or feel love which derived from the specific physical structure of the human brain, but rather the glass of water has a kind of experience that is equivalent to the physical state of the water in the glass (hence very hard to imagine or empathize from human brain perspective).

I good paper that explores this topic is: [why physicalism entails panpsychism](#) by [Galen Strawson](#).

General goal and proof principles

This document contains a logical/formal proof as to why this hypothesis is the most likely explanation for consciousness from the aspect of simplicity/Occam's razor/Kolmogorov complexity assumptions. In other words, the proof is based on the idea that this is the simplest hypothesis meaning the one that contains minimal information and therefore minimal assumption from the set of all possible hypotheses. While at the same time support all the empirical evidence regarding consciousness.

Note the minimum information principle is the guiding principle in any hypothesis selection in data analysis and science when several different hypotheses are supported by the same empirical evidence. Hence, it's perhaps the best and most used principle for selecting explanations and theories with the same set of predictions.

The proof is presented in two different forms in the next sections, note that all of this is the same proof written in a different way:

Proof version 1 (longer more formal):

Assumptions/Axioms.

1) The materialist assumption, which states that experience is the property of some physical process (such as brains) but not necessarily of all physical processes. This can also be expressed by stating that if we take set V of all possible physical processes, then each element in this set can either have or not have the property of internal experience. The question of which process in the set will have experience depends on the specific model we choose.

2) The Ockham razor, states that given several models that fit a given data, the simplest one should be used. Expressing this as the minimum information principle means that the model that has minimal information and hence takes minimal information to describe or transmit should be used (minimal information can be viewed as equivalent to minimal assumption).

Proof/Argument:

1. Based on the materialist assumption we can take a set of all possible physical process and assume each element in the set either have or don't have the property of experience.
2. Each hypothesis/theory defines for each element in the set whether it have or don't have the property of experience.
3. We take **p** is the fraction of processes in the set that has experience according to a given hypothesis. Clearly, for each hypothesis must give a single value of p directly derived from the hypothesis.
4. Hence, p is the minimum amount of information any hypothesis must hold.
5. For a hypothesis with p=0 or p=1, the hypothesis is fully defined by the value of p. Hence, it's possible to determine for every physical process in the set whether it has experience based on the value of p alone. However, for other values p the hypothesis must contain additional information to decide whether a given process has or doesn't have experience.*
6. Hence hypotheses with p=0 and p=1 have minimum information.
7. *p=0 means no physical process has the property of experience. Since I know I have experience and my brain is a physical object, this option is not valid.*
8. *p=1 means all possible physical processes have the property experience which is the physical panpsychism hypothesis and is consistent with the fact that the brain has experience (P>0).*
9. *Hence, taking the materialist approach and the Ockham razor (expressed as minimum information principle) as axioms must lead to panpsychism where every object or physical system has internal experience (feeling/consciousness).*

* Another way of saying that is the amount of information in the hypothesis is proportional to S=-p*log(p)-(1-p)*log(1-p), where S is the amount of information we still missing on the hypothesis assuming we know p.

Proof version 2 (shorter less formal):

We make two assumptions:

1) The materialist assumption, which states that experience is the property of some physical process (such as brain functions) but not necessarily of all physical processes.

2) The Ockham razor, which states that given several hypotheses that fit a given data, the simplest one should be used. Expressing this as minimum information principle means that the hypothesis that has the minimal information should be used (In this case I will refer to information as entropy).

Based on materialist assumption we can take a set of all physical process that can occur, and assume that each physical process in the set either have or don't have the property of experience.

Let's take p as the fraction of physical processes in the set that have experience according to some hypothesis. The entropy from this hypothesis* is : S=-p*log(p)-(1-p)*log(1-p).

Now, this entropy is at a minimum at one of two states: p=0 and p=1.

p=0 means no physical process has the property of experience. Since I know I have experience, this option is not valid.

p=1 means all possible physical processes have the property experience which is the physicalist panpsychism hypothesis.

Hence, taking the materialist approach and the Ockham razor (expressed as minimum information principle) as axioms must lead to panpsychism as defined in your paper as the only conclusion.