

## Proof that there is at least one objective thing

*Paulo Andre Azevedo Quirino*

### Reasoning

- The phrase "everything is subjective" makes a statement about everything.
- The phrase is a part of everything.
- The phrase is either subjective or objective, but when you say it, you are making an objective statement.
- So you are saying that something is objective at the same time you are saying all things are subjective.
- Something can not be true and false at the same time.
- If anything is objective, it can not be the case that all things are subjective.
- So it is the case that "everything is subjective" is a contradiction.
- When we negate a contradiction (which always has the value of "false"), we get something which is "true".
- The negation of "everything is subjective" is "at least one thing is objective".
- So we know that "at least one thing is objective", even if it is just the fact that "at least one thing is objective".

### Formal proof

I suggest:

$\exists x \neg \text{Subjective}(x)$

// there exists at least one x (something) which is not subjective (is objective)

The contrary is:

$\forall x \text{ Subjective}(x)$

// for every x, x is subjective (everything is subjective)

That is the same as saying:

$\neg \text{Subjective}(\forall x \text{ Subjective}(x))$

// it is objective that everything is subjective

You can go deeper and claim:

$\neg \text{Subjective}(\text{Subjective}(\forall x \text{ Subjective}(x)))$

// it is objective that it is subjective that everything is subjective

Or even:

$\neg \text{Subjective}(\text{Subjective}([\text{ad infinitum in}] \forall x \text{ Subjective}(x) [\text{ad infinitum out}])))$

// it is objective that it is subjective that it is subjective (...) that everything is subjective

That last one is the definition of circular logic.

In every case except " $\exists x \neg \text{Subjective}(x)$ ", we are trying to make the claim that "everything is subjective", while inadvertently saying "something is objective". So what will it be? Either "something is objective" or "everything is subjective". If all things are subjective, then the call to "Subjective" always returns true, and it is negated when we make an objective claim, so all those statements are false. In fact they are independent of the value of " $\forall x \text{ Subjective}(x)$ ", making them contradictions. It follows necessarily that there is at least one objective fact:

$\exists x \text{ Objective}(x)$

And if you say that its turtles all the way down, meaning you use the infinite form but instead never get to a "¬Subjective" call, well how do you do that? How do you assert that everything is subjective without making an objective claim? You can't avoid doing it. Prove me wrong.

### Assumptions

- Logic (and not necessarily the representations of logic in human brains) is inherent, discovered, not invented. And therefore it is not subjective, in the sense that if something is truly and logically correct (not just being convinced that it is), it is objectively correct.
- Reality (and not necessarily the representations of reality in human brains) is true, and therefore logical.

### Logic is inherent, discovered, not invented.

How many operations between two bits could an alien come up with? I believe the same as ours, unless they were less advanced. I mean, they can only come up with the ones we can come up with, right? But OR, AND and NOT will get you a long way.

### Reality is true, and therefore logical

"True" is logical, so is "false", we know that reality exists, so it is true, therefore, it is also logical. Lets say people have opinions. We are making an objective statement. It must be the case that something is objectively true for them to have opinions in a shared reality. If nothing was objectively true, nothing would exist, and it would not be possible to have an opinion.

### Conclusions

- $\exists x \text{ Objective}(x)$   
// there is at least one thing which is objectively true
- $\text{Objective}(\exists x \text{ Objective}(x))$   
// it is objectively true that there is at least one objectively true thing
- $\text{Objective}([\text{ad infinitum in}] \exists x \text{ Objective}(x) [\text{ad infinitum out}])$   
// it is objectively true that it is objectively true (...) that at least one thing is objectively true  
// aka there are infinitely many objectively true things. In fact, any expression can be surrounded  
// by Objective calls infinitely, and still keep its value.
- $\text{reality} = \text{true}, \text{Objective}(\text{reality})$   
// reality is true. It is objectively true that reality is logically true
- $\text{Objective}(\text{Logical}(\text{true}))$   
// it is objectively true that "true" is logical ("false" is also logical, "Logical" is an "always on" function)
- $\text{Objective}(\text{Logical}(\text{reality}))$   
// it is objectively true that reality is logical
- $\text{Objective}(\neg(\forall x \neg \text{Objective}(x)))$   
// it is objectively true that it is false that everything is subjective  
// because according to logic, there are true things and false things.
- $\text{Objective}(\text{true} \neq \text{false})$   
// it is objectively true that true is different from false
- $\text{Objective}(\text{true}) = \neg \text{Subjective}(\text{true}) = \text{Subjective}(\text{false}) = \neg \text{Objective}(\text{false}) = \text{true}$   
// any logically true statement is an objectively true statement  
// any logically false statement is a subjectively true statement  
// any objectively true statement is a subjectively false statement
- $\text{Objective}(\text{false}) = \neg \text{Subjective}(\text{false}) = \text{Subjective}(\text{true}) = \neg \text{Objective}(\text{true}) = \text{false}$   
// any logically false statement is an objectively false statement  
// any logically true statement is a subjectively false statement  
// any objectively false statement is a subjectively true statement

You might have noticed that I defined Objective as a function which returns "true" for true statements, and "false" for false statements. An identity function. To say that "everything is subjective" is akin to saying that the Subjective function is an "always on" function and that the Objective function is an "always off" function. Well I say the Objective function is an identity function, and the Subjective function is merely the negation of the identity function, or a "not". It might be a little foreign, but at least it is a valid definition.

And if you ask:

Something is not expressed in that logic. Is it not true that any logically true statement is also subjectively true? And that any logically false statement is also subjectively false?

I would answer: No, it is objectively true, or objectively false.

It might be useful to think of the Objective function as something which gets the objective value of an expression. And of the Subjective function as something which obtains the subjective value, which is just a negation of the objective value.

$\text{Subjective}(\forall x \text{ Subjective}(x)) = \neg(\forall x \neg x) = \text{true}$

// it is subjectively true that all things are subjectively true

// or it is false that all things are false.

What about the above? Now, it is valid, and true.

$\text{Subjective}(\text{Subjective}(\forall x \text{ Subjective}(x))) = \neg\neg(\forall x \neg x) = \forall x \neg x = \text{false}$

It oscillates now. Now the infinite form has an undefined value. One thing is for sure, and it reveals many other things:

$\exists x \text{ Objective}(x) = \exists x x = \text{true}$

// there is at least one thing which is objectively true

// or there is at least one true thing

Is it objective that I am somehow wrong? Well then, there is at least one objective thing.

And if I'm subjectively wrong, I'm pretty sure I'm objectively right.

I'm either objectively wrong or right. One of them must be true. Therefore, there is an objective reality.