What is Mathematical Reality?

Waldo Otis Follow

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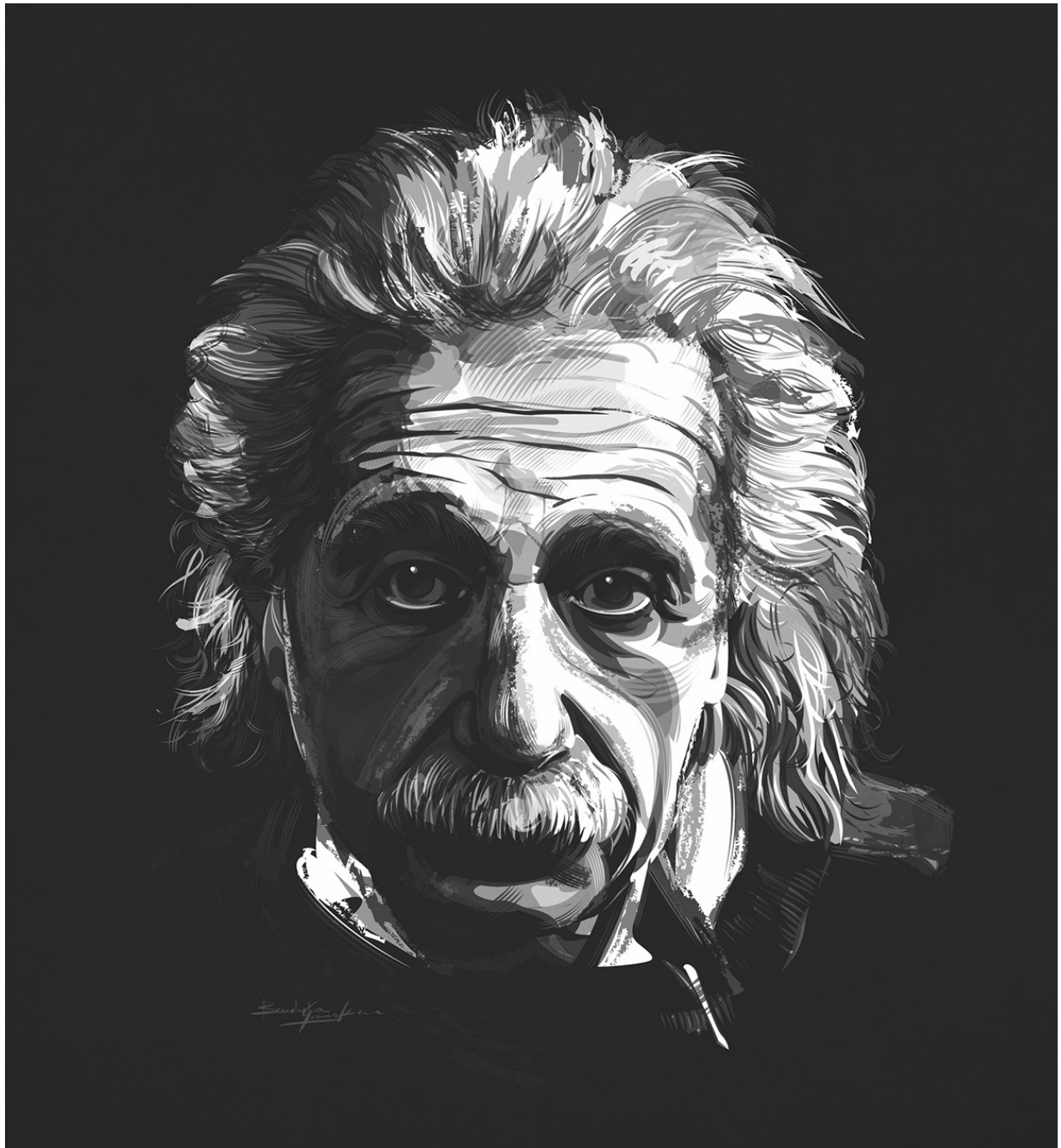
What is reality? Does reality exist? Is reality independent of the mind? How does a person find reality? What is the "truth"? What does it mean to truly understand something? How does the brain come to understand something? How do we know if we understand something? What do we mean by "thinking"? How to can we get different conclusions from the same output? What is the proof?

If you don't ask these and similar questions, and if you are incapable of pondering the answers, you can not be considered an intellectual.

I am not saying that *all* intellectuals have to find reasonable answers to these questions, because it is possible that those questions might not have answers. I am

just saying that an intellectual person should keep thinking about these questions, and should discuss these with him/her self. Intellectuals are those who have diverse wisdom and foresight, those who apply their intellect and forward-looking visions for the purpose of awakening society.
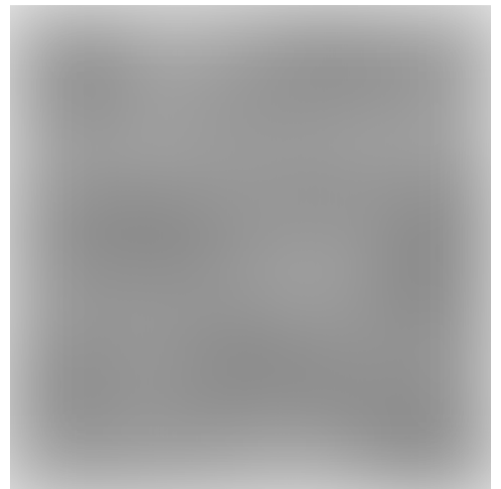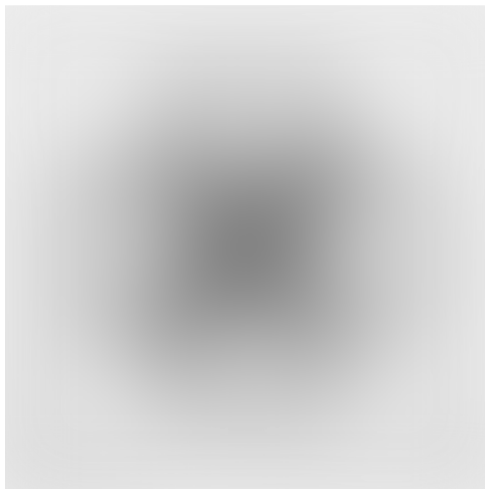
> "The world is a dangerous place, not because of those who do evil, but because of those who look on and do nothing." — Einstein

Intellectual people fulfill their duties by writing, drawing, talking, or singing. Hence, an intellectual can share his/her ideas with society easily. If an intellectual has social responsibilities, the actions of the intellectual will benefit society as a whole. For that reason, an intellectual needs to think carefully about his/her ideas before sharing them with society. At the end of the day, this responsibility prompts the intellectual to ask the questions above himself/herself.

Your parent's truth may not be the same as your truth, even if you and your parents go through the same experience, because you interpret them differently. Furthermore, a truth can depend on your point of view or the place where you live. For instance, a truth in Turkey or a truth in the United States cannot be the same. Truths also change over time. For example, a truth in medieval times and a truth in today's world cannot be the same.

All these facts about the truth are basics and known by everyone. If you are prone to straining your ears in order to hear a conversation several yards away, even eavesdropping isn't an intentional choice for you at a coffee shop, where you can hear these facts about truth.

But there is a different question we need to ask ourselves here. While we easily say that a truth and a reality depends on time, perspective, or location, do we really know what is an exact reality or an exact truth? If we want to say something about a truth or a reality, we should really know the concept of a truth and a reality. Otherwise, we should know our place in the universe.

Pele good, Maradona better, George Best!

Let's assume that "Democracy is the best form of government." Is this statement true? First of all, if you want to say "this statement is true", you need to define "democracy." first. After you define democracy, you need to define "government". And finally, you need to define "the best."

And after all those definitions, you have to *prove* that "**Democracy is the best form of government.**"And only after all these steps, you can say that the statement "Democracy is the best form of government." may be true.
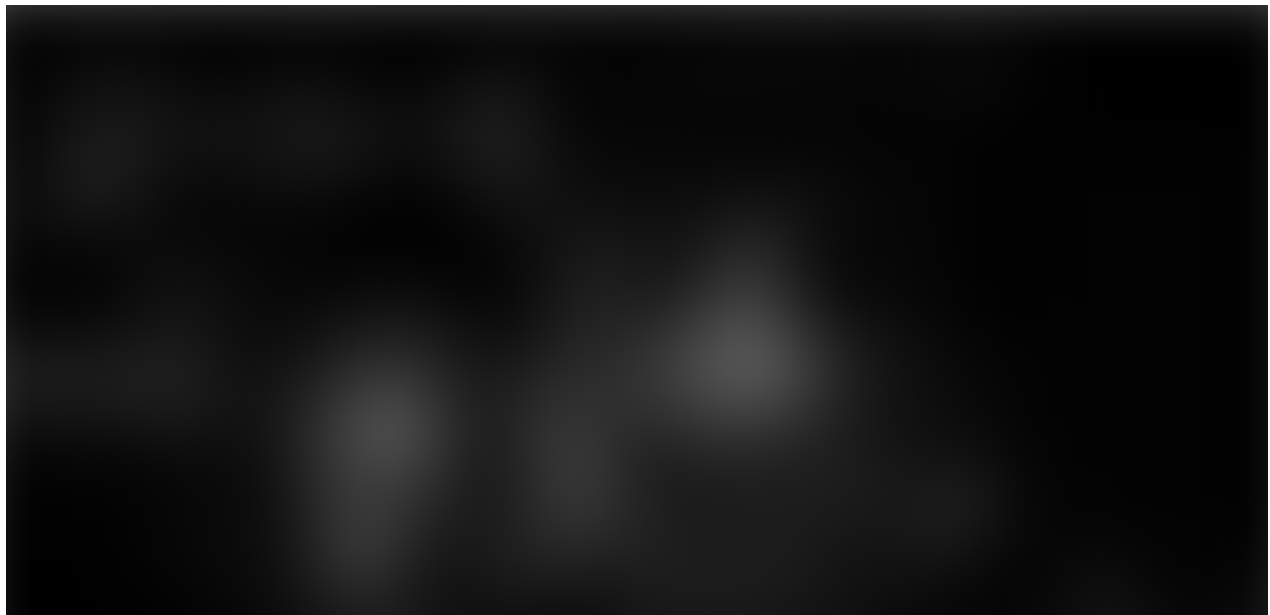
I said "maybe", because what if I have different definitions of "democracy", "government", and "the best" than yours? Hmm, that means I can refuse your statement. But you can still claim that your statement about democracy is true with your definitions. And if your proof is adequate, I cannot refuse to accept your statement.

The idea of a proof is also a question that is closely related to what a truth is and what reasonings can be made in a proof.

So far, we have discussed definition and proof. We simply said that;

- First, we need to make definitions.

- Secondly, we need to understand the statement.

- Finally, we have to prove it.

The idea of proof

In order to solidify our idea of a proof, let us consider the statement "Washington D.C. is the capital of the United States." You have no doubt that this statement is true, right? The definitions of "Washington", "capital", and "the United States" are clear and known by most of the people. But how you can prove that this statement is true?

Is it enough to show that it is written in the Constitution? If it is written in the definition of "the capital", your proof is done. However, at this time, I can ask you to show me the Constitution. And let us assume that you find the Constitution, and open the right page and show me. Then I can ask you this:

> *How do you know that it is the original Constitution?*

Then we can go to the White House to check the original copy of the Constitution. At this point, I can ask you one more question: How do you know that those signatures under the Constitution are real? As you can see, *there is no way to convince me that Washington is the capital of the United States.* If everyone in the world thinks the same, you can not persuade me. Most probably, Washington is the capital of the United States, but I will not believe it 100 percent.

I may have a strange illness, like when I learn that the capital of the United States is not Washington D.C, I will die. And everybody knows about my illness except me. You could call me paranoid, but now I suddenly feel doubt. You really don't want me to die, and that's why you are playing this game. I have been deceived for years. All the news and maps have been prepared only for me. Now I see everything…

If an apple always falls, then I will never die…

Let us consider another example.

I have an apple in my hand. What happens when I drop that apple? It falls to the ground. Really? How do you know that that the apple will fall to the ground? Yes, when I drop the apple and it falls. See, it fell. Hmm, you were right, I saw it with my eyes. Ok, but, what happens when I drop that apple again? You may say it falls again of course. Same question; how do you know that? Because it always falls. Yes, I know

that it has fallen so far, but what about now? How can you be sure 100%? ... Sorry but, the falling of an apple that you drop will not always mean that it will fall again. You may insist on saying

"It is because of physics! It is because of the principle of Newton's Law of Gravity.. Because, the same experiment under the same condition generate the same results."

I may not know this principle. But how do you know this principle of the gravity is true every time? There is no way of knowing what will happen the next time I drop the apple.

By this logic, I have never died, so I will never die.

At this point, you may feel lost. You can never prove that an experiment under the same conditions generates the same results. So **you can never prove that an apple you drop always falls.** Under the same idea, there are many people believe that Saddam Hussein is still alive even though there are videos of his execution.

If a statement can not persuade someone, how it can be considered an example of reality? I don't know the philosophical definition of reality but there is a mathematical definition for reality. **Reality is real if you can persuade everyone, 100 percent, in this world.** There is only one "reality", and it is a mathematical reality. There is no other reality. And we can find this reality only in our mind.

The true **reality** might be forever beyond our reach.

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WRITTEN BY

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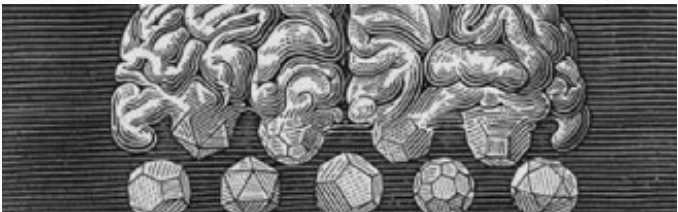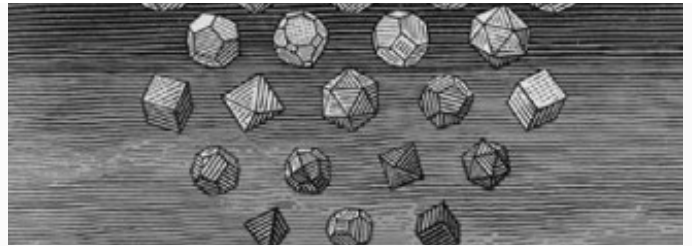Sep 10 · 3 min read ★

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