Somebody says, "It is not true that if a violet canary exists then a violet canary does not exist."

That's a rather amazing proposition. Let's do what the partisans in favor of this paradox do, which is to hide the part of the problem that gives us cognitive dissonance.

Let A represent "a violet canary exists"

Let B represent "a violet canary does not exist."

So if A then B or

A ➜ B

and the whole thing that somebody offered us is then:

¬(A ➜ B)

We have four witnesses who offer us different pairs of evaluations of A and B so we can form the Truth table

	A	B	A ➜ B
Witness 1 says	T	T	T
Witness 2 says	T	F	F
Witness 3 says	F	T	T
Witness 4 says	F	F	T

Is this witness correct? Empirical evidence is missing, but in all cases we just want to see what various suppositions would yield.

We want to understand what happens when we evaluate the entire premise, i.e., somebody's hypothesis or claim is that the way the world is, ¬(A ➜ B), and it looks like it would have the reverse of the truth table for (A ➜ B)

	A	B	A ➜ B	¬(A ➜ B)
Witness 1 says	T	T	T	F
Witness 2 says	T	F	F	T
Witness 3 says	F	T	T	F
Witness 4 says	F	F	T	F

On what set of suppositions will ¬(A ➜ B) be true? Only providing that a violet canary exists and it is not the case that a violet canary does not exist. I think these are two ways of saying the same thing: ¬(A ➜ B) is true only providing that a violet canary exists.

It is not true that if a violet canary exists then a violet canary does not exist. Therefore a violet canary exists.

We could never prove that a violet canary does not exist. So we cannot falsify the statement, " if a violet canary exists then a violet canary does not exist"

We can also say all of this using ⅃ to represent "as yet not falsified," which makes thinking correctly a bit easier.

So below we start over, just making it more clear that "true" does not necessarily mean that, e.g., in this case I have a violet canary breeding community in my back room or something that clearly a matter of fact open to observation by all comers.

Somebody says, "It is not true that if a violet canary exists then a violet canary does not exist."

That's a rather amazing proposition. Let's do what the partisans in favor of this paradox do, which is to hide the part of the problem that gives us cognitive dissonance.

Let A represent "a violet canary exists"

Let B represent "a violet canary does not exist."

So if A then B or

A ➜ B

and the whole thing that somebody offered us is then:

¬(A ➜ B)

We have four witnesses who offer us different pairs of possible evaluations of A and B so we can form the Truth table

	A	B	A ➜ B	
Witness 1 says	⊣	⊣	⊣	Is this witness correct? Empirical evidence is missing, but
Witness 2 says	⊣	F	F	in all cases we just want to see what various suppositions
Witness 3 says	F	⊣	⊣	could yield at this beginning stage.
Witness 4 says	F	F	⊣	

We want to understand what happens when we evaluate the entire premise, i.e., somebody's hypothesis or claim is that the way the world is, ¬(A ➜ B), and it looks like it would have the reverse of the truth table for (A ➜ B)

	A	B	A ➜ B	¬(A ➜ B)
Witness 1 says	⊣	⊣	⊣	F
Witness 2 says	⊣	F	F	⊣
Witness 3 says	F	⊣	⊣	,F
Witness 4 says	F	F	⊣	F

On what set of suppositions will ¬(A ➜ B) be true? Only providing that a violet canary exists and it is not the case that a violet canary does not exist. I think these are two ways of saying the same thing: ¬(A ➜ B) is true only providing that a violet canary exists. But what it means to say that is different from having adequate substantiating empirical evidence. If you say you visited Brigadoon that one day in century when it reappears, I cannot prove that you are wrong, but there is no reason for me to believe you either.

"It is not true that if a violet canary exists then a violet canary does not exist. Therefore a violet canary exists." That is what our witness might establish providing he was the second one in the chart and said that a violet canary exists and then said the same thing as a double negative, "It

is false to say that a violet canary does not exist." The odd thing is that if we lived in a world where anybody can make the same observations, what has been the need for all the logical roundabout stuff that amounts to saying, "If a violet canary exists then a violet canary exists," which is a tautology.

We could never prove that a violet canary does not exist. So we cannot falsify the statement, "If a violet canary exists then a violet canary does not exist." We do, however, need to insist on corroborating evidence. I won't believe in Brigadoon until i've been there myself. Maybe what other people report is just another kind of Potemkin village.

Witness three says that it isn't true that violet canaries exist and it is true that they do not exist. In this case in his honest belief the witness may have searched the entire world of canaries and may never have found a violet canary. The trouble is that the very next canary somebody discovers may be violet. We can never know that we have exhausted the membership in an open-ended class. I can say that none of the canaries currently in a pet store are violet, and everybody may agree with me, but what about the next one to come in from the shop's supplier, or the canaries already in the pet shop across town? At least, for planning purposes we are generally going to be o.k. not to set the selling price for violet canaries until one actually shows up. It gets tricky when somebody says that there is no pneumatic ebola virus. If it turns out that pneumatic ebola is a "black swan," then the world will be in real trouble. Maybe we should all keep an eye out for suspicious cases of ebola transmission.

Witness four says that it is not true that violet canaries exist and it is not true that violet canaries do not exist.

Witness one says that it is true that violet canaries exist and it is true that violet canaries do not exist.

Here we have cases analogous to our two wizards with second sight, Merlin and his twin brother Ferlin, who reported opposite things about the death of King Arthur. When you, as son of King Arthur, do not know what to do in the face of contradictory reports that cancel each other out, your only course of action is to go see for yourself.

What would it be like to see a single canary as two different colors at the same time? Alternatively, what would it be like to see a single canary that cycled, e.g., from being violet to being yellow? There are claims of the possibility of contradictory statements being true in some interpretations or some teachings of Zen masters. There are states in quantum mechanics when, e.g., an atomic particle is said to have superimposed opposite states of, e.g., angular momentum. Such results led physicist Hans Reichenbach to propose a new kind of logic suited to quantum mechanics in 1944 in his book *Philosophical Foundations of Quantum Mechanics*, published by the University of California Press. However, other physicists have preferred to keep ordinary logic and just be careful about how they word their statements.

A backwards process of reasoning that leads to declaring the possibility of pairs of observations that contradict each other in the macro world that we live in seems to be unhelpful, especially since it depends on declaring a result and then declaring evidence that would support that conclusion. Words do not determine reality. Nothing about the history of development quantum mechanics is any clearer than the conclusion that humans can have their conceptualizations designed to describe how nature must work, but nature goes its own way and words cannot pull nature back from the limits of reality. Nature stubbornly resists human interventions.