

Critical Thinking~ A look at the Tooth Fairy

(Taken from www.abarnett.demon.co.uk/atheism/tooth.html)

Premise

The Tooth Fairy is a common childhood myth. It is usually defined like this:

When a tooth falls out, leave it under your pillow when you go to sleep. During the night, the Tooth Fairy will visit your room, take the tooth and leave a small amount of hard cash.

Going on the empirical evidence, this appears to be a good hypothesis. As a child, when my teeth fell out I would tell my parents, and they would tell me to put the tooth under my pillow. In the morning, the Tooth Fairy had indeed been, and I was 10p better off.

Investigation

It never occurred to me to do a few controlled experiments. Such experiments could be:

- Tell your parents a tooth has fallen out, but do not put it under the pillow.
- Tell them a tooth has fallen out, when in fact it has not.
- When a tooth falls out, put it under the pillow, but do not tell your parents.
- When a tooth falls out, do not tell your parents, and put the tooth in a different location instead.
- Put something other than a tooth under the pillow.
- Stay awake all night to see what transpires.

All these experiments would provide a wide range of empirical evidence that may then be used to postulate a theory. It should be noted, however, that the last one (stay awake and see what happens) should be tried first. This will invariably (but perhaps not always) show that it is in fact your parents, and not a supernatural entity, that removes the tooth and leaves money in its place.

Another procedure is to attempt to deduce the properties of the Tooth Fairy, should she actually exist (after all, you may not be able to stay awake all night to catch your parents at it).

Deductions

So, what can we deduce about the Tooth Fairy, from her known characteristics.

She is not affiliated with any known religion, in the way that Santa Claus and the Easter Bunny are associated with Christianity (although their origins seem to predate Christianity). Therefore, she is presumably not restricted to visiting Christian children. This gives her a much greater range than Santa Claus.

She does not need to visit all children in one night, once per year (as Santa Claus does). She may eventually visit all children, but it takes place at irregular, infrequent intervals.

It is possible to predict the number of visits per child by the average number of teeth per child.

The amount of money left per tooth varies according to the child's age. This is reasonable, as younger children are less interested in money than older children.

The amount of money left per tooth also varies according to the level of income of the parents. This suggests that she either unfairly favors wealthy families, or she does not wish to encourage poverty stricken parents to use their children's teeth as an alternate, tax-free source of income.

She is able to detect the loss of a tooth. There are several possible explanations for this. The parents contact the Tooth Fairy when they hear of the loss. The Tooth Fairy actually does visit each child every night, just in case. Some form of radiation or exotic particle is emitted on the loss of a tooth. We shall call these "Toothions". The Tooth Fairy is able to detect this radiation (or particle stream). To investigate this properly would require placing a child in a large particle detector and removing it's teeth, measuring any emitted radiation/particles. Nuclear Physics research centers, such as CERN should be contacted about this sort of experiment (also, the parents should be notified).

She has almost unlimited funds. Individually, each child's "reward" is quite small, but the overall cost per year must be enormous.

She is able to carry with her vast quantities of coins (of different currency) and teeth. (it has been proposed by *Pratchett et al* that if the Tooth Fairy does not have the correct change, she may extract the appropriate amount of teeth to ensure a fair trade).

She is acutely aware of all current monetary exchange rates.

She can travel at relativistic speeds (i.e. nearing the speed of light).

She has the ability to enter and leave locked houses at will, without being detected by burglar alarms, security systems, dogs etc.

Some of the above items can be explained if there is an army of Tooth Fairies, and not just one.

Questions raised

Other questions that are raised are: What, exactly, does she do with all those teeth? Possibilities are:

- Building materials.
- Jewelry.
- Mineral extraction.
- Sinister medical experiments, possibly in collusion with the CIA.
- Sold on to third parties. Possibly the Chinese traditional medicine market (investigations should be done into the aphrodisiac/healing properties of ground child-tooth).

Also, assuming that you do indeed stay awake all night, and actually **do** see the Tooth Fairy herself, it becomes necessary to address these issues:

- Could it have been a dream or an hallucination brought on by lack of sleep, and the expectation of seeing such an entity?

- Is there third-party evidence to support the visitation theory?
- Did you install video recording apparatus?
- Do you have a history of mental illness?
- Are you taking strong medicinal/recreational drugs?
- Is there physical evidence remaining, such as fairy dust, ectoplasm, or fragments of wing scale?
- Have you ruled the possibility of fraud/hoaxing by third parties?

Summing up

Having studied the above evidence and arguments for and against the existence of the Tooth Fairy, the critical thinker should now be in a position to apply Occam's Razor and select the simpler explanation.