

# Ask Mr. Hellman

Part 2

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**My Question: Suppose you are an author; Suppose you *need* to sell books – this is how you make your living...**

- What are some ways that you could sell more books?

## Question: **How do we spontaneous combust?**

People don't spontaneous combust. There has *never* been any scientific evidence of spontaneous combustion.

Instead, what *all* the evidence suggests is that:

1. People die, and sometimes they die alone & near an open flame
  - cigarettes
  - candles
  - fireplaces throwing embers
2. Most of the time, either nothing burns or *everything* burns down
3. Occasionally, under the right circumstances, there is just enough oxygen in the room for the body and items close to it to burn. Then the fire suffocates because there is not enough oxygen to sustain it.

## More interesting is perhaps the **History of Spontaneous Combustion!**

- 1725 - France: Nicole Miller's husband acquitted of murder by a doctor who convinced the court that spontaneous combustion *does* happen.
- 1731 - Italy: Countess Cornelia de Bandi found in ashes on the floor of her bedroom chamber.
- 1853 - The author *Charles Dickens* uses spontaneous combustion in *Bleak House* to kill off a character...

Dickens' book sells like wildfire! By writing about a spontaneous combustion as a *Scientific Fact* instead of an unproved theory, he convinces generations of people that spontaneous combustion actually happens.

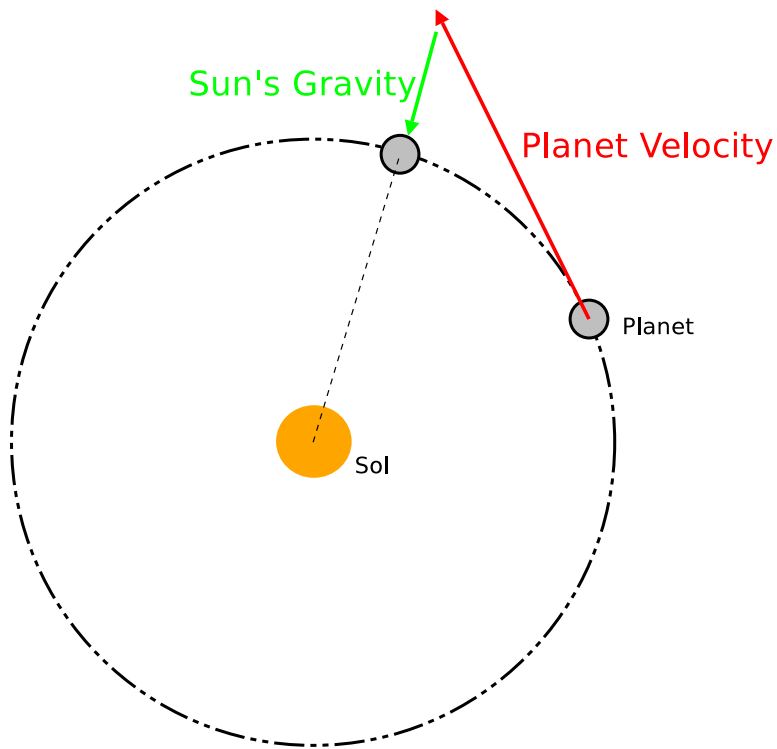
- Even today some people believe in spontaneous combustion... to the extent that there are whole books written by people proposing different theories
- But all these books miss an important ingredient for any valid scientific theory... and it is something you've already used in this class!

**Question: Why do people say "If you have split ends, your hair won't grow." When your hair grows from your scalp, not from the bottom.**

Split Ends are when the fibres at the end of the individual strands of hair become damaged and literally "unravel".

1. When they unravel, the ends of the hair are *much* more fragile
2. Everytime you brush or comb your hair, you break these fragile strands off – essentially giving yourself a haircut!

Question: In space, why don't the planets fall down?



The planets **ARE** falling!

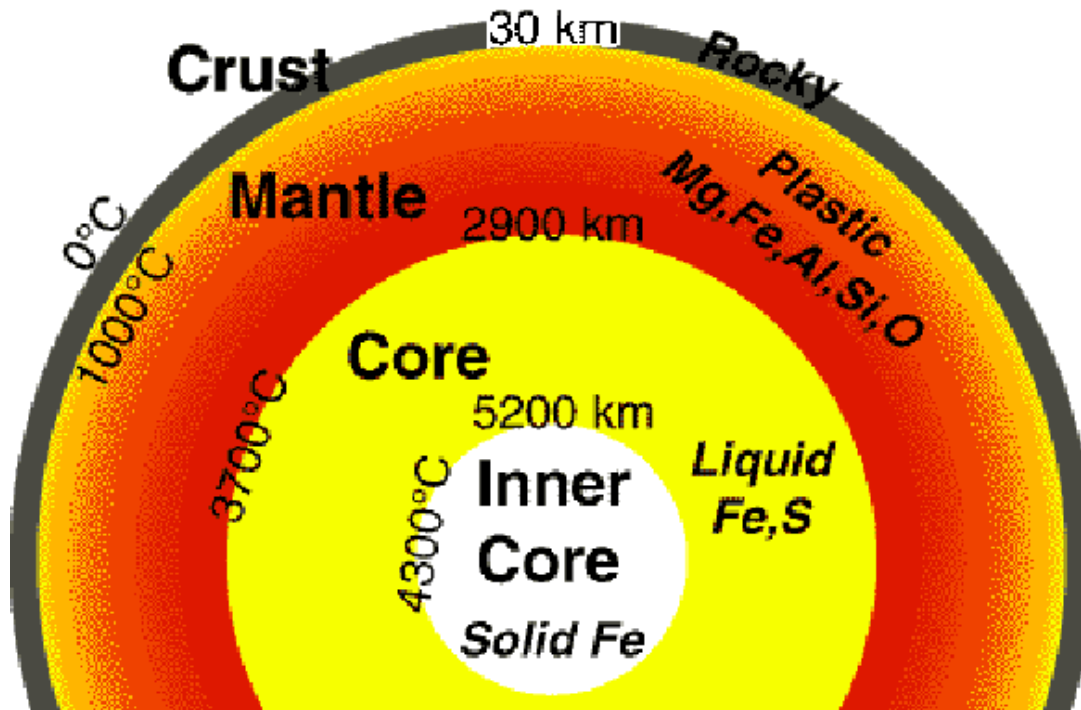
1. Is this how the moon stays in orbit?
2. Is this how our man-made satellites stay in orbit?
3. What is a *geosynchronous* satellite?

**Question: How do snails live in salt water if they don't like salt. If you pour salt on them, the salt burns them.**



Question: If the great rift valley is a crack in the crust, and you stand in it, would you be standing on the mantle or would you still be on the crust?

The great rift valley varies in depth between "a few hundred to several thousand meters".



1. how many meters in 30 kilometer?
  2. how many is several thousand meters?
  3. is several thousand meters < 30 kilometers?
- So, what are you standing on in the Rift Valley?