

# Pareidolia: One way our Brains Eff with Us

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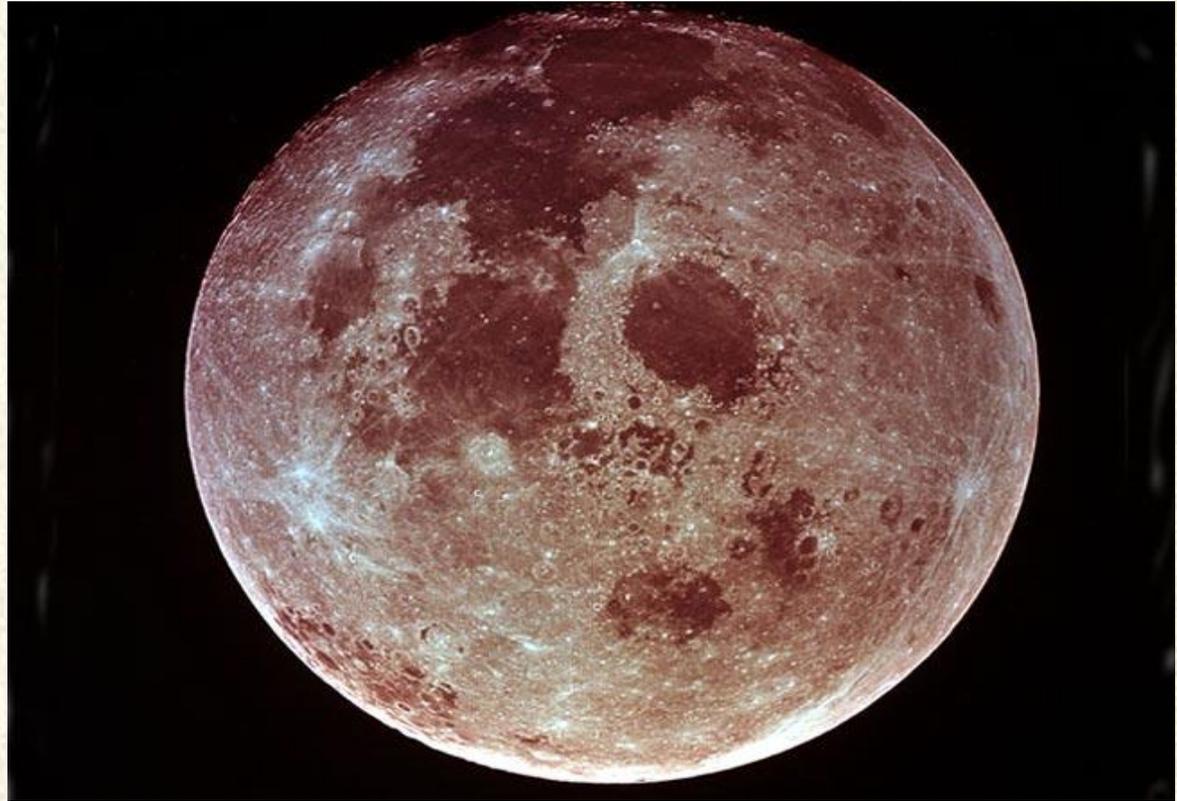
# What is Pareidolia?

- "The term **pareidolia** (pronounced [/pæraɪˈdɒliə/](#)) describes a psychological phenomenon involving a vague and random [stimulus](#) (often an image or sound) being perceived as significant." - Wikipedia



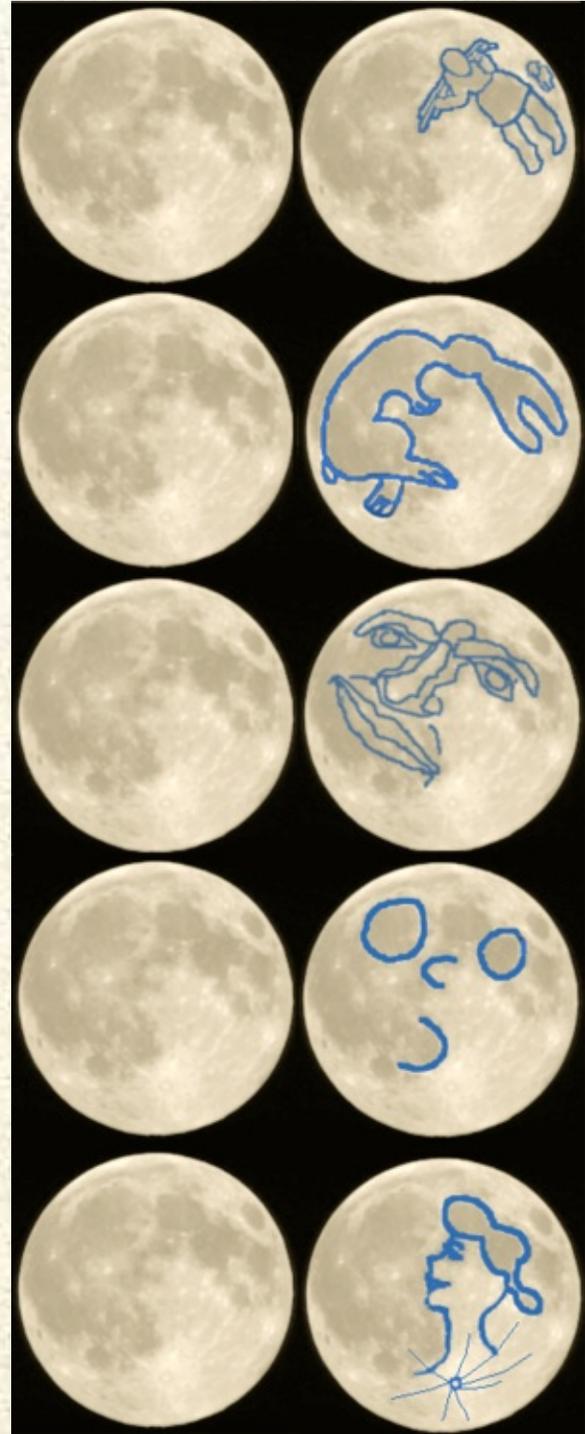
# Man in the Moon

- The man's eyes are the Mare Imbrium and Mare Serenitatis, its nose is the Sinus Aestuum and its grinning mouth is the Mare Nubium and Mare Cognitum.
- Basically caused by asteroids and volcanos
- Different cultures see different things on the moon:



# Other stuff in the moon

- Man carrying sticks, with dog
- Rabbit
- Human face 1
- Human face 2
- The Lady in the Moon

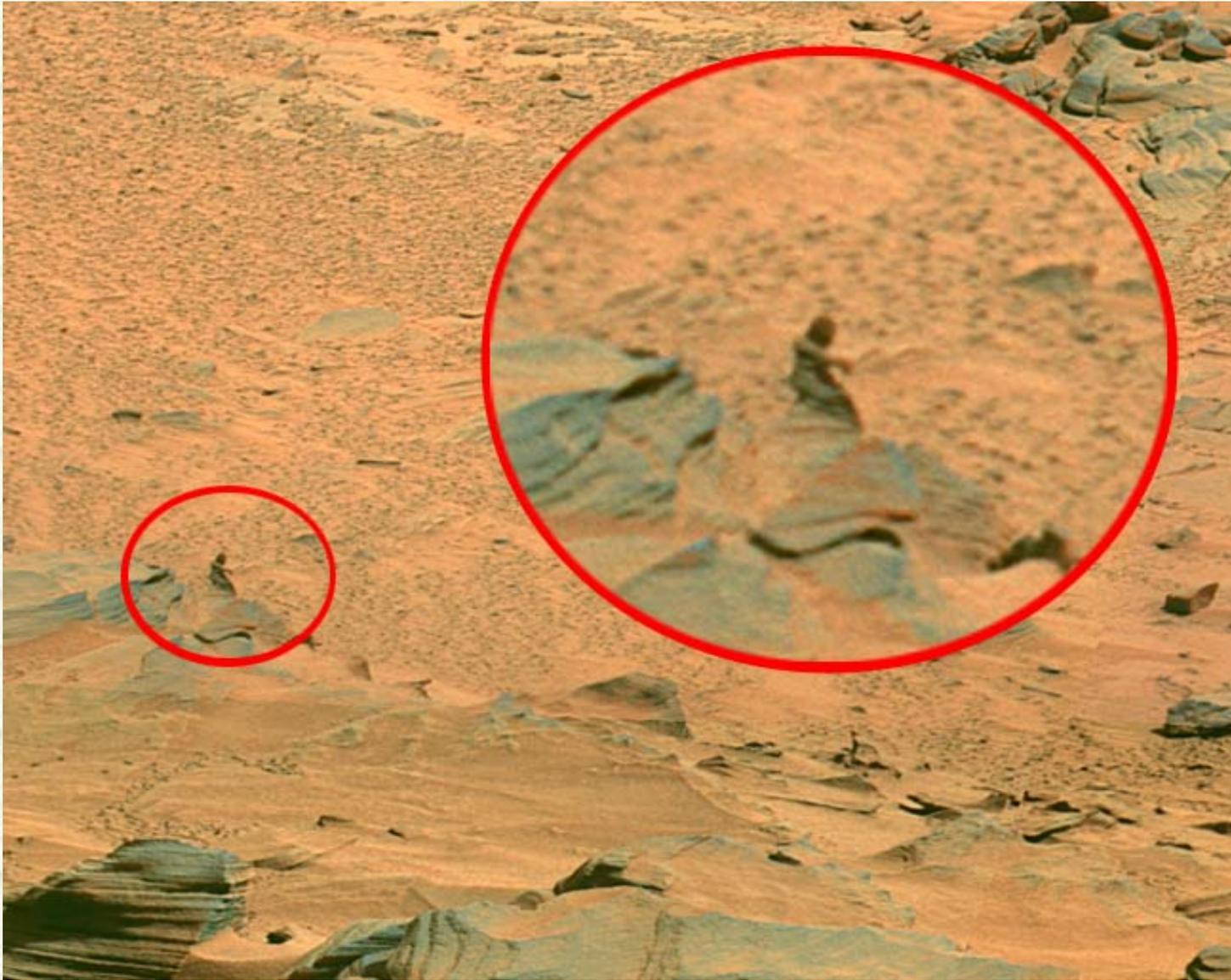


# 1954 Canadian \$100 Bill

- So many people thought they saw the face of the devil in the queen's hair that the bills were eventually withdrawn from circulation.



# Dude Walking on Mars?



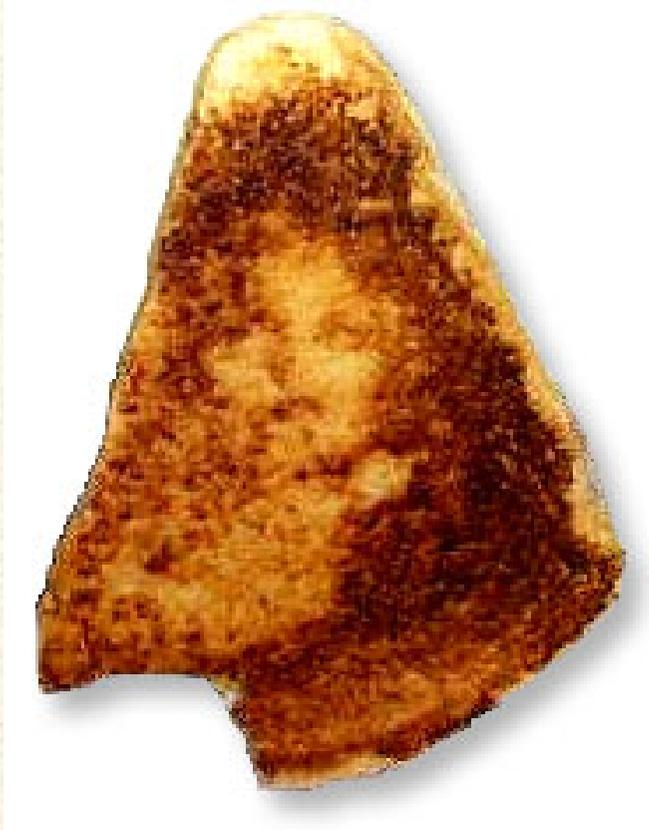
- Image taken by Mars Spirit Rover

# Religious Pareidolia

- "A decade-old toasted cheese sandwich said to bear an image of the Virgin Mary has sold on the eBay auction website for \$28,000." - BBC News, 2004



# Virgin Mary?



# Jesus Tortilla

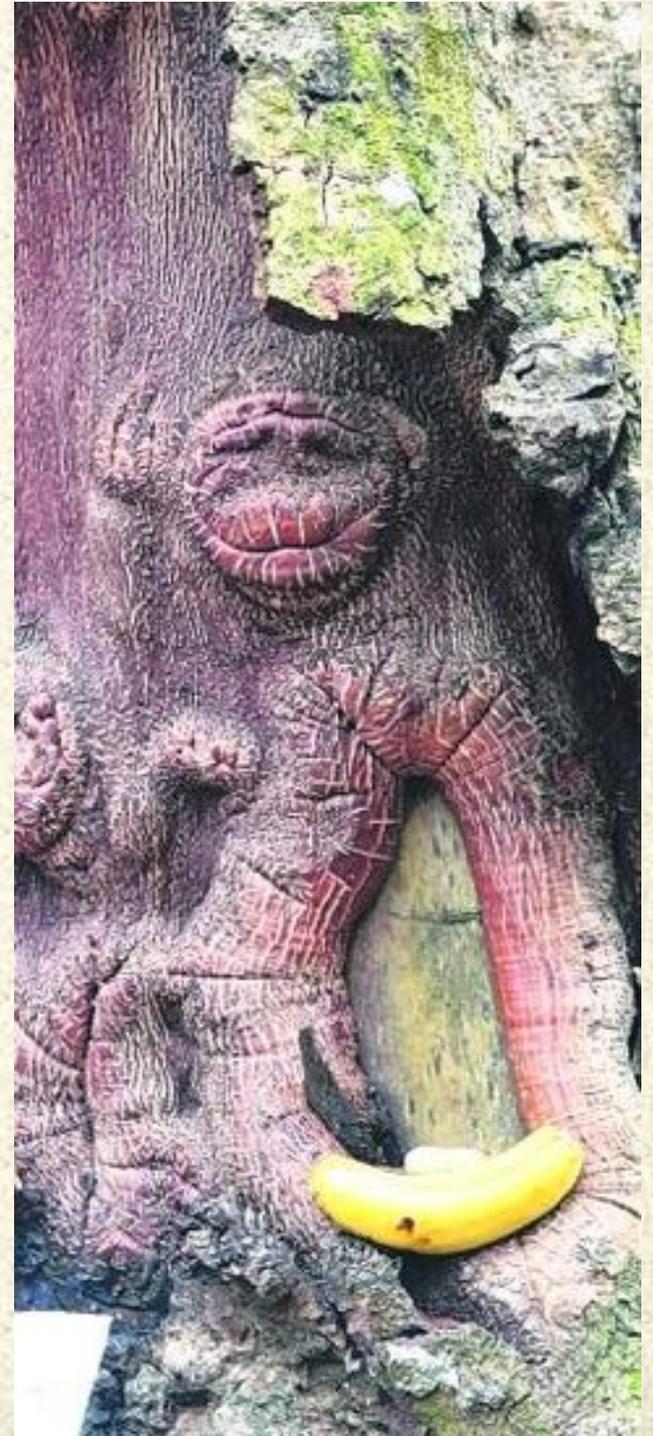
- In 1978, Mario Rubio, rolling a burrito, noticed skillet burns on a tortilla resembling the face of Jesus Christ.
- 8,000 curious pilgrims trekked to the Rubios' small stucco house in rural New Mexico to view the sacred icon.
- Mrs. Rubio leaves her house unlocked so that visitors may freely enter and examine the tortilla.



Maria Rubio with burrito

# Monkey Tree!

"Devotees to the tree believed that the images are either a manifestation of the Monkey God, a deity from Chinese mythology, or Hanuman, the monkey deity in the Hindu pantheon, and that praying to them would bring them luck." - Wikipedia



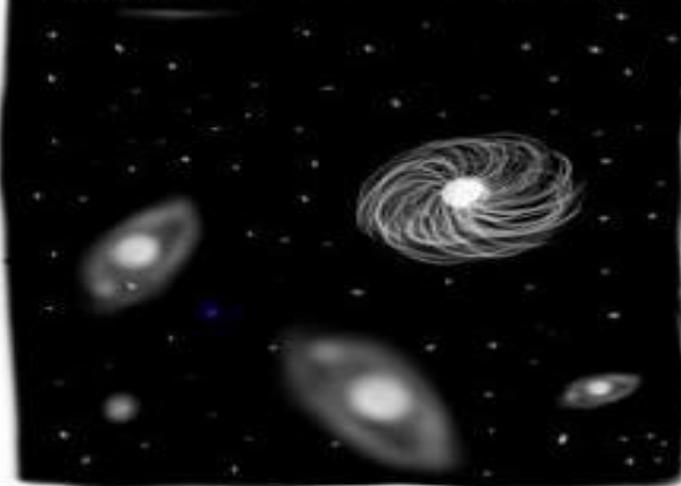
IS IT JUST ME, OR IS GOD LOSING HIS SUPER POWERS?

WHATCHU TALKIN 'BOUT, WILLIS?

I MEAN, HE STARTED OUT REALLY STRONG.

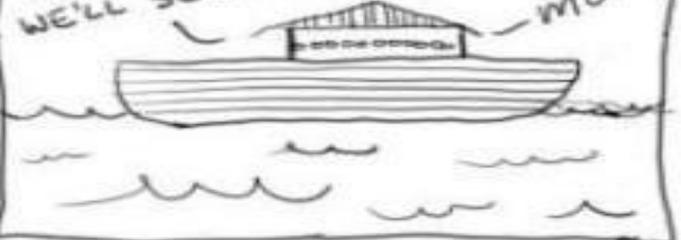


JUST A FEW THOUSAND YEARS AGO, GOD CREATED BILLIONS OF GALAXIES FROM ABSOLUTELY NOTHING...

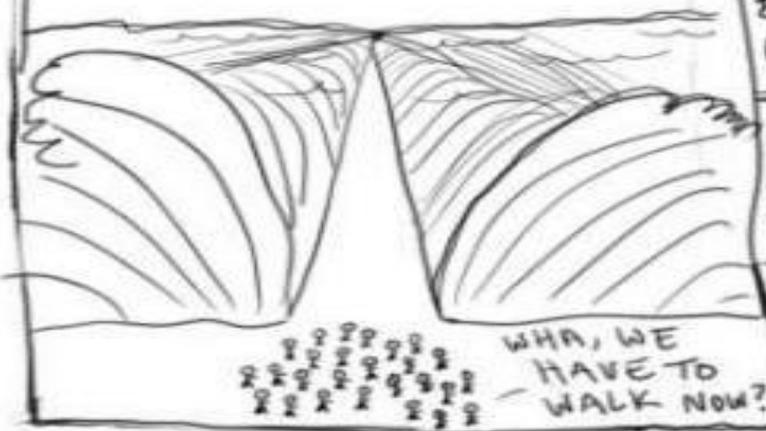


BUT NOT LONG AFTER THAT, HIS SOLUTION TO RIDDING ONE OF HIS PLANETS OF EVIL INVOLVED MAKING IT RAIN REALLY HARD FOR FORTY DAYS... (NOT TO MENTION THE PLAN DIDN'T EVEN WORK)

THAT'S THE LAST WE'LL SEE OF EVIL!



LATER, HIS BEST TRICK WAS PARTIALLY MOVING A FRACTION OF A MINOR SEA FOR A LITTLE WHILE...



THEN, HE SENDS A DELEGATE TO EARTH WHO'S RUMORED TO TRANSFORM WEDDING BEVERAGES AND BE EXTRA BUOYANT...

RID THE WORLD OF BLINDNESS? UM, HOW ABOUT I JUST HEAL THIS GUY?



NOW IT'S CONSIDERED A MIRACLE WHEN HE BURNS A JUSUS FACE INTO A GRILLED CHEESE SANDWICH! -- C'MON THAT'S SOME DECLINE!

YOU'RE FORGETTING THE VIRGIN MARY FREEWAY OVERPASS WATERSTAIN. ALLAH AKBAR!

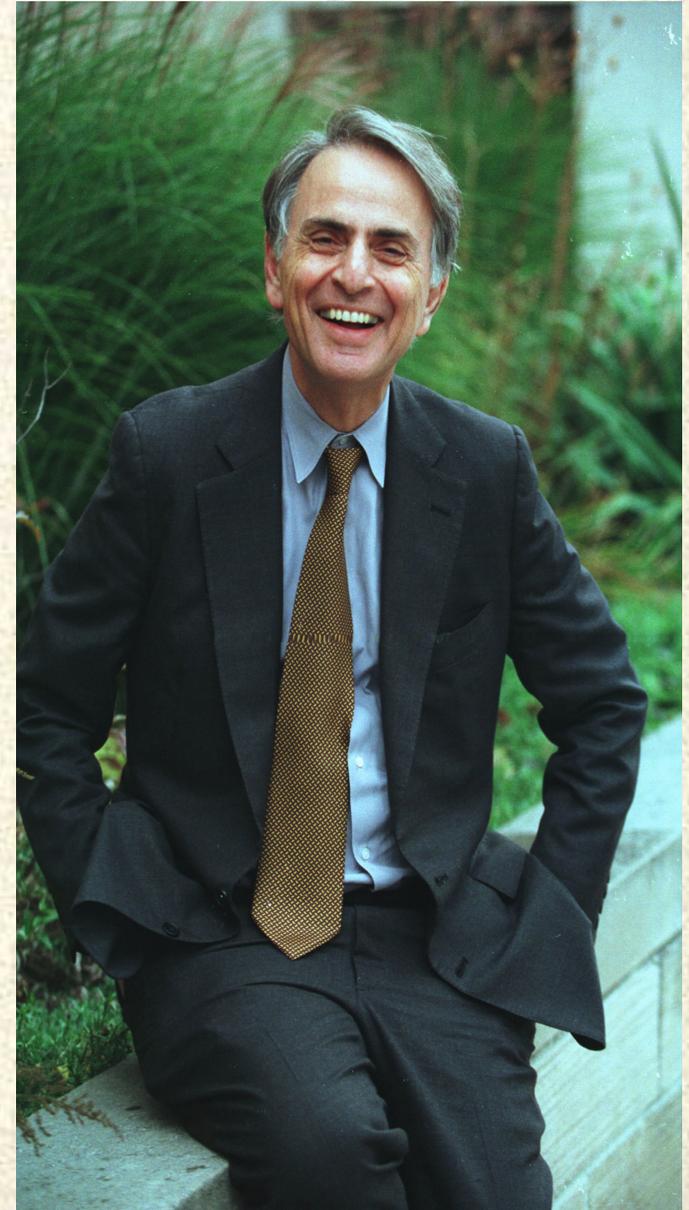


# Scientific Explanation for Pareidolia

- Best theory comes from Evolutionary Psychology
  - Human behavior is generated by psychological adaptations that evolved to solve recurrent problems in human ancestral environment.
  - Some people think EvoPsych is BS.
    - "Just so story"
    - Where's the evidence?
- Incest Aversion
  - Why do we find it gross to mate with close kin?
  - Do you not want to eff your siblings because you know about the reduced genetic diversity and recessive genes?
  - Westermarck Effect
  - Taiwanese minor marriages
- Anyone want to guess a theory for pareidolia?

# Explanation for Pareidolia

- Observation: As soon as infants can see, they can recognize faces.
- This skill is hardwired into our brains.
  - i.e. It has evolved, it isn't learned.
- Why is pareidolia an adaptive trait?
- **"Those infants who a million years ago were unable to recognize a face smiled back less, were less likely to win the hearts of their parents, and less likely to prosper. These days, nearly every infant is quick to identify a human face, and to respond with a goony grin" - Carl Sagan**



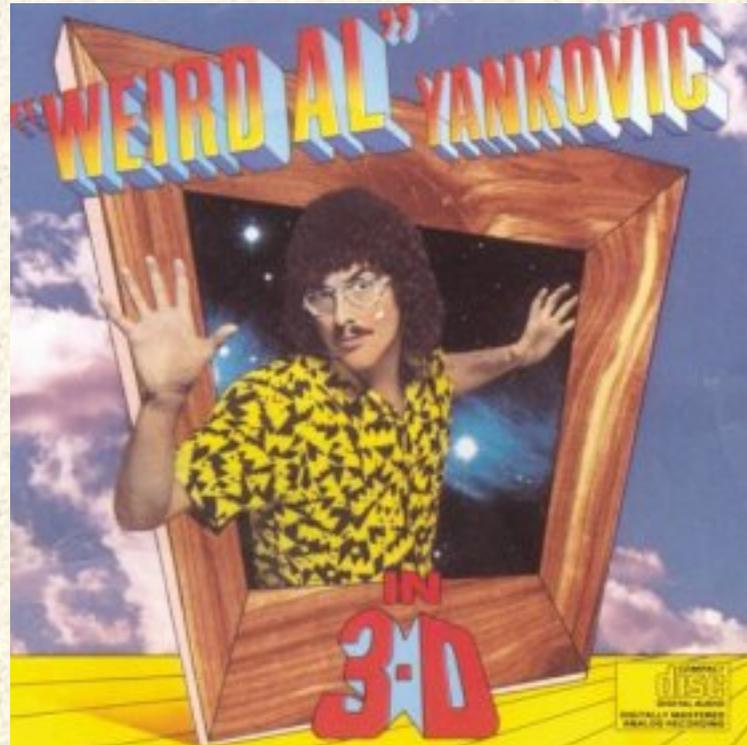
# Audio Pareidolia

<http://www.youtube.com/watch?v=HYaEcj9IVBI&feature=related>

- If you hear it without being told what you're supposed to hear, you're less likely to get the message.
- General skepticism: Occam's razor anyone?
  - It would have been pretty tough for them to purposely get this through.

# Backmasking

- <http://jeffmilner.com/backmasking.htm>
  - Stairway to Heaven
  - My Name Is
  - Pokemon Rap
  - Nature Trail to Hell



# Can we Harness our Understanding of Pareidolia?

- Rorschach Inkblot Test
  - Show random splatter.
  - Ask what they see.
  - Psychologists use this test to examine the characteristics of their patients' personalities, as well as their emotional functioning?



# Is Rorschach Pseudoscience?

- Several studies suggested that conclusions reached by test administrators were akin to cold reading.
- Criticisms:
  - the objectivity of psychologists administering the test
  - inter-rater reliability
  - the verifiability and general validity of the test
- There are lots of people arguing both sides.
  - This could be its own UDLS talk.
  - Will YOU be the one to give it?



# In Conclusion...

- Human perception is flawed.
- We've evolved to be awesome at identifying patterns even when they are not there.
- What's the probability that not even one grilled cheese sandwich will look like the virgin Mary?
- Once we're prompted with what we should see/hear, the effect is stronger.
  
- All of this aside, THIS ONE IS REAL:

# BIG BANG TOAST!

- <http://www.satireandcomment.com/0208toast.html>
- "I was just about to spread the butter when I noticed a fairly typical small hole in the bread surrounded by a burnt black ring. Then to my amazement I saw the direction and splatter patterns of the crumbs with changing shades emanating outwards from the center of the black hole. It was identical to the chaotic-dynamic non-linear patterns that one would expect following the Big-Bang. It's the beginning of the world!"

