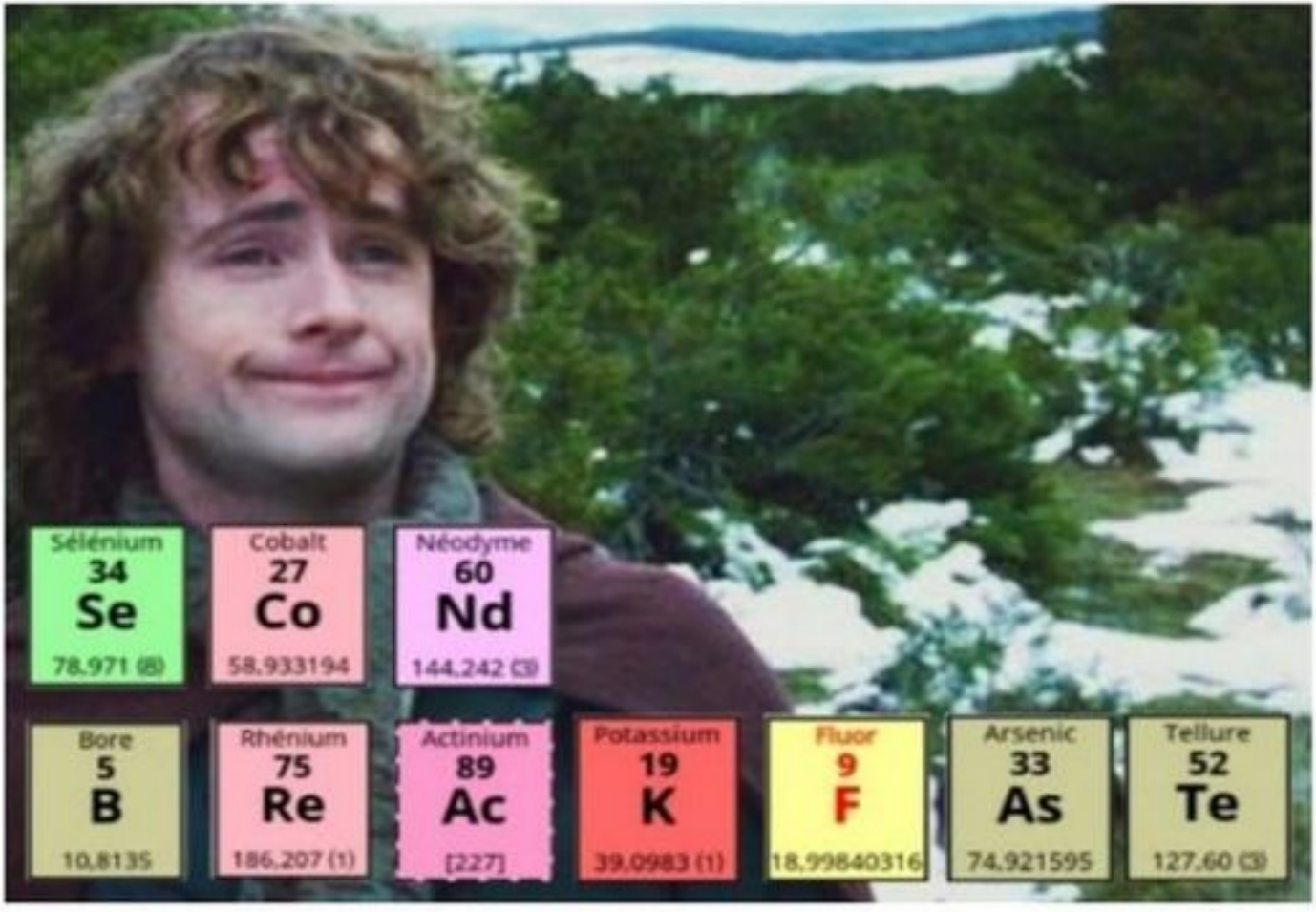
My friend : what's your password ?

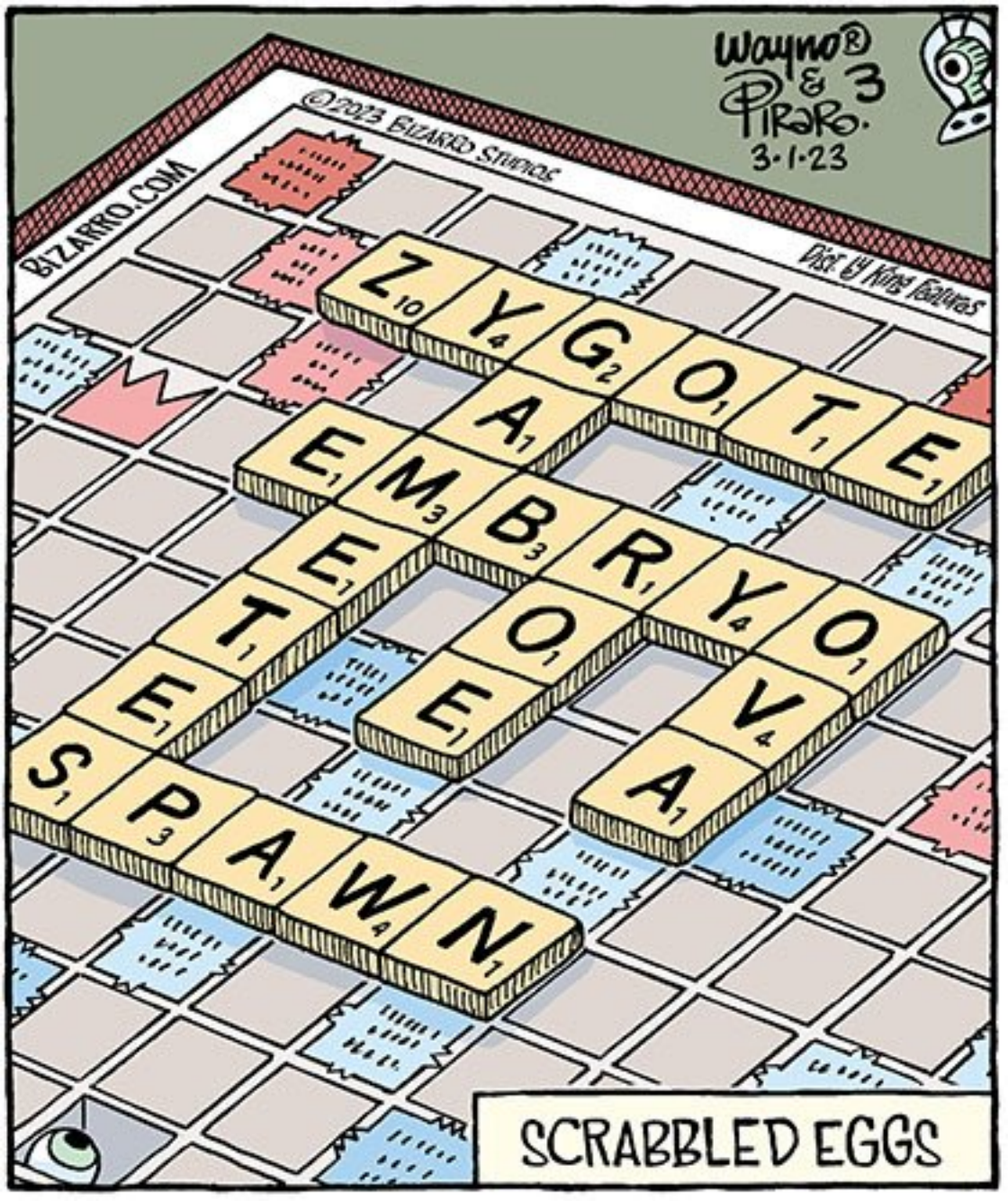
Me : 34276057589199335 2

My friend : Wtf, why this password ?

Me :

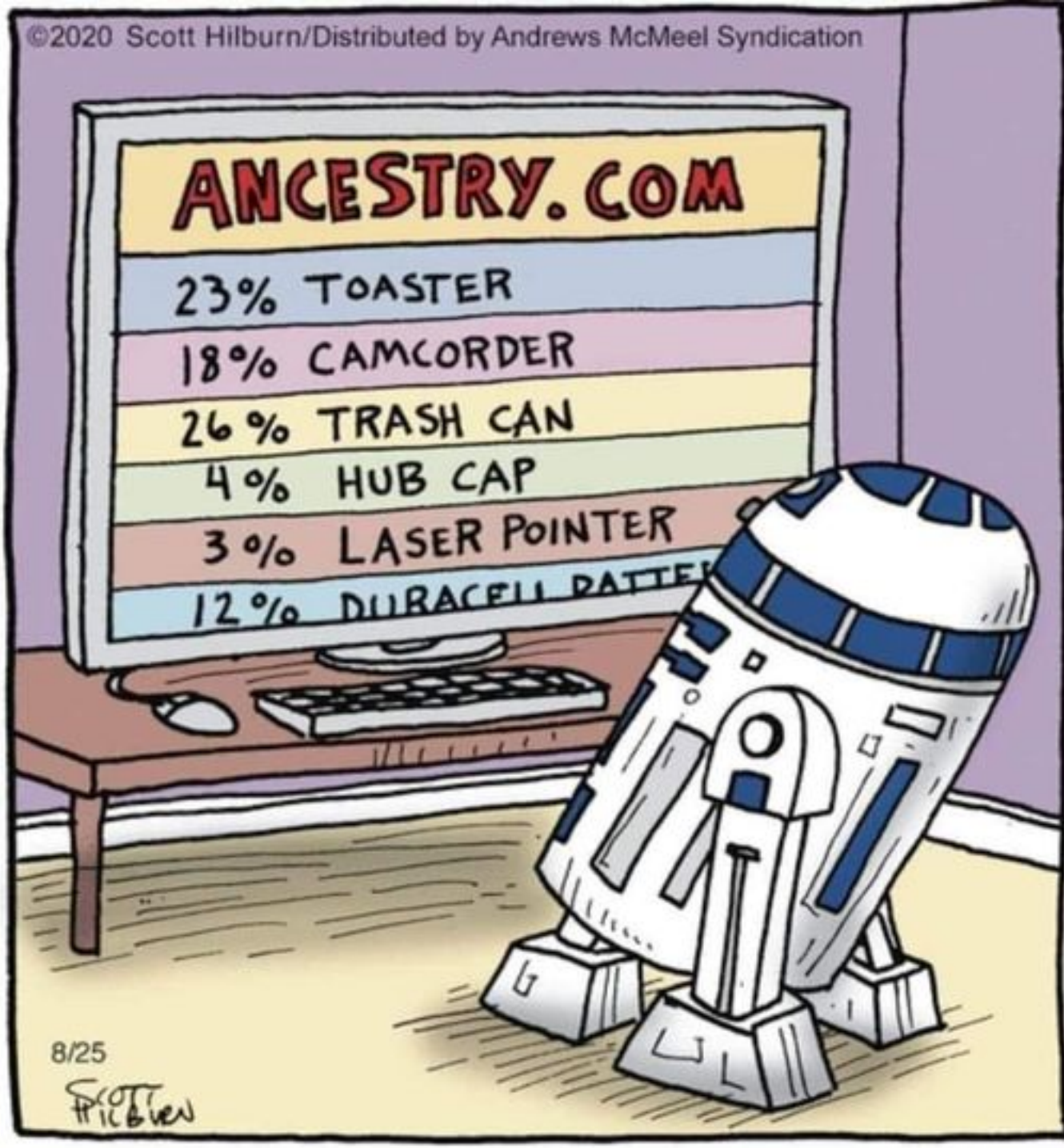


Transcending rationality.

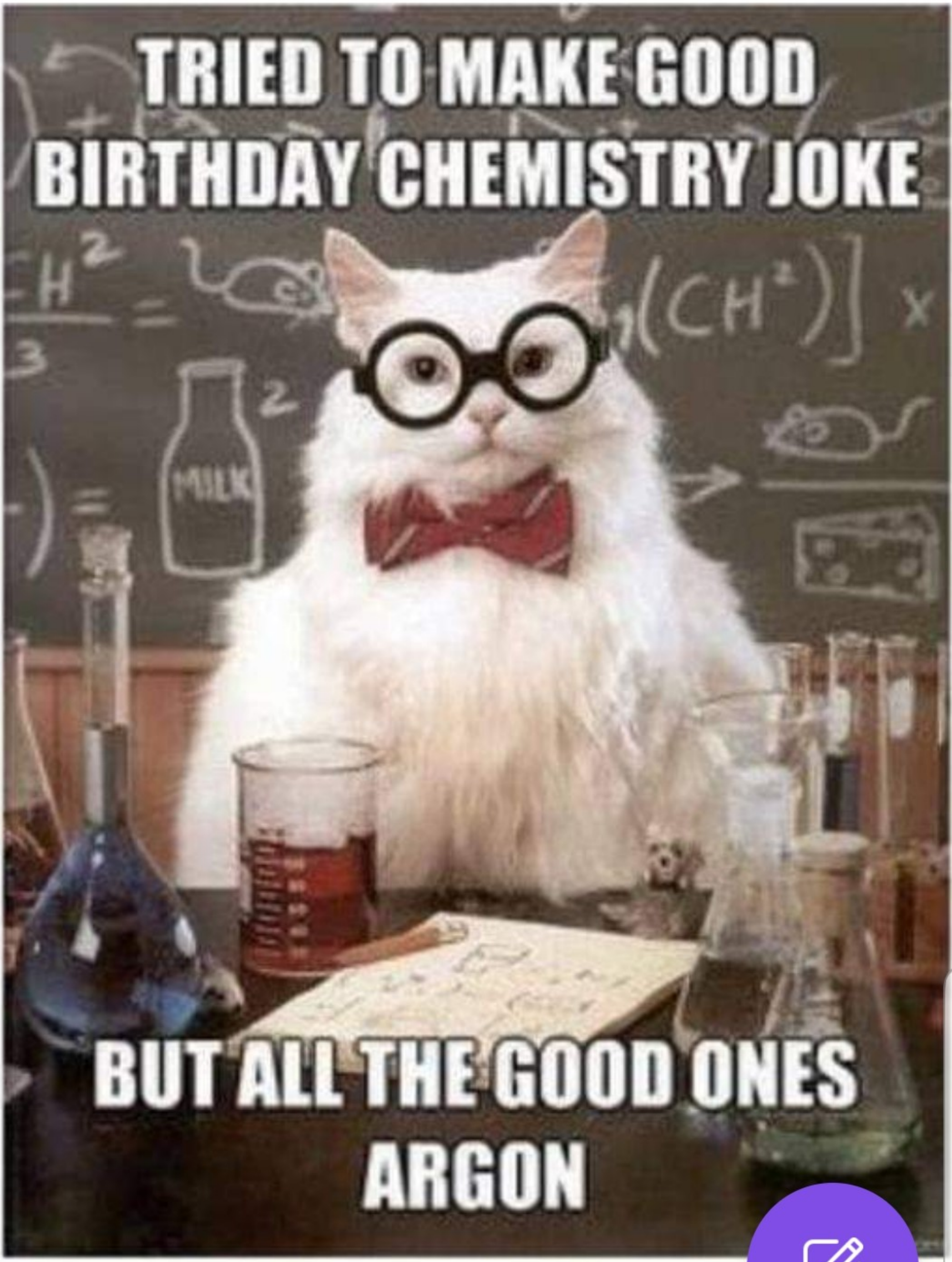

Wayno® & Piraro. 3
3·1·23
©2023 Bizarro Studios
BIZARRO.COM
Dist. by King Features
Z10 Y4 G2 O1 T1 E1
A1
E1 M3 B3 R1 Y4 O1
E1 O1 V4
T1 E1 A1
E1
S1 P3 A1 W4 N1
SCRABBLED EGGS

10^6 aches = 1 megahurtz

©2020 Scott Hilburn/Distributed by Andrews McMeel Syndication



This is murder.
Yeah but at least people thousands of years from now will appreciate the effort and skill it took to build these pyramids.
EATLIVER.COM
Aliens definitely built these.


TRIED TO MAKE GOOD BIRTHDAY CHEMISTRY JOKE
MILK
BUT ALL THE GOOD ONES ARGON

UK: Metric System
Canada: Metric System
South America: Metric System
Europe: Metric System
Russia: Metric System
China: Metric System
Japan: Metric System
Australia: Metric System
Africa: Metric System

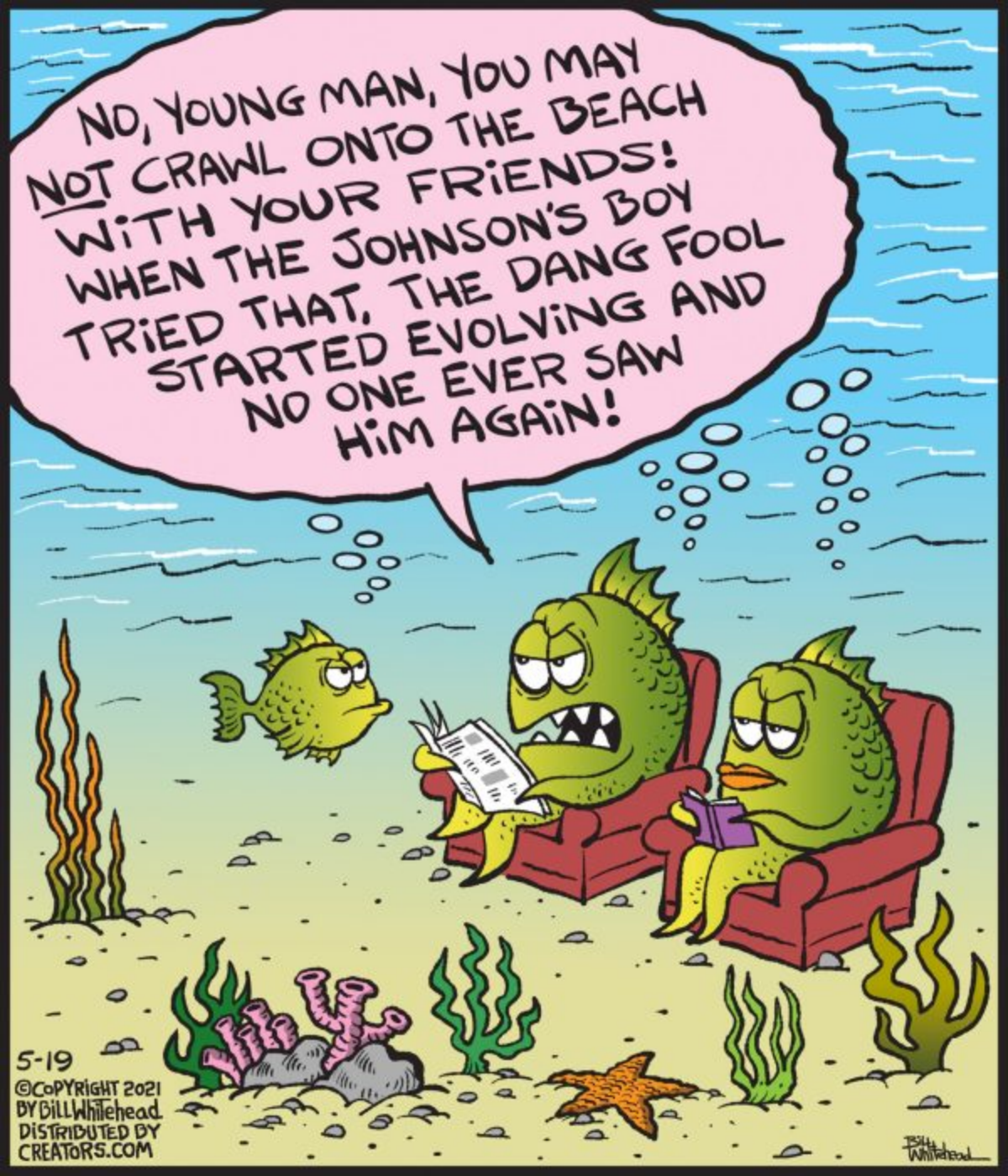
USA:

Jerusalem Post
www.jpost.com

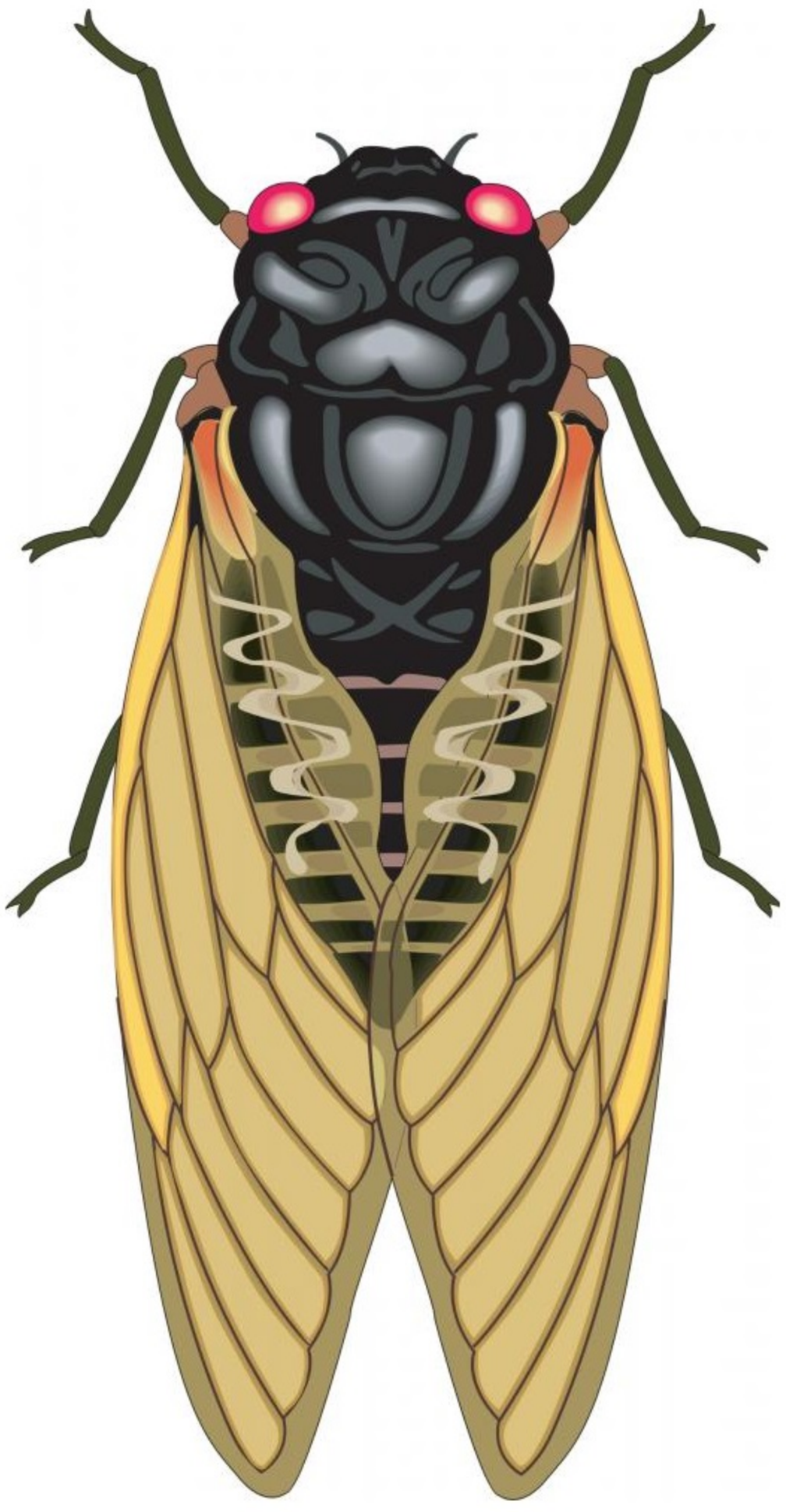
Asteroid the size of 18 walruses to pass Earth on Sunday - NASA

1 day ago — An asteroid the size of around 18 walruses is set to pass by the Earth on Sunday, May 21, according to NASA's asteroid tracker.

What do you know about atoms?
Very little.
Besides that.

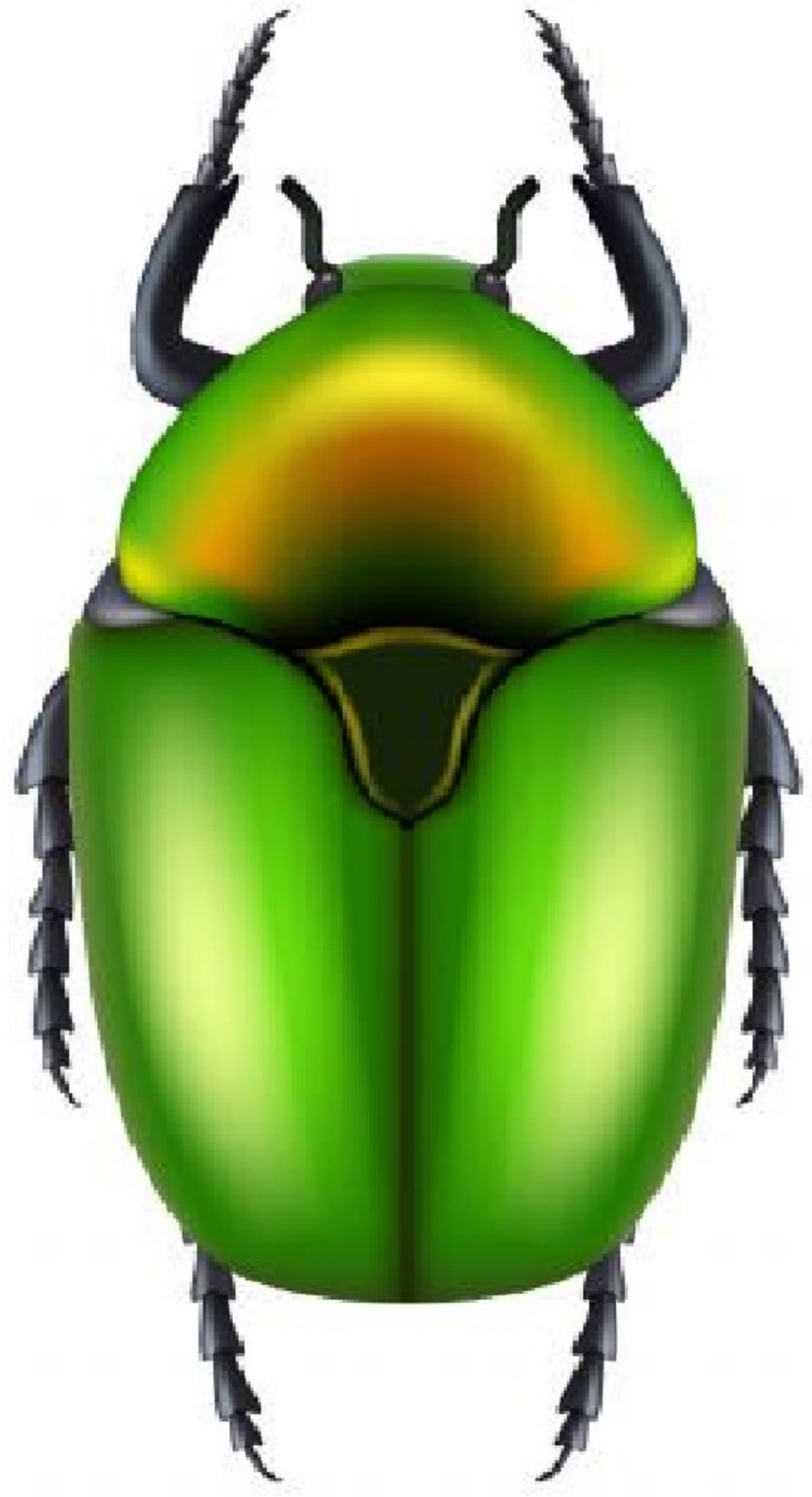

NO, YOUNG MAN, YOU MAY NOT CRAWL ONTO THE BEACH WITH YOUR FRIENDS! WHEN THE JOHNSON'S BOY TRIED THAT, THE DANG FOOL STARTED EVOLVING AND NO ONE EVER SAW HIM AGAIN!
5-19
©COPYRIGHT 2021 BY BILL WHITEHEAD DISTRIBUTED BY CREATORS.COM
BILL WHITEHEAD

I poured root beer into a
squared glass
Now I just have beer.



This is a cicada. It's in order Hemiptera (true bugs).

Bugs have four membranous wings.



This is a beetle. It's in order Coleoptera. It is not a "bug."

Beetles' front wings are hardened into "wing cases" (*elytra*).

Please stop irritating invertebrate zoologists like me by calling beetles "bugs!"

– M. E. Kabay

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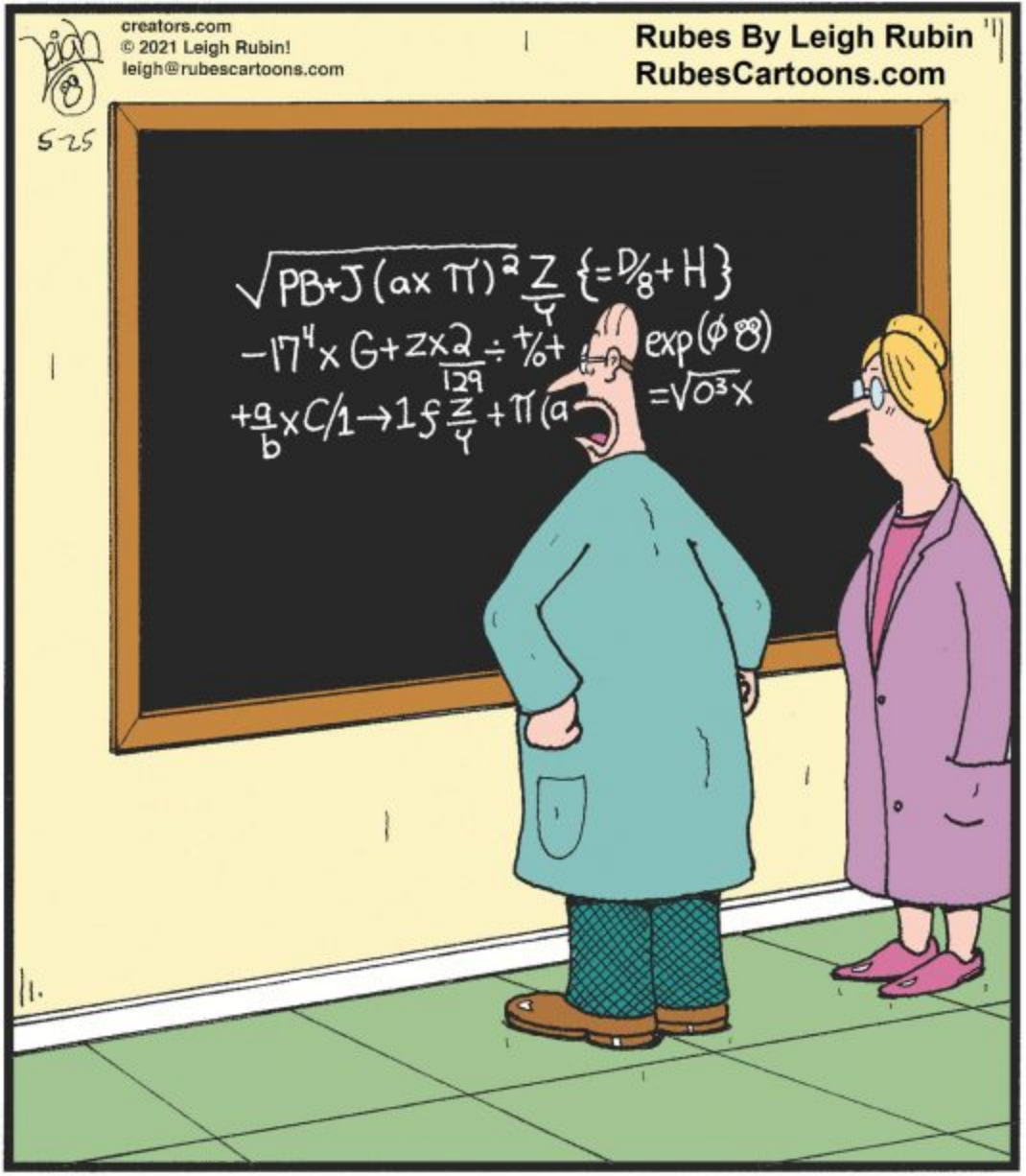
leigh@rubescartoons.com

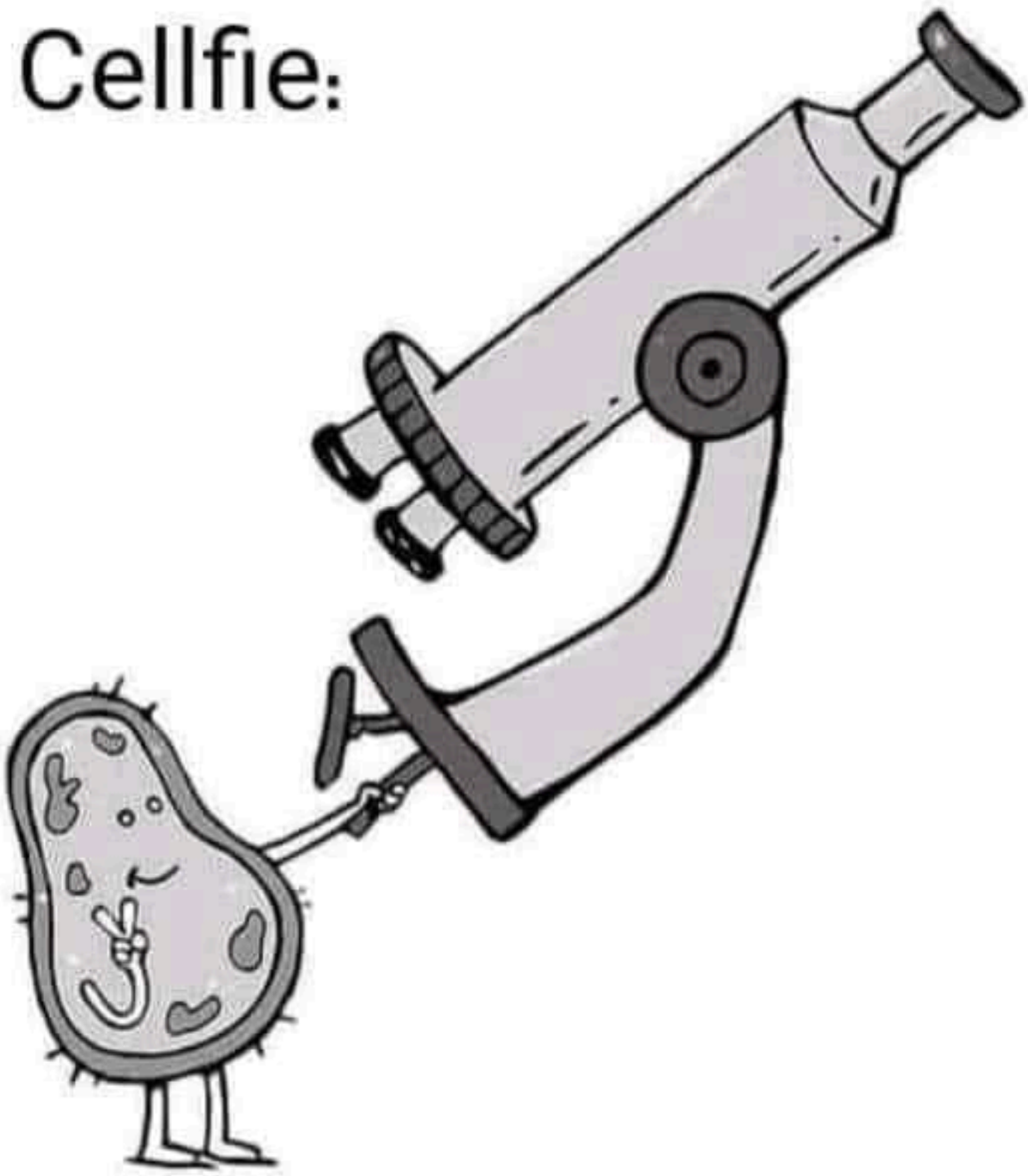
Rubes By Leigh Rubin
RubesCartoons.com

5-25



“Oh, it definitely proves something, all right ...When it comes to actual equations, at least one cartoonist doesn’t know squat.”

Cellfie:



Censorship should not be obvious.

Moore, 2008). In addition, the hypothalamus serves as a vital link between the brain and the endocrine system (a network of hormone-producing glands, discussed later in this chapter).

The hypothalamus plays a major role in the regulation of basic biological drives related to survival, including the so-called "four Fs": fighting, fleeing, feeding, and mating. For example, when researchers

Weiten, W. (2021). *Psychology: Themes and Variations, 11th Edition.* Cengage Learning. ISBN 978-0357374825. 752 pp.
< https://tinyurl.com/2dusnmcs >

- M. E. Kabay

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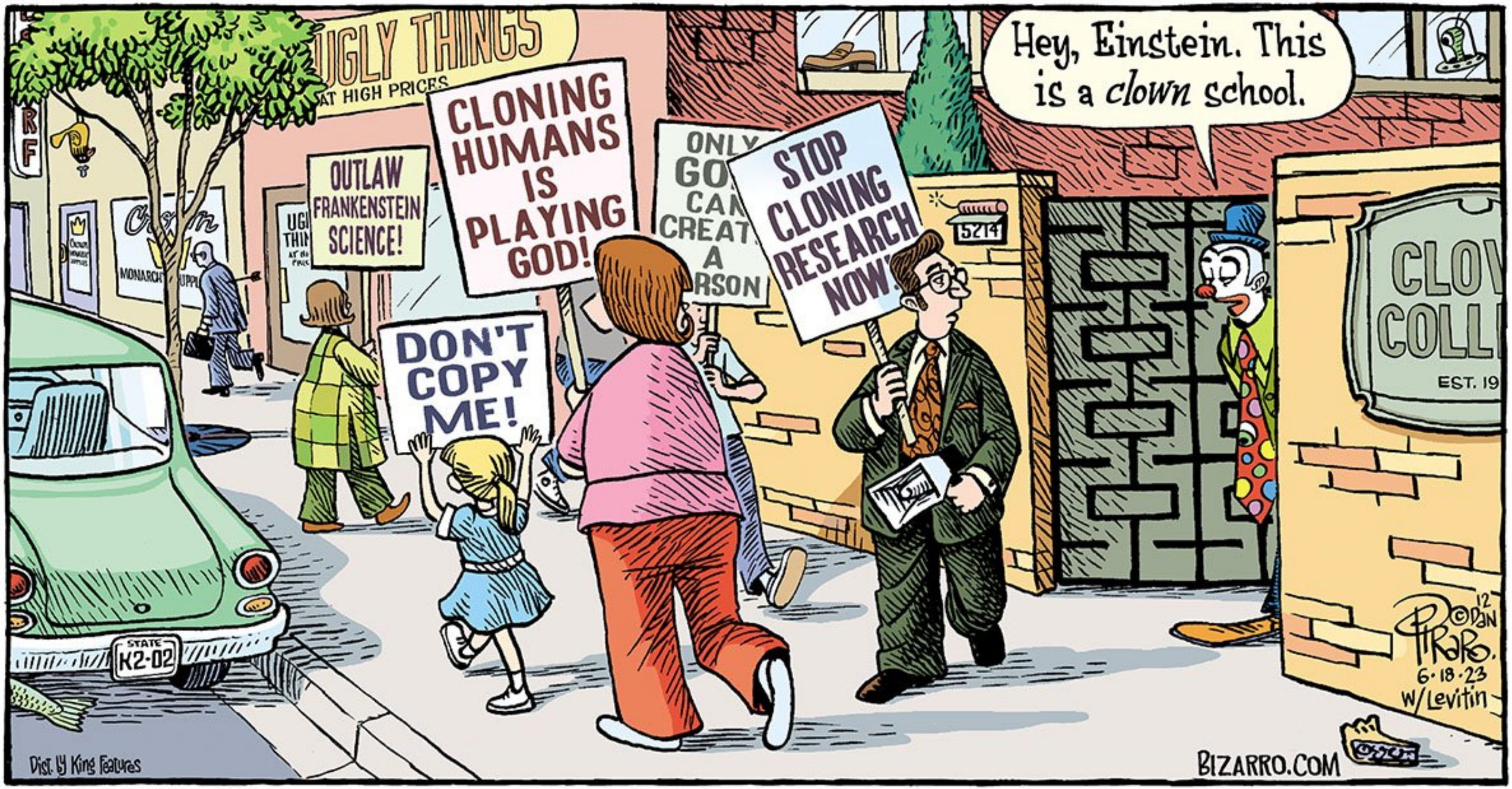
New York is adapting to climate change.

I just found out my wife had me cloned last year & has been seeing him behind my back. Is she cheating on me?
DAN PIRARO 1-20-17
FUTURE CALL-IN ADVICE SHOW

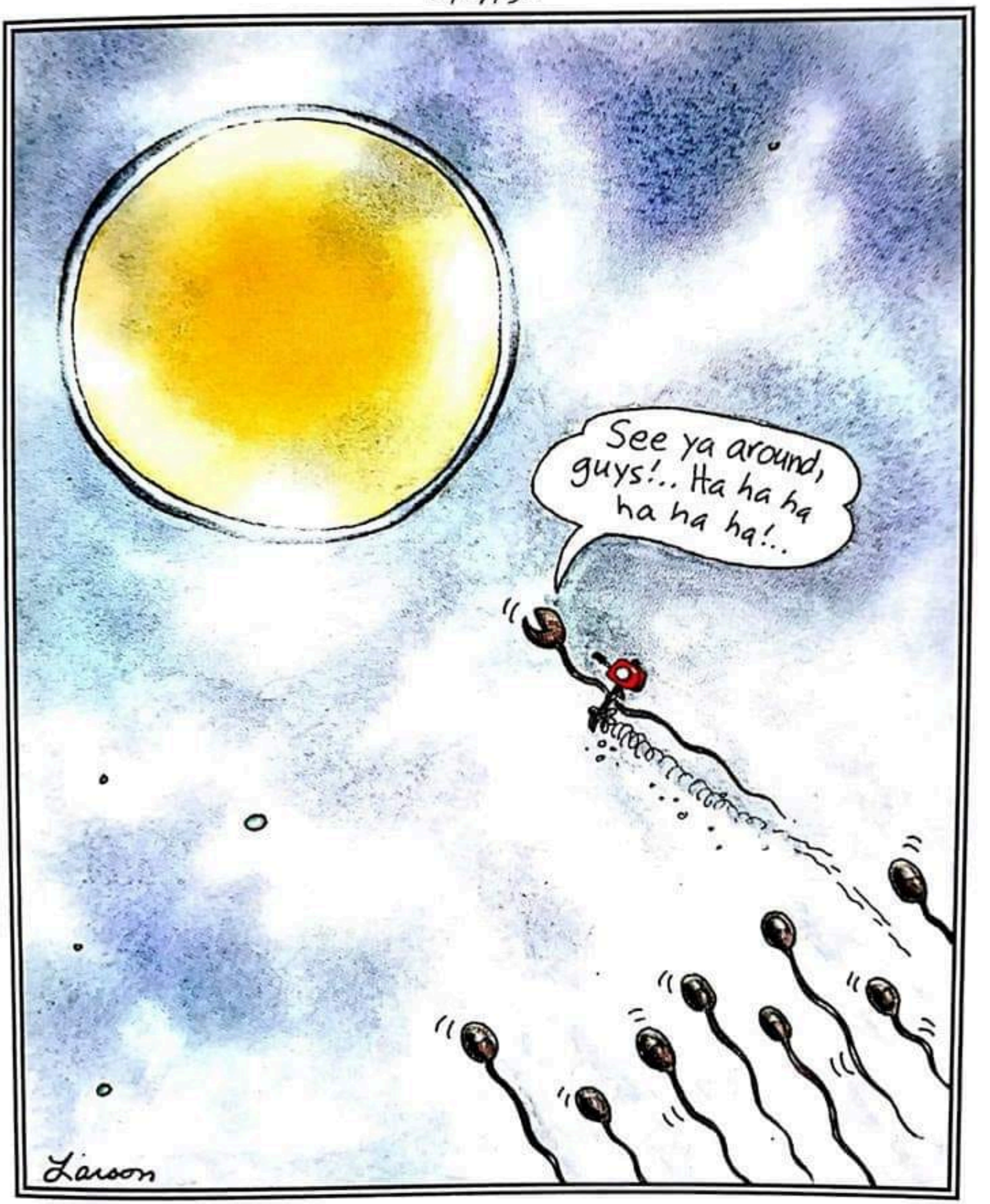

UGLY THINGS
AT HIGH PRICES
CLONING HUMANS IS PLAYING GOD!
OUTLAW FRANKENSTEIN SCIENCE!
DON'T COPY ME!
STOP CLONING RESEARCH NOW!
Hey, Einstein. This is a clown school.
5214
STATE K2-02
EST. 19
©DAN PIRARO 12
6·18·23
W/Levitin
Dist. by King Features
BIZARRO.COM

My 4-year old says, "daddy - those bugs are giving a piggyback ride!". Slightly embarrassed I decided she was old enough for 'the talk.' I sit her down and say, "Pumpkin - those are beetles, not bugs."

If you aren't talking to your kids about entomology, who is?

(c) Mike "troll" Dame

12/27/90



CONDUCTOR

SEMICONDUCTOR

WWW.KILLTHENEIGHBOURS.COM

SUPERCONDUCTOR

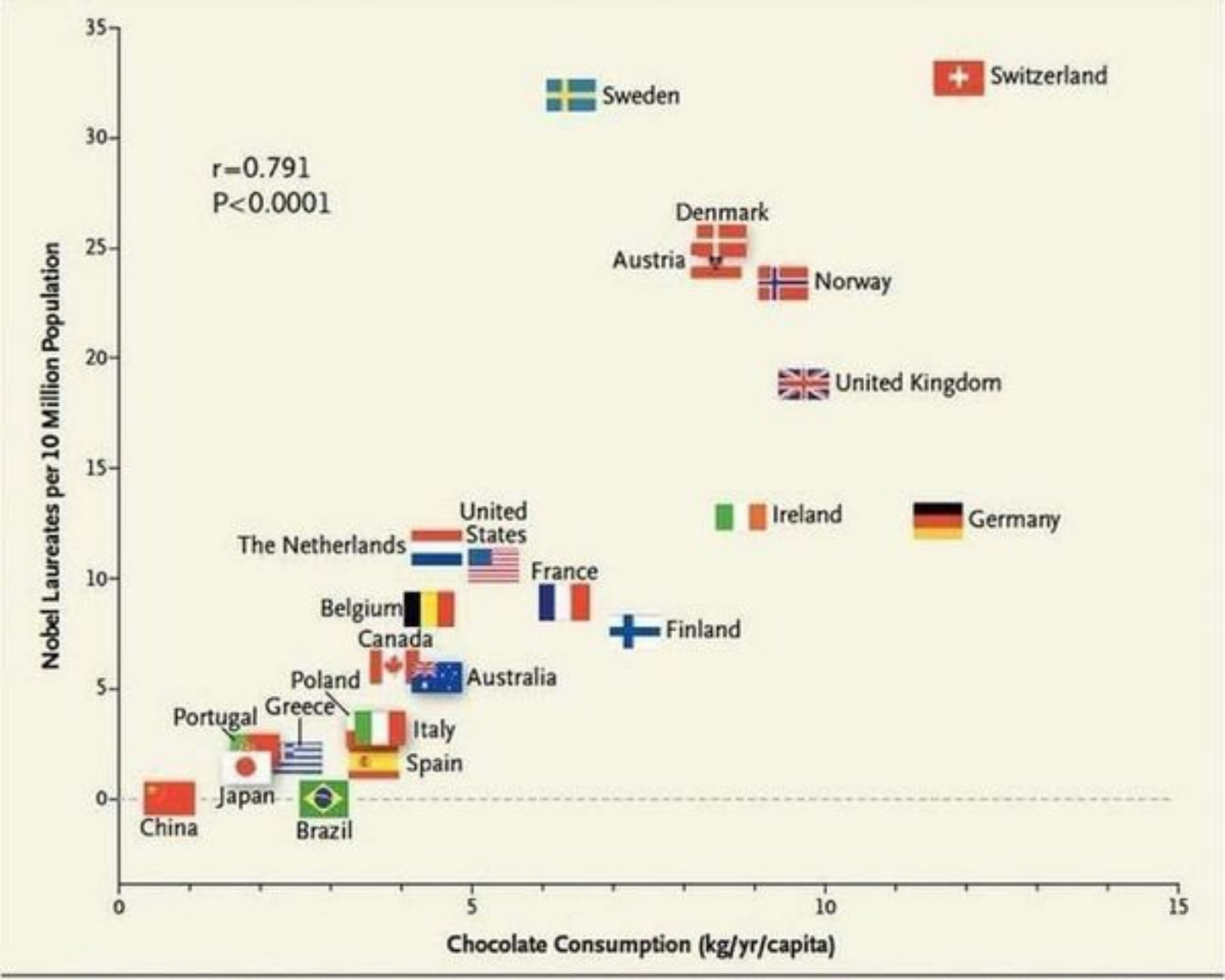
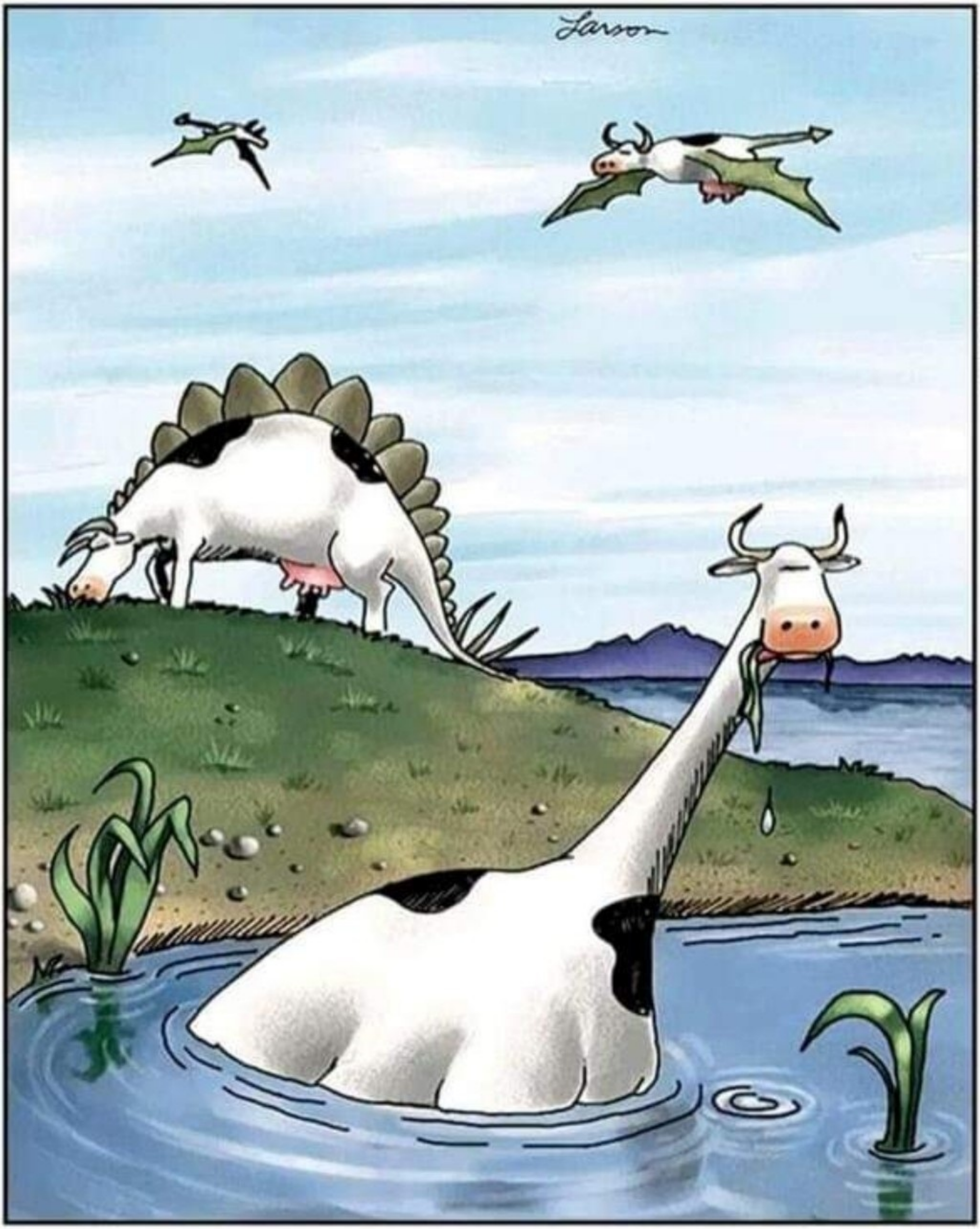


Figure 1. **Correlation between Countries' Annual Per Capita Chocolate Consumption and the Number of Nobel Laureates per 10 Million Population.**



Sixty-five million years ago, when cows ruled the Earth

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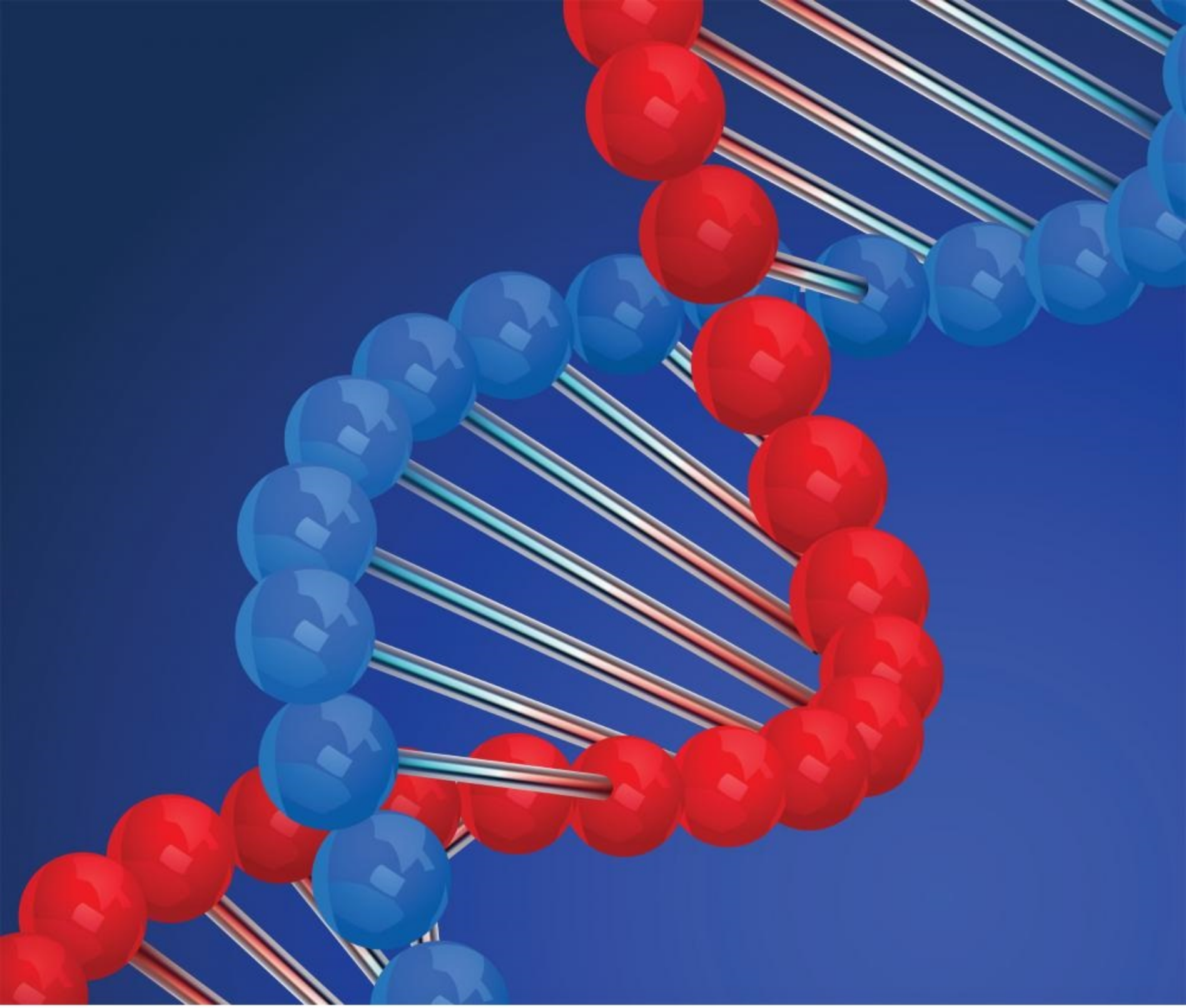
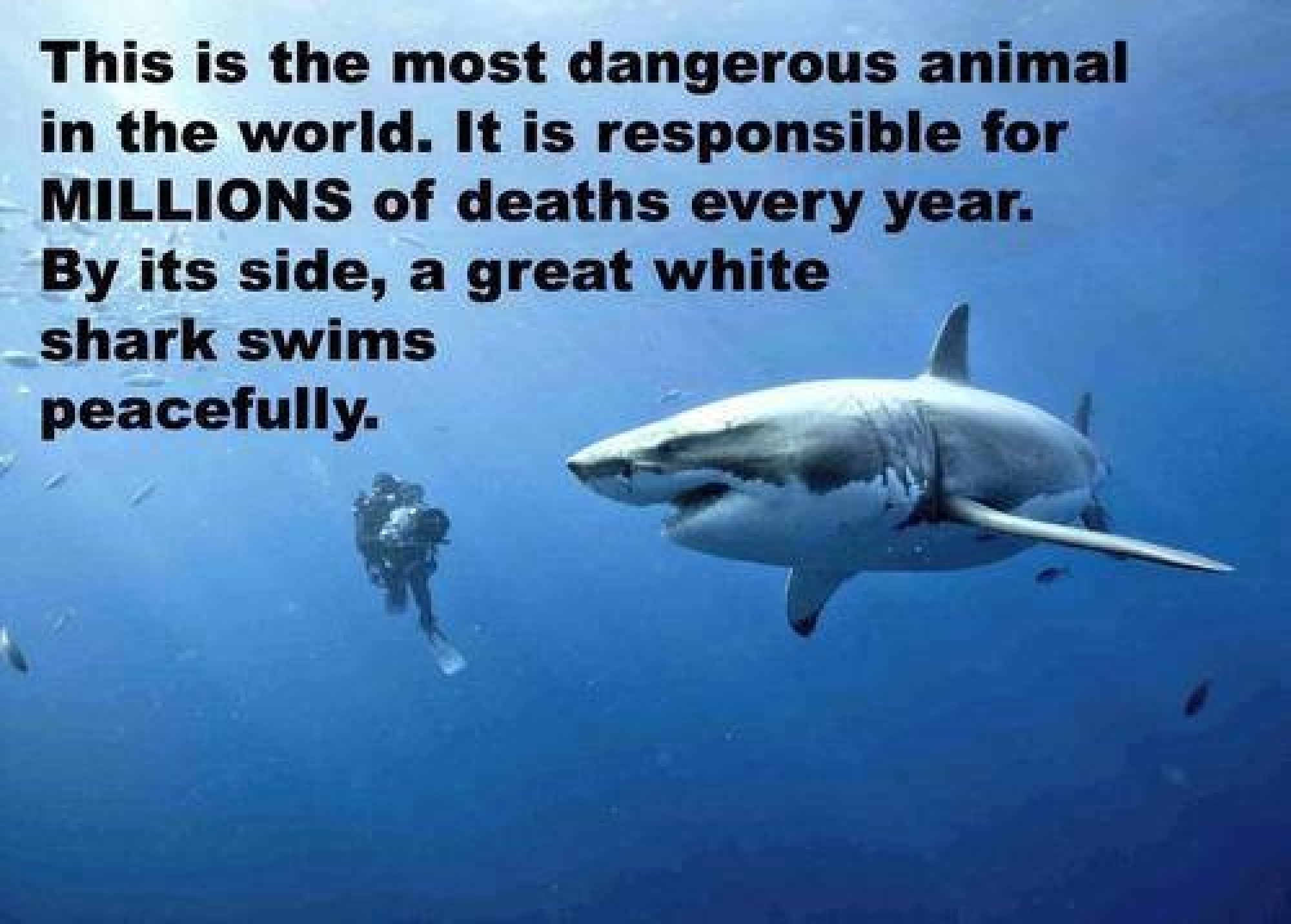


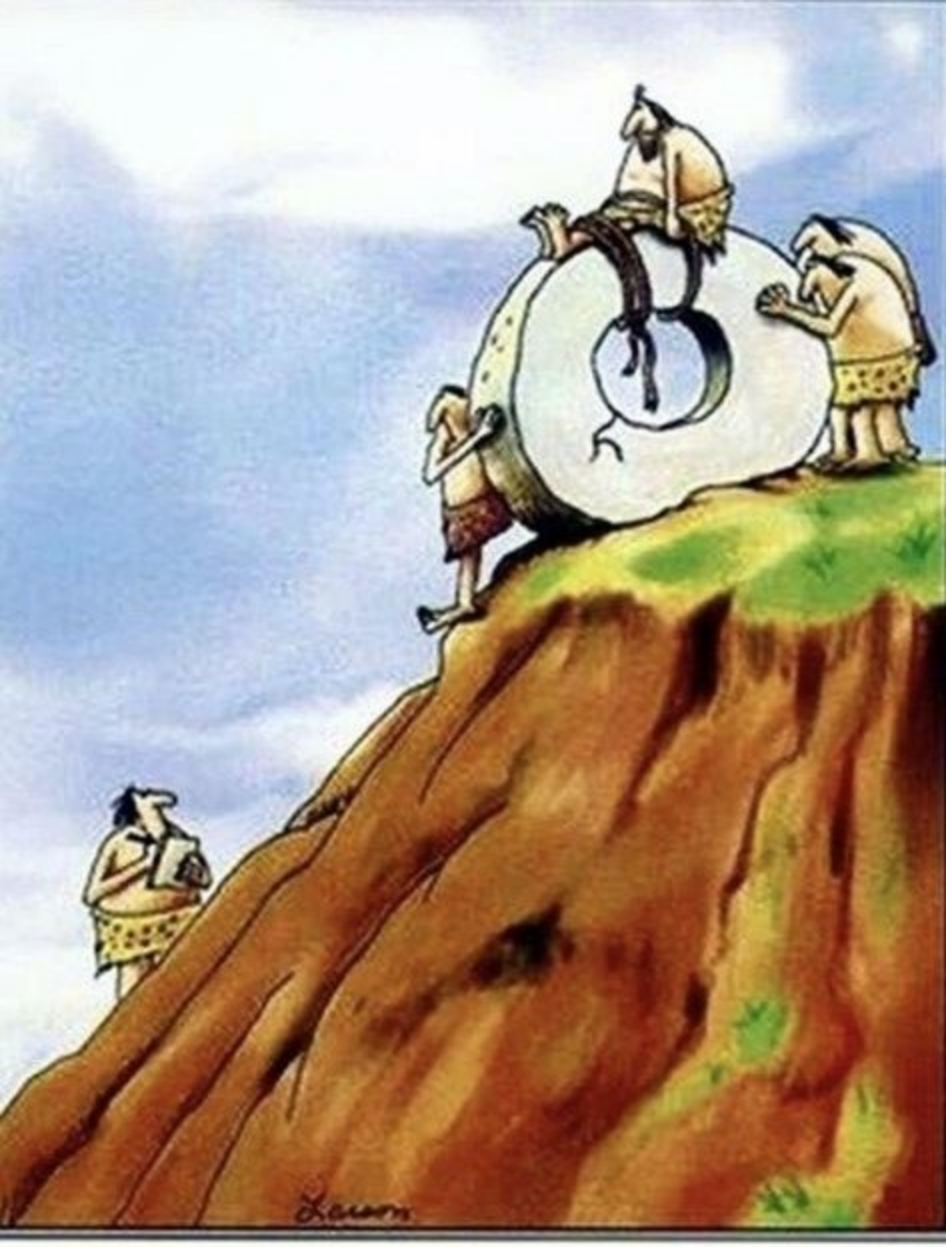
I'm starting a DNA-analysis company
for Indiana residents called "Hoosier Daddy".


This is the most dangerous animal in the world. It is responsible for MILLIONS of deaths every year. By its side, a great white shark swims peacefully.

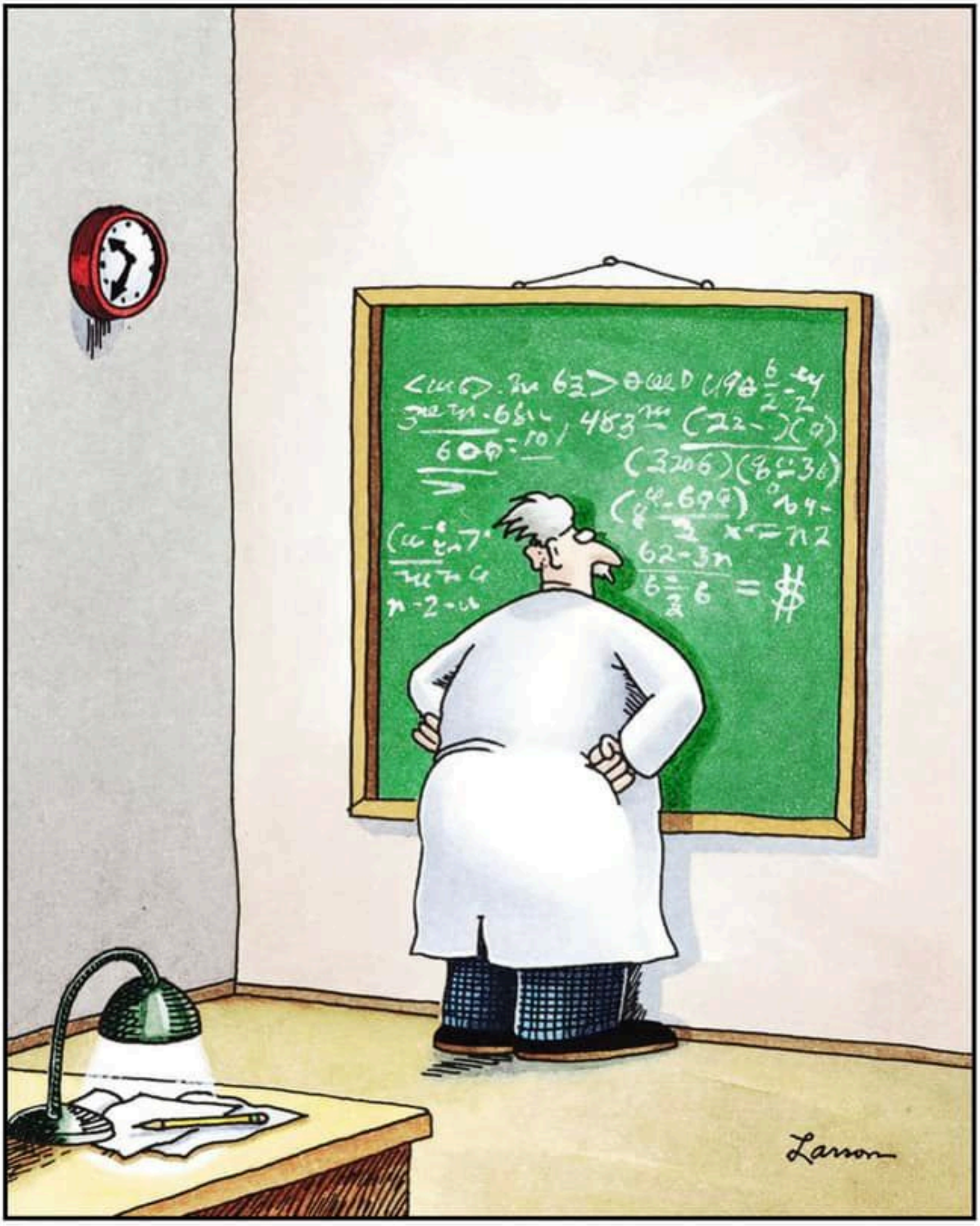
NATURAL SELECTION
DRAFT
WITH THE FIRST PICK IN THE DRAFT, FOR THE TWO HUNDRED THOUSANDTH YEAR IN A ROW, MOTHER NATURE SELECTS... HOMO SAPIENS!
WOO-HOO! YES!
I TOLD YOU THIS THING WAS FIXED!
11-29
Facebook.com/FreeRangeComic

Sentient Quantum Computers Resolving Statistically Weighted Matrix Solutions in Resonant Transdimensional Vector Sum Probability Flow Analysis

FOR DUMMIES



Early experiments in transportation technology.



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Einstein discovers that time is actually money.

"What exactly is a genetic engineer?"

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12·17·20
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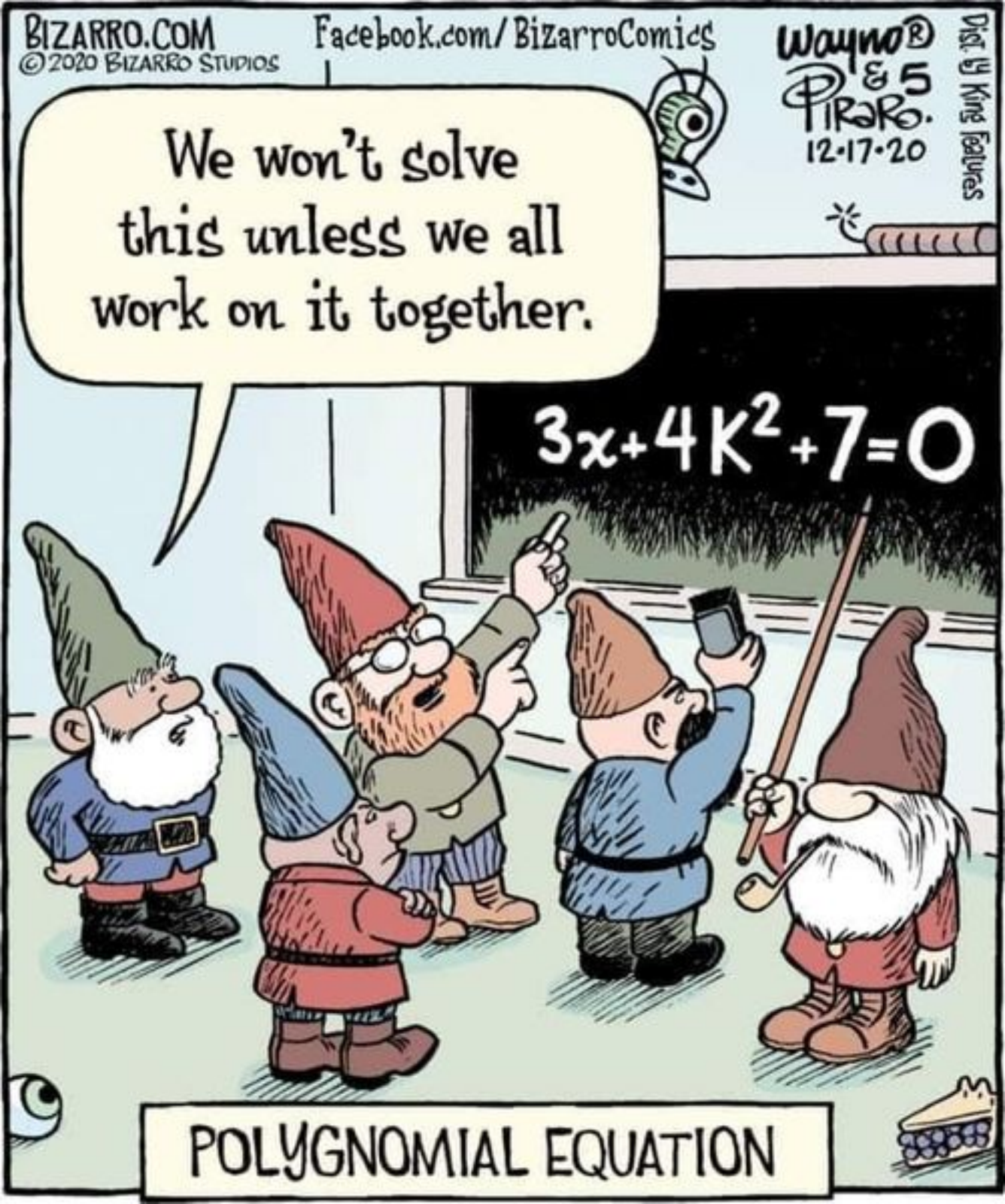


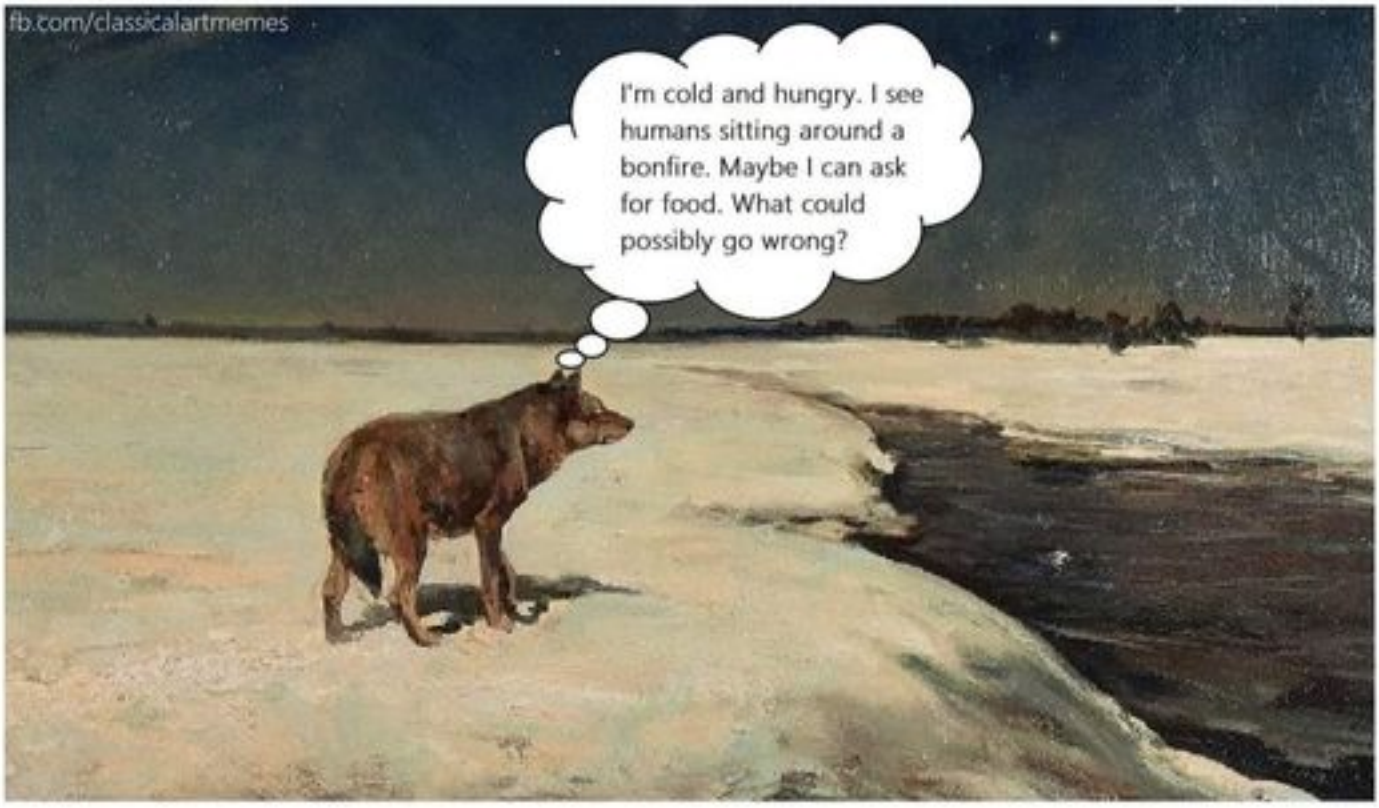
POLYGNOMIAL EQUATION

Coffee beverages in 1996

Coffee beverages in 2014

(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com



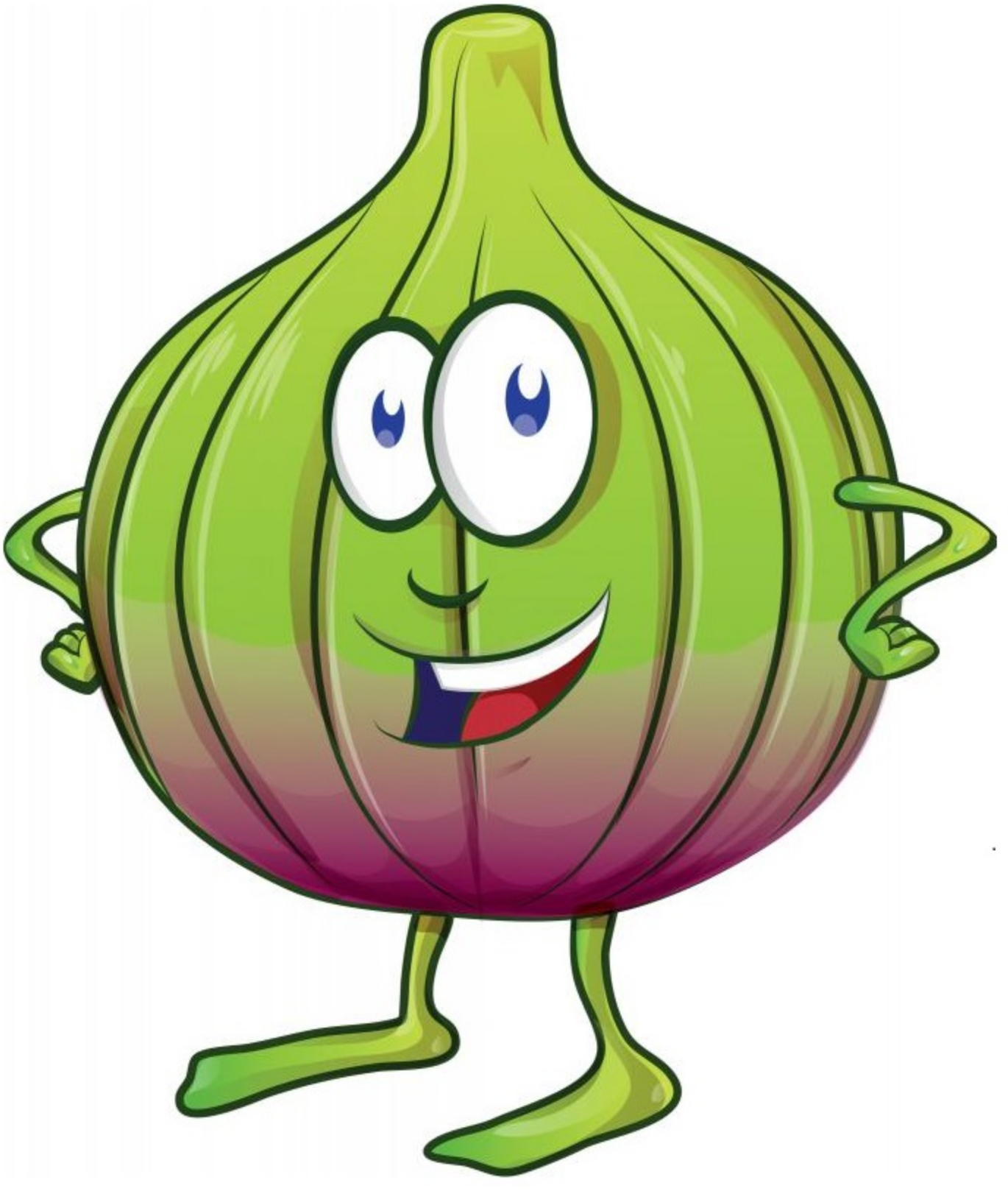
Thousands of years later...

Simon Clark @si... · 11h ···

In Bristol Harbour right now an aquatic species of lorry is trying to climb onto land for the first time

Evolution is beautiful

5-2
SPEEDBUMP.COM
©2012 COVERT
WOW, WELL DONE, YOU SURE SCARED ME, YOU SHOULD PAT YOURSELF ON THE BACK.
OH, RIGHT.
THE SARCASTISAURUS WAS SOON EXTINCT.



1 kg of falling figs =

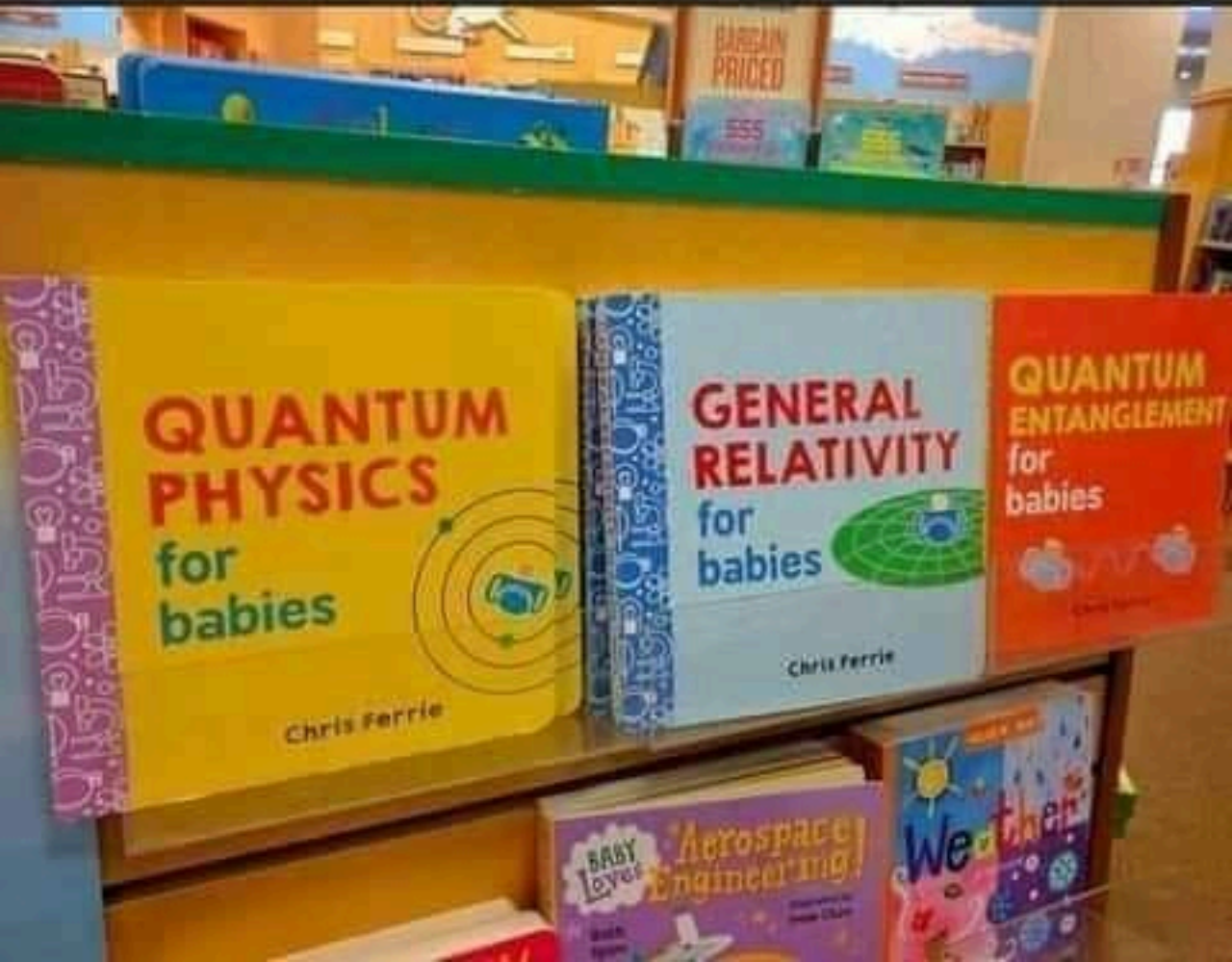
1 FigNewton

IF YOU TAP THE NEXT FILTER, YOU CAN ADD WHISKERS AND BUNNY EARS TO SATURN.
© 2019 COVERLY 5-23
SPEEDBUMP.COM / DIST. BY CREATORS

EATLIVER.COM
May I have a plastic bag?
Already inside!

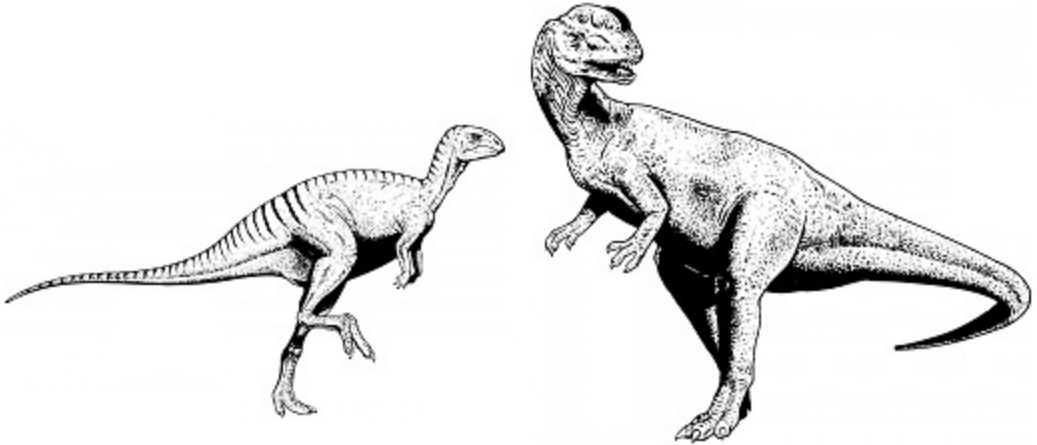
Neuro-imaging of different earthers.

FINALLY FINDING THE PERFECT BEDTIME STORY FOR YOUR CHILD

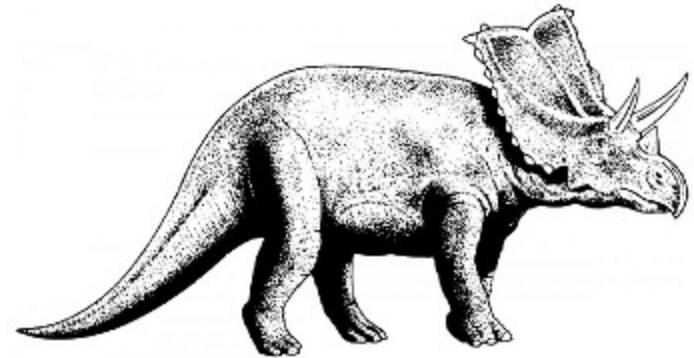


This complicates things.

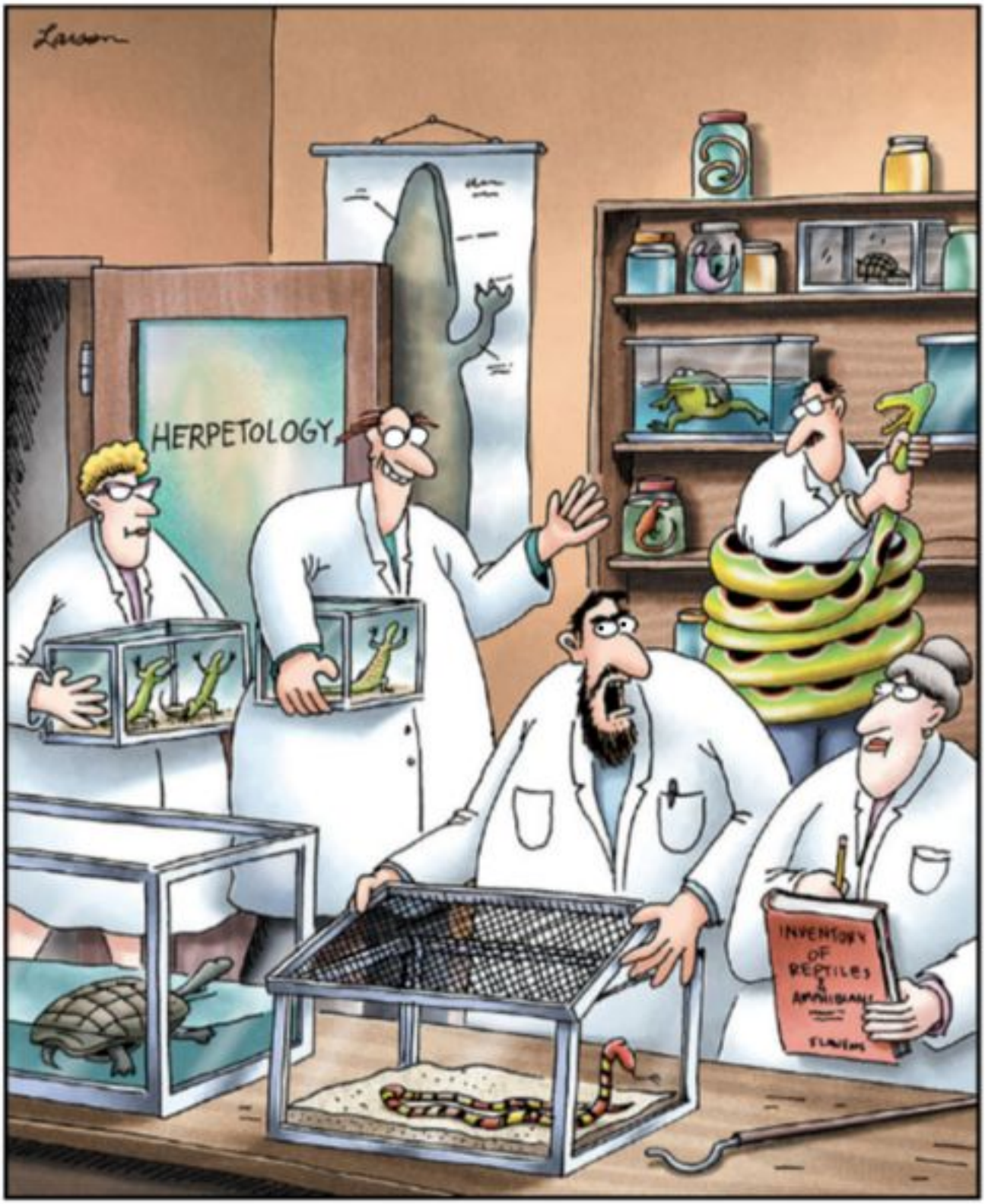
HEY, MOM, DID YOU KNOW THAT GRAVITY IN OUTER SPACE WORKS AS IF SPACE WAS A SOFT, FLAT SURFACE? IT'S TRUE.
HEAVY MATTER, LIKE PLANETS, SINKS INTO THE SURFACE AND ANYTHING PASSING BY, LIKE LIGHT, WILL "ROLL" TOWARD THE DIP IN SPACE MADE BY THE PLANET. LIGHT IS ACTUALLY DEFLECTED BY GRAVITY! AMAZING, HUH?
AND SPEAKING OF GRAVITY, I DROPPED A PITCHER OF LEMONADE ON THE KITCHEN FLOOR WHEN MY ROLLER SKATES SLIPPED.
HOW CAN KIDS KNOW SO MUCH AND STILL BE SO DUMB?
8-4



A T-Rex and a Velociraptor are waiting for lunch when they notice a Triceratops eating a nice salad. "Why was *he* served before *us*?" asks the Velociraptor in irritation. "Why," says the T-Rex, "because he was herbivorous."



THE FAR SIDE
BY GARY LARSON



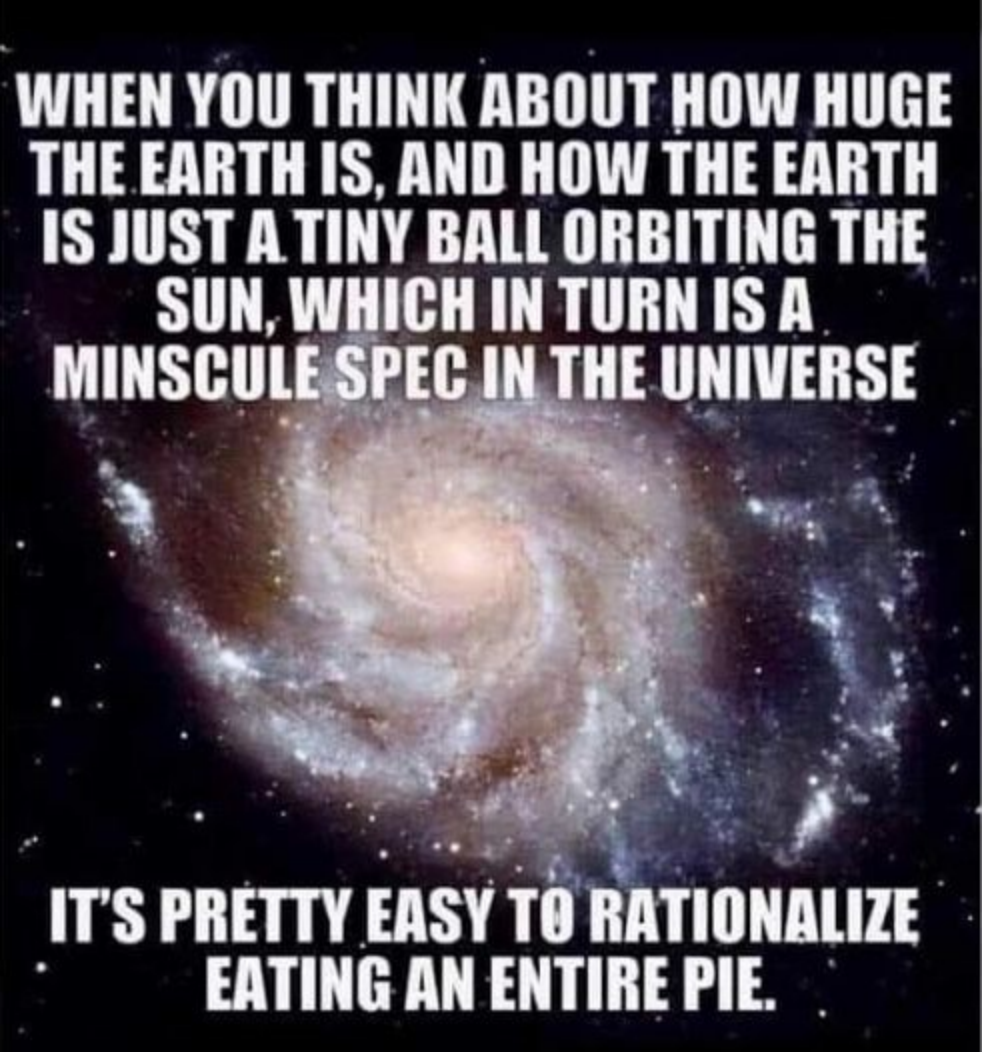
"Oh, God! It's that creepy Ted Sheldon and Louise Dickerson. ... They're skinkheads, you know."

Moore, 2008). In addition, the hypothalamus serves as a vital link between the brain and the endocrine system (a network of hormone-producing glands, discussed later in this chapter).

The hypothalamus plays a major role in the regulation of basic biological drives related to survival, including the so-called "four Fs": fighting, fleeing, feeding, and mating. For example, when researchers

LOOSE PARTS

by Dave Blazek


WHEN YOU THINK ABOUT HOW HUGE THE EARTH IS, AND HOW THE EARTH IS JUST A TINY BALL ORBITING THE SUN, WHICH IN TURN IS A MINSCULE SPEC IN THE UNIVERSE
IT'S PRETTY EASY TO RATIONALIZE EATING AN ENTIRE PIE.

How to Make Infinite Energy

1

Cat always lands on her feet.

2

Bread with butter always falls butter side down.

3

Fasten bread with butter to cat's back.

4

Cat will keep rotating and never fall on the ground.

5

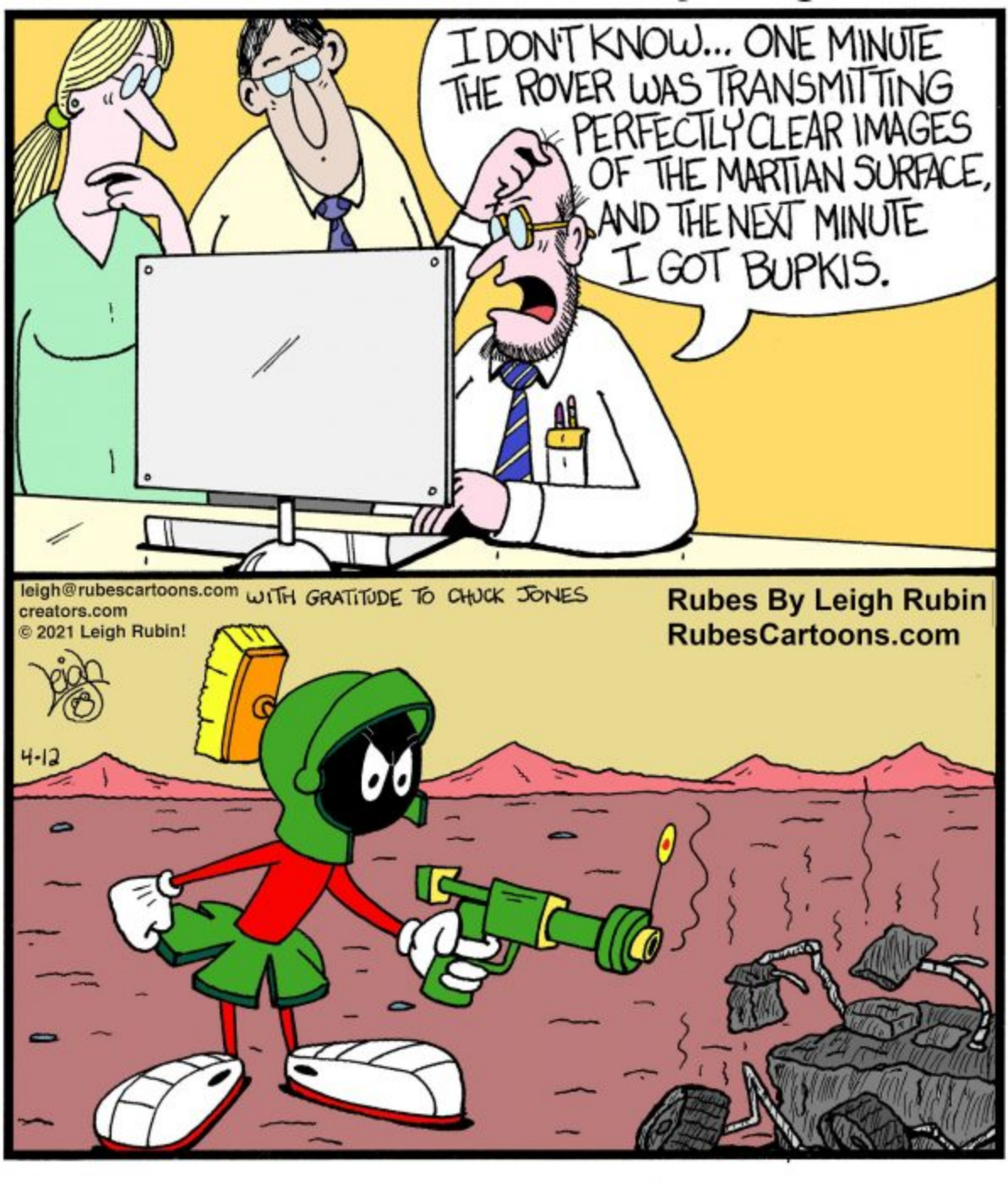
Attach cat-bread to generator.

6

∞

Infinite energy!

Jim Coleman Agency
The Institute of
Unfinished Research
has concluded that
6 out of 10 people


I DON'T KNOW... ONE MINUTE THE ROVER WAS TRANSMITTING PERFECTLY CLEAR IMAGES OF THE MARTIAN SURFACE, AND THE NEXT MINUTE I GOT BUPKIS.
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creators.com
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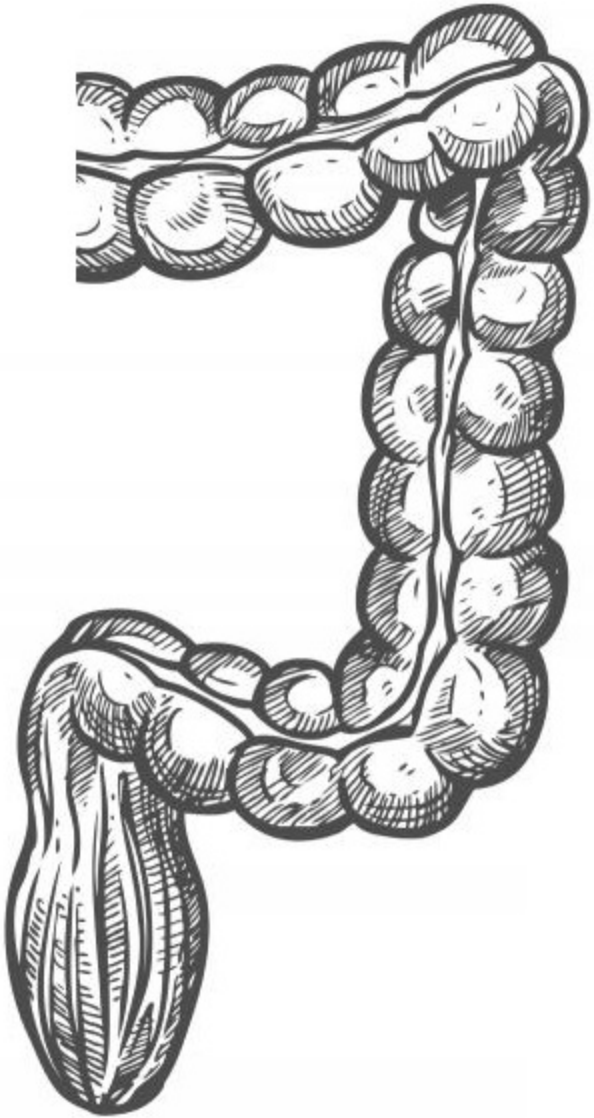
WITH GRATITUDE TO CHUCK JONES
Rubes By Leigh Rubin
RubesCartoons.com
4-12



=

;

-ions

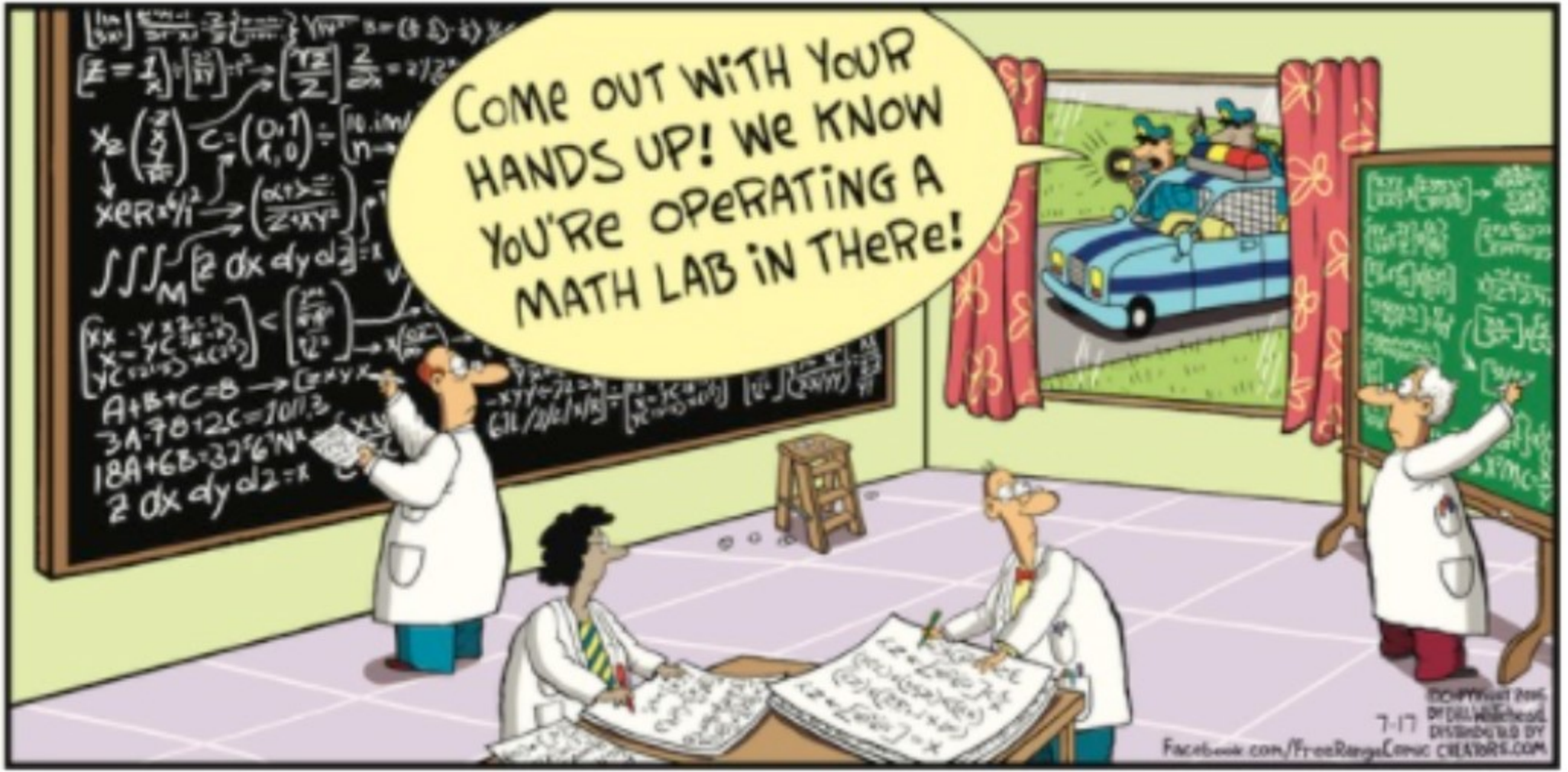
are

-sitive

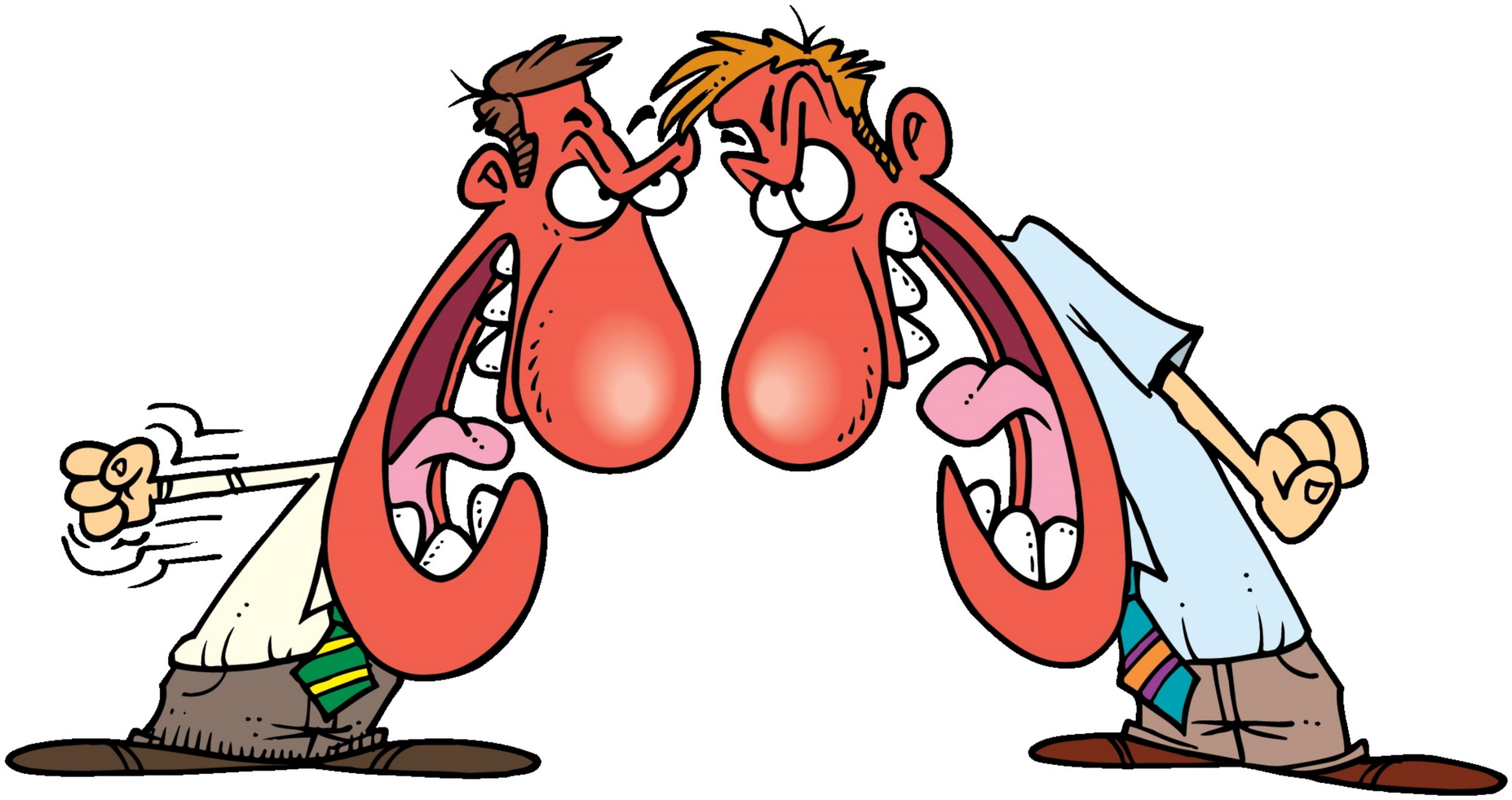
SWEAR JAR

Telling people about science when I wasn't asked.

what doesn't kill you
mutates and tries again


COME OUT WITH YOUR HANDS UP! WE KNOW YOU'RE OPERATING A MATH LAB IN THERE!
7-17
Facebook.com/FreeRangeComic

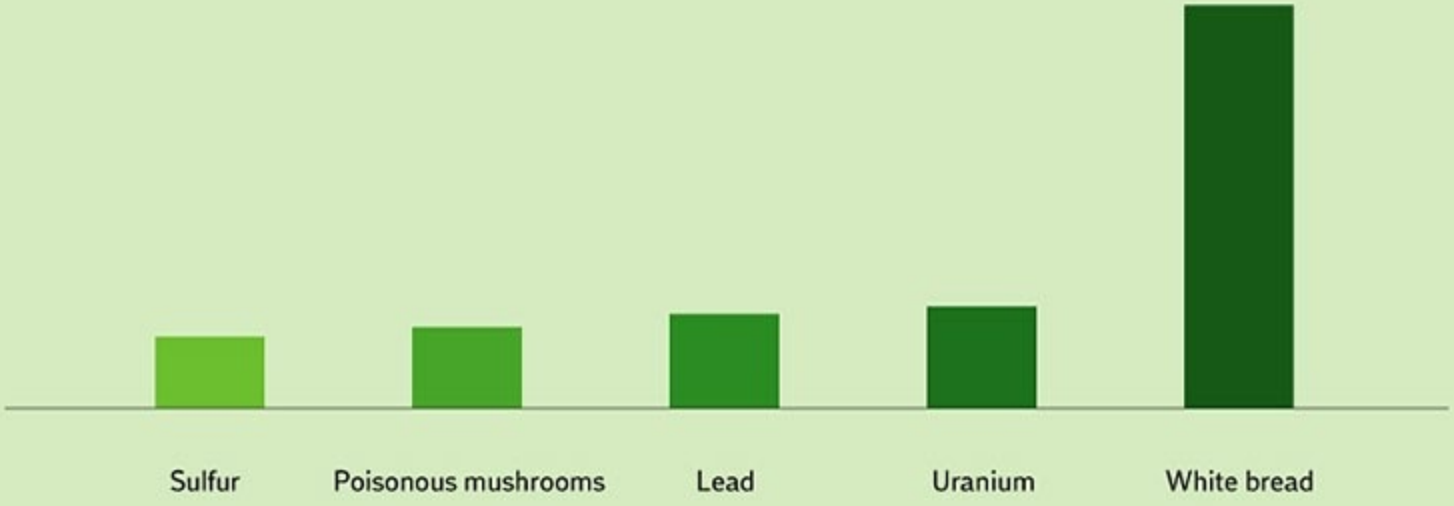
THE LAW OF LOGICAL ARGUMENT



Anything is possible
IFF both parties don't know
what they're talking about.

- M. E. Kabay

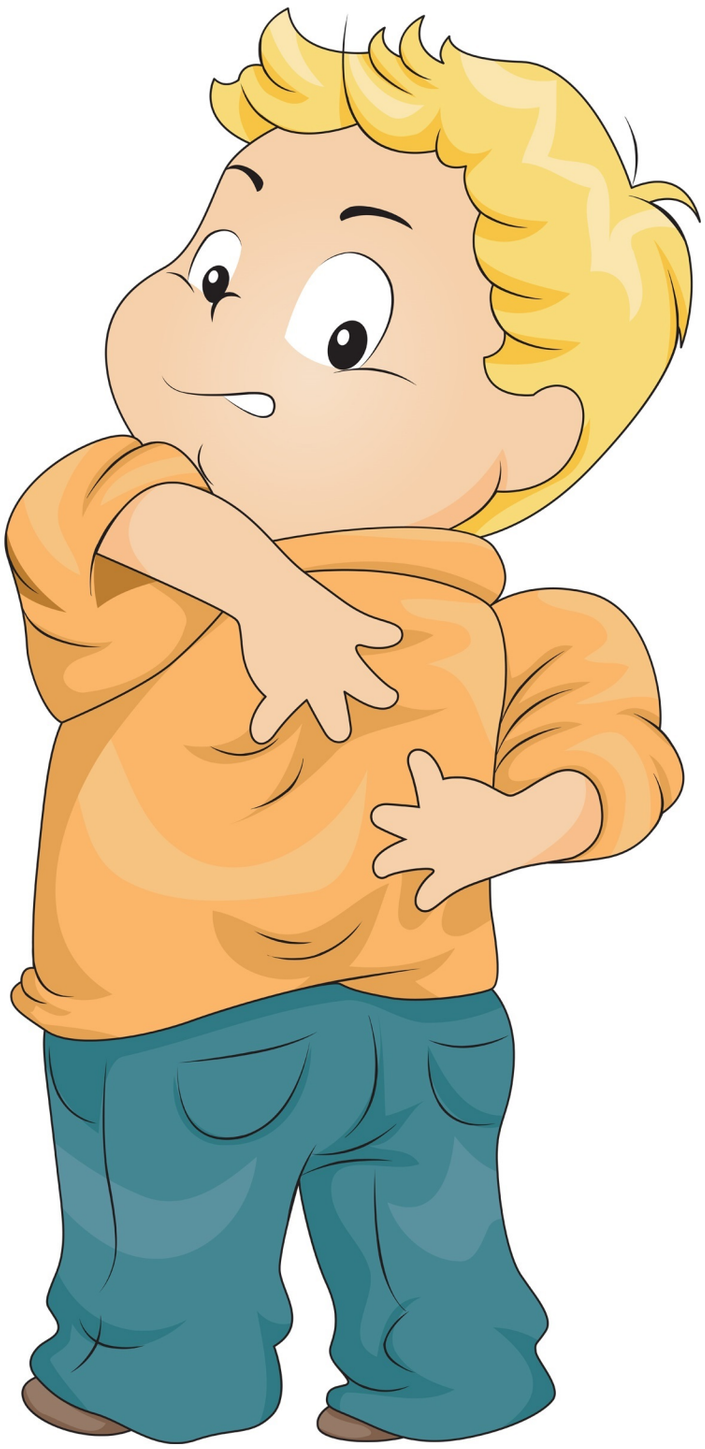
THE MOST DANGEROUS FOODS ACCORDING TO DIETARY EXPERTS



(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

LAW OF BIOMECHANICS



The severity of an itch is inversely proportional to the ease of reaching it.

– M. E. Kabay

THE LAW OF HOT COFFEE

As soon as you sit down
to a nice cup of hot coffee,
your boss will ask you
to do something that will last
until your coffee is cold.

- M. E. Kabay

THE LAW OF LOCKER ROOMS

if there are only two people in a locker room, they will be using adjacent lockers.

- M. E. Kabay

The Law of Technical Support

When your computer does not work, call
Tech Support so that you can look like an idiot
when the system works perfectly
as soon as you get the agent on the line.

- M. E. Kabay

Sixteenth-century Spanish sailing ships could go 300 leagues before resupplying. That's 900 miles to the galleon!

A consequence of deforestation.

YOU KNOW, I DON'T THINK MATH IS A SCIENCE. I THINK IT'S A RELIGION.

A RELIGION?

YEAH. ALL THESE EQUATIONS ARE LIKE MIRACLES. YOU TAKE TWO NUMBERS AND WHEN YOU ADD THEM, THEY MAGICALLY BECOME ONE ***NEW*** NUMBER! NO ONE CAN SAY HOW IT HAPPENS. YOU EITHER BELIEVE IT OR YOU DON'T.

THIS WHOLE BOOK IS FULL OF THINGS THAT HAVE TO BE ACCEPTED ON FAITH! IT'S A RELIGION!

AND IN THE PUBLIC SCHOOLS NO LESS. CALL A LAWYER.

AS A MATH ATHEIST, I SHOULD BE EXCUSED FROM THIS.

Watermelon

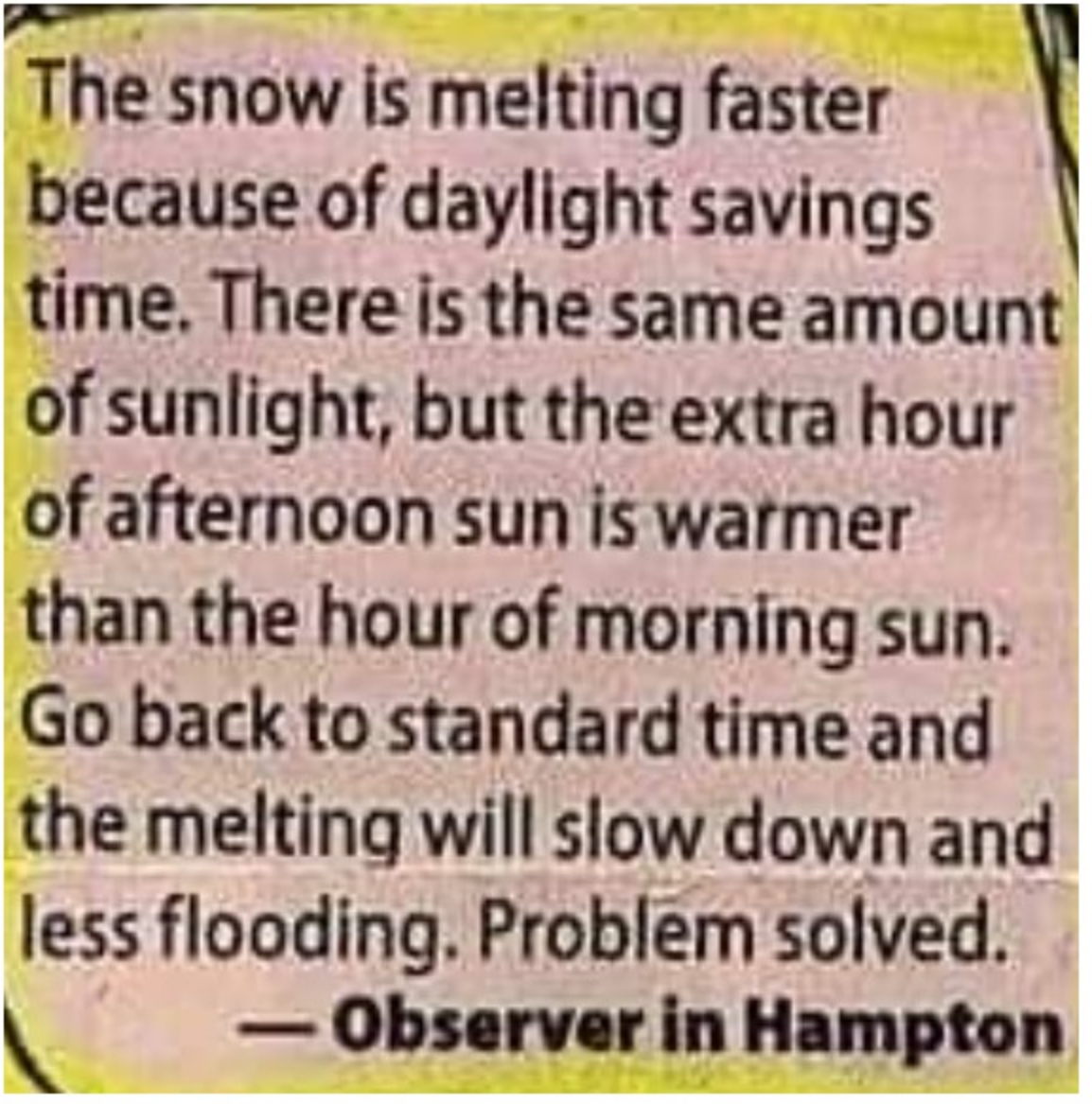
Earthmelon

Firemelon

Airmelon

THE ELEMELONS

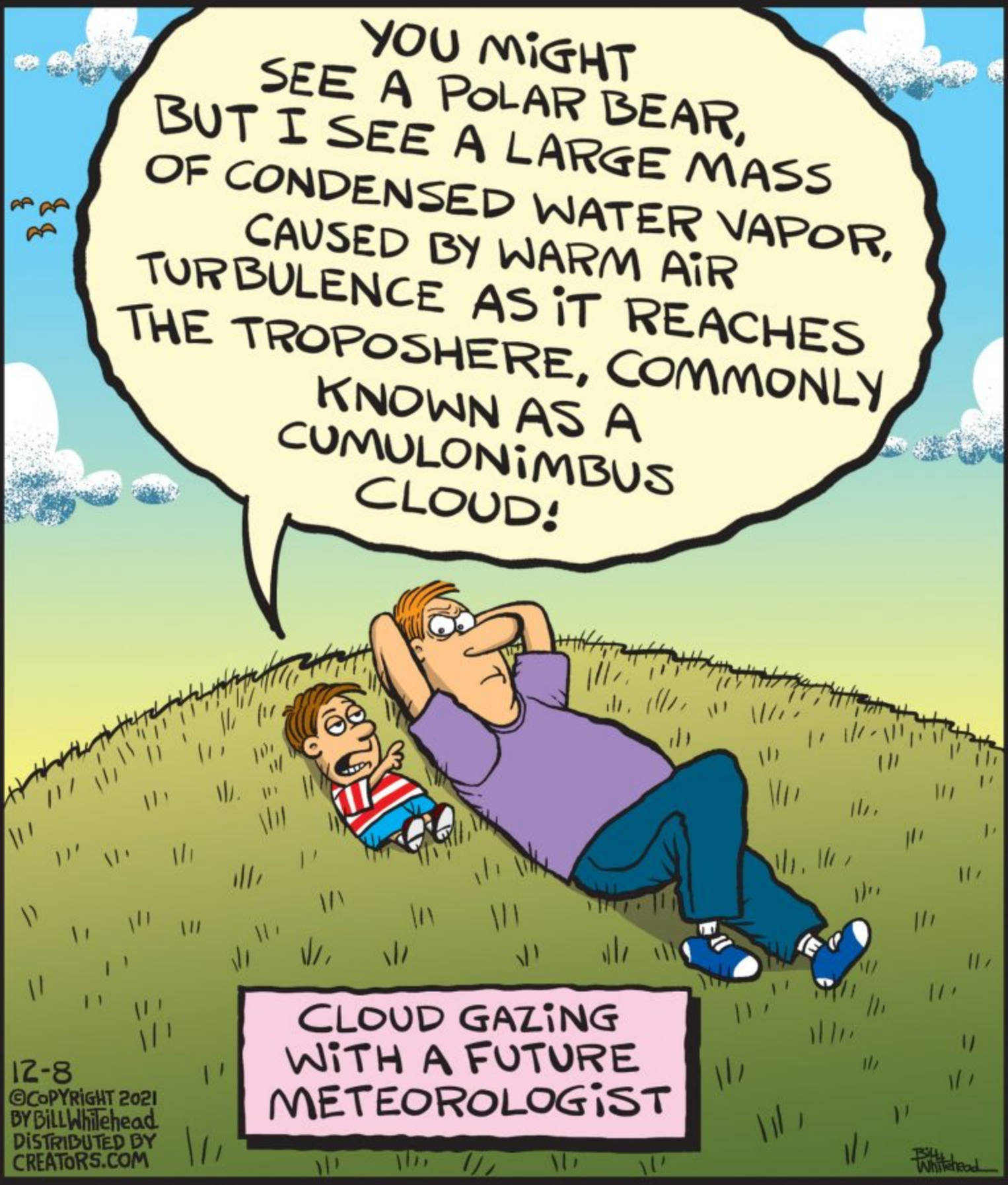
Oy.


The snow is melting faster because of daylight savings time. There is the same amount of sunlight, but the extra hour of afternoon sun is warmer than the hour of morning sun. Go back to standard time and the melting will slow down and less flooding. Problem solved.

— Observer in Hampton

"Brother Mendel -
we grow tired of peas!"

LET ME THROUGH! I'M A METEOROLOGIST!
NOT A PIPE
Bunny's PIE REPAIR
ANOTHER PIE REFERENCE
BIZARRO.COM
Dist. by King Features
©DAN PIRARO 5·14·23


YOU MIGHT SEE A POLAR BEAR, BUT I SEE A LARGE MASS OF CONDENSED WATER VAPOR, CAUSED BY WARM AIR TURBULENCE AS IT REACHES THE TROPOSHERE, COMMONLY KNOWN AS A CUMULONIMBUS CLOUD!
CLOUD GAZING WITH A FUTURE METEOROLOGIST
12-8
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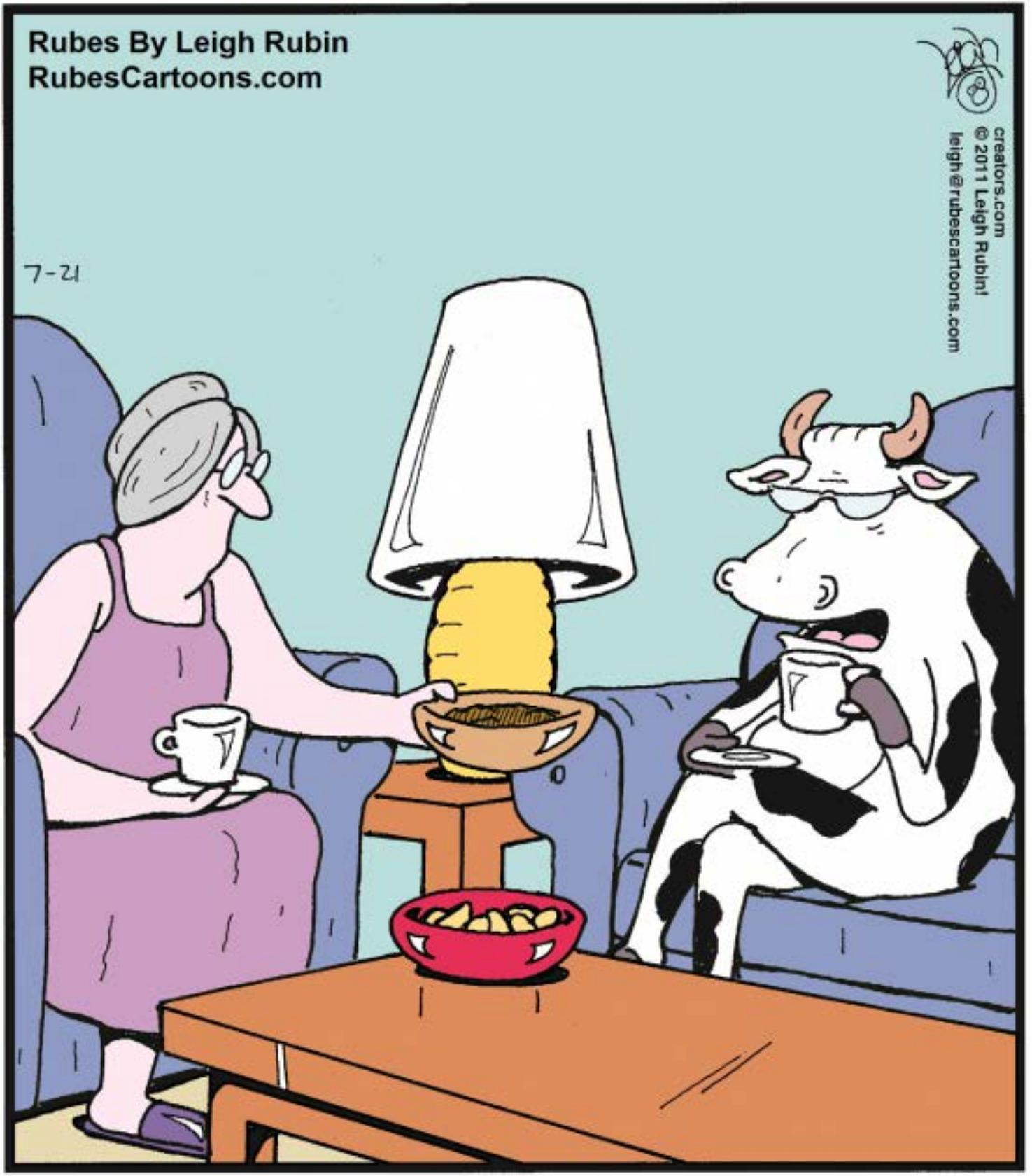
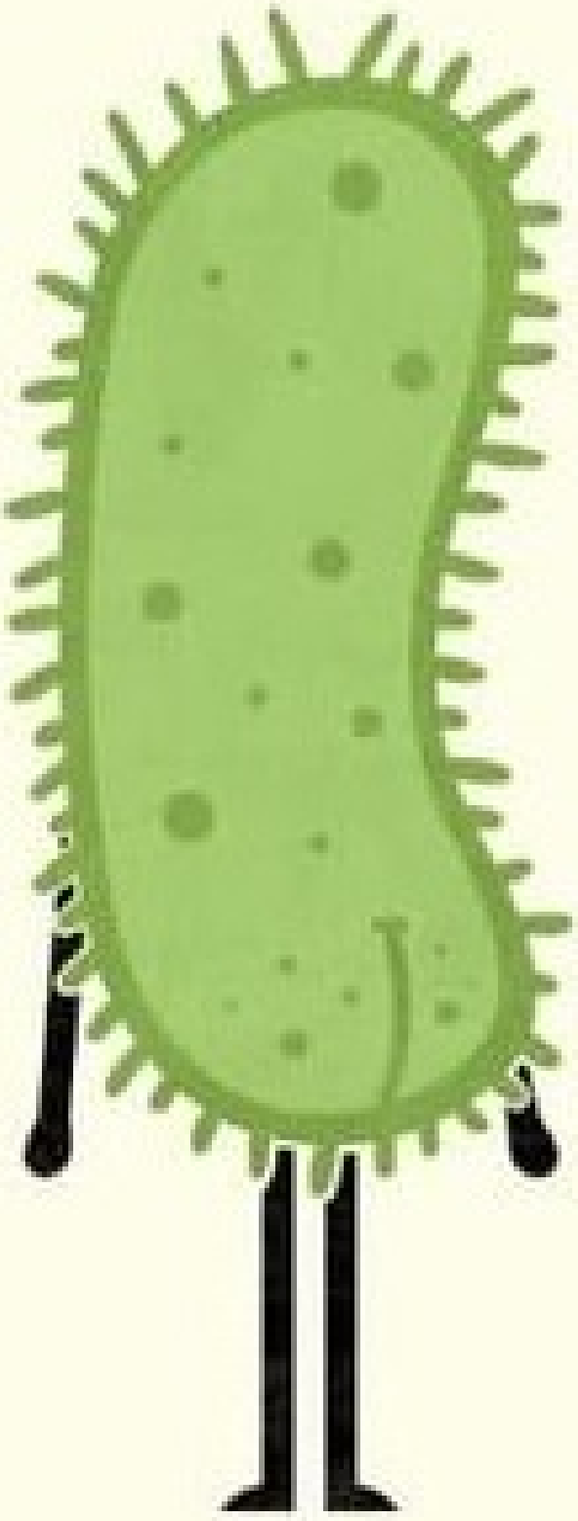
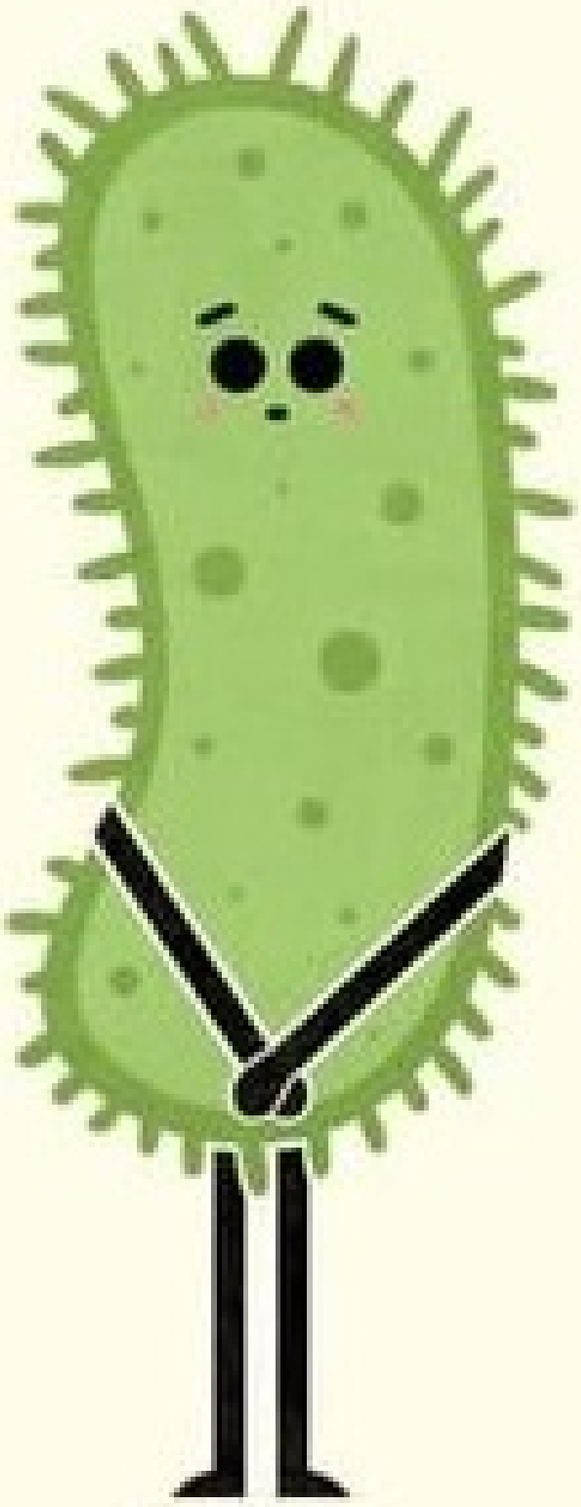
Bill Whitehead



"No more bean dip for me, dear. I'm trying to reduce my carbon footprint."



BACTERIA



FRONTERIA

1 million microphones = 1 phone

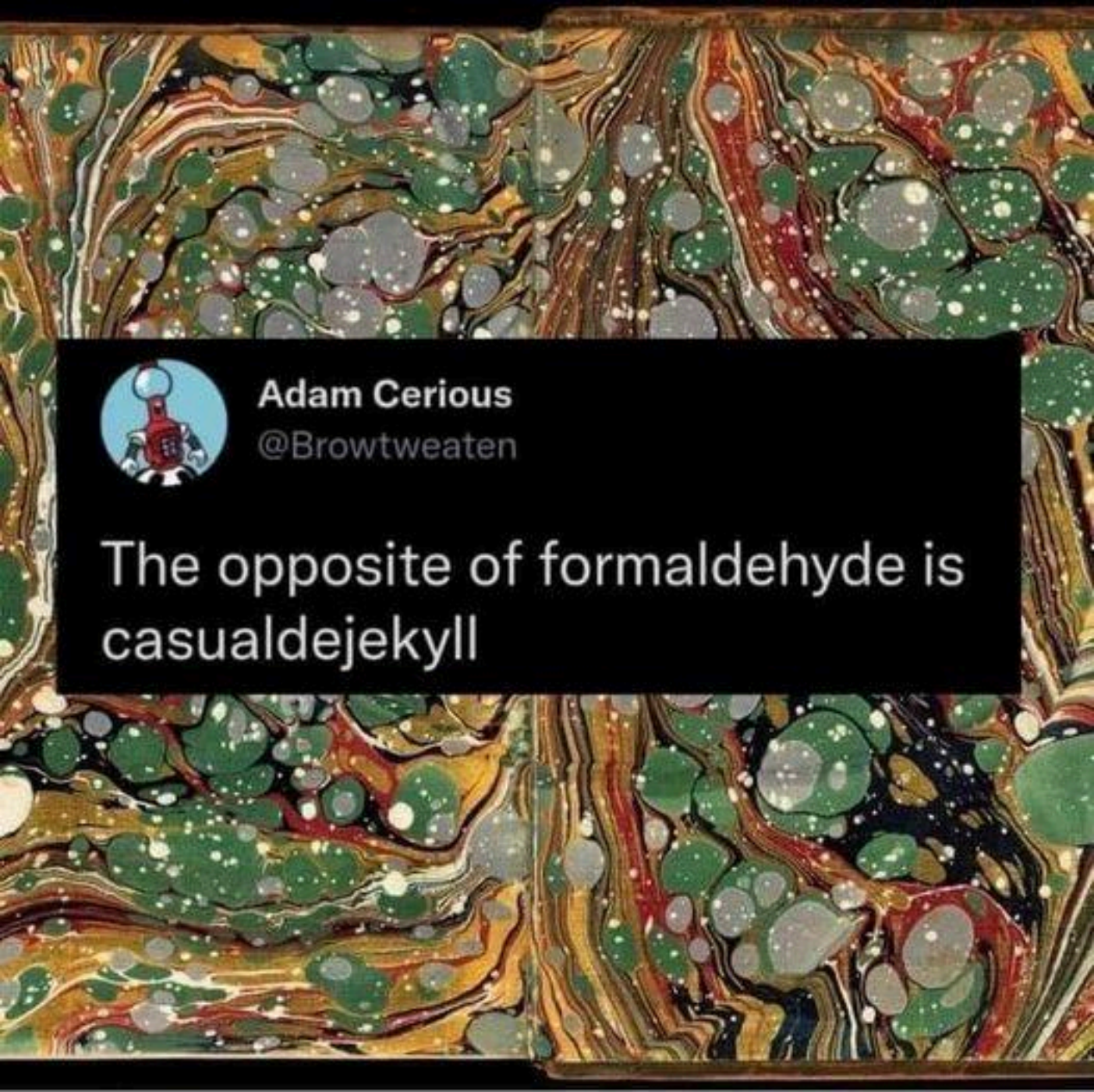
1 million phones = 1 megaphone

2×10^3 mockingbirds = 2 kilomockingbird

2 monograms = 1 diagram

CORRELATION

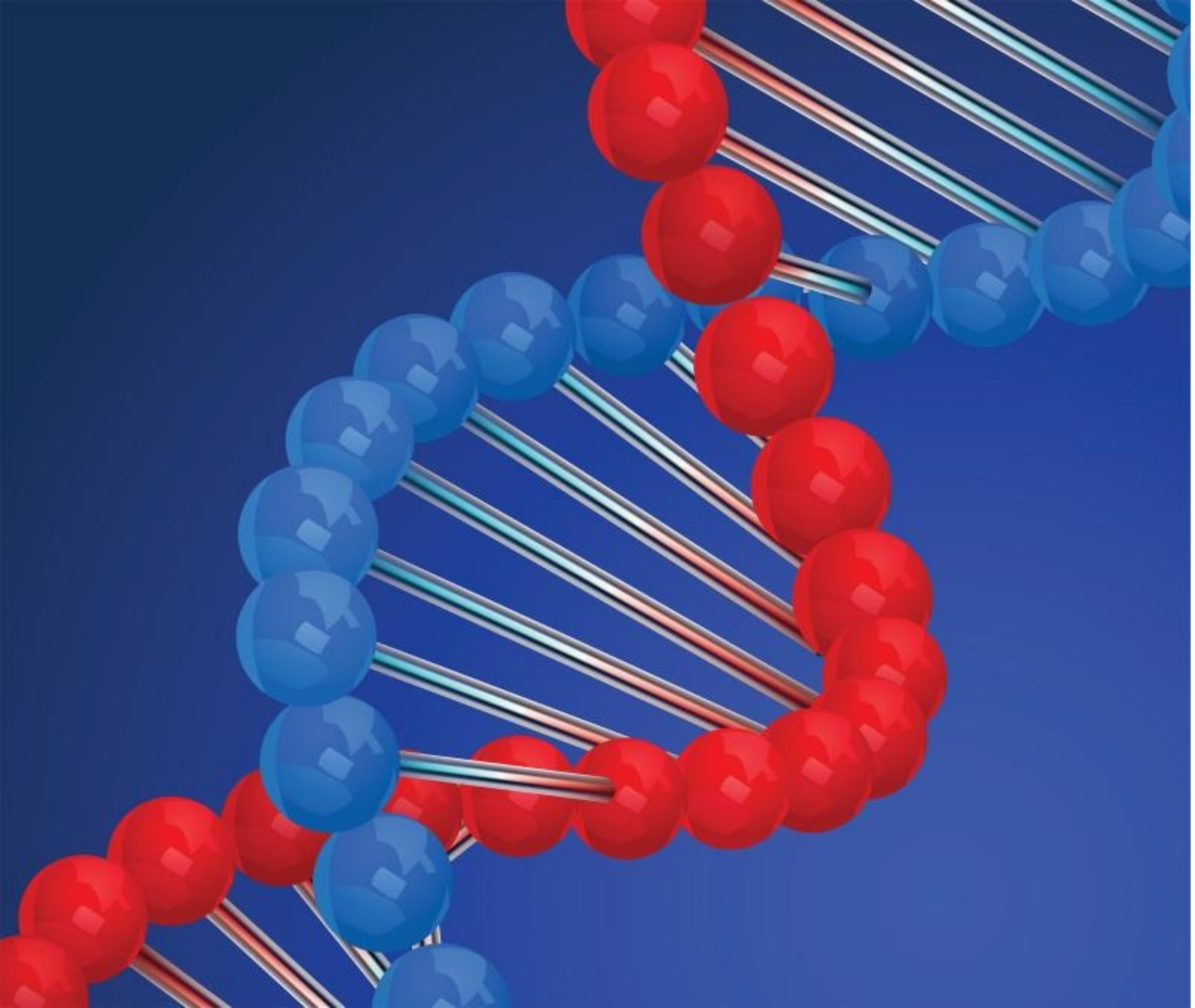
AIN'T NECESSARILY CAUSATION.


Adam Cerious
@Browtweaten
The opposite of formaldehyde is casualdejekyll

Ancient skull found on archaeological dig is proof of our alien origins.

Pangea?

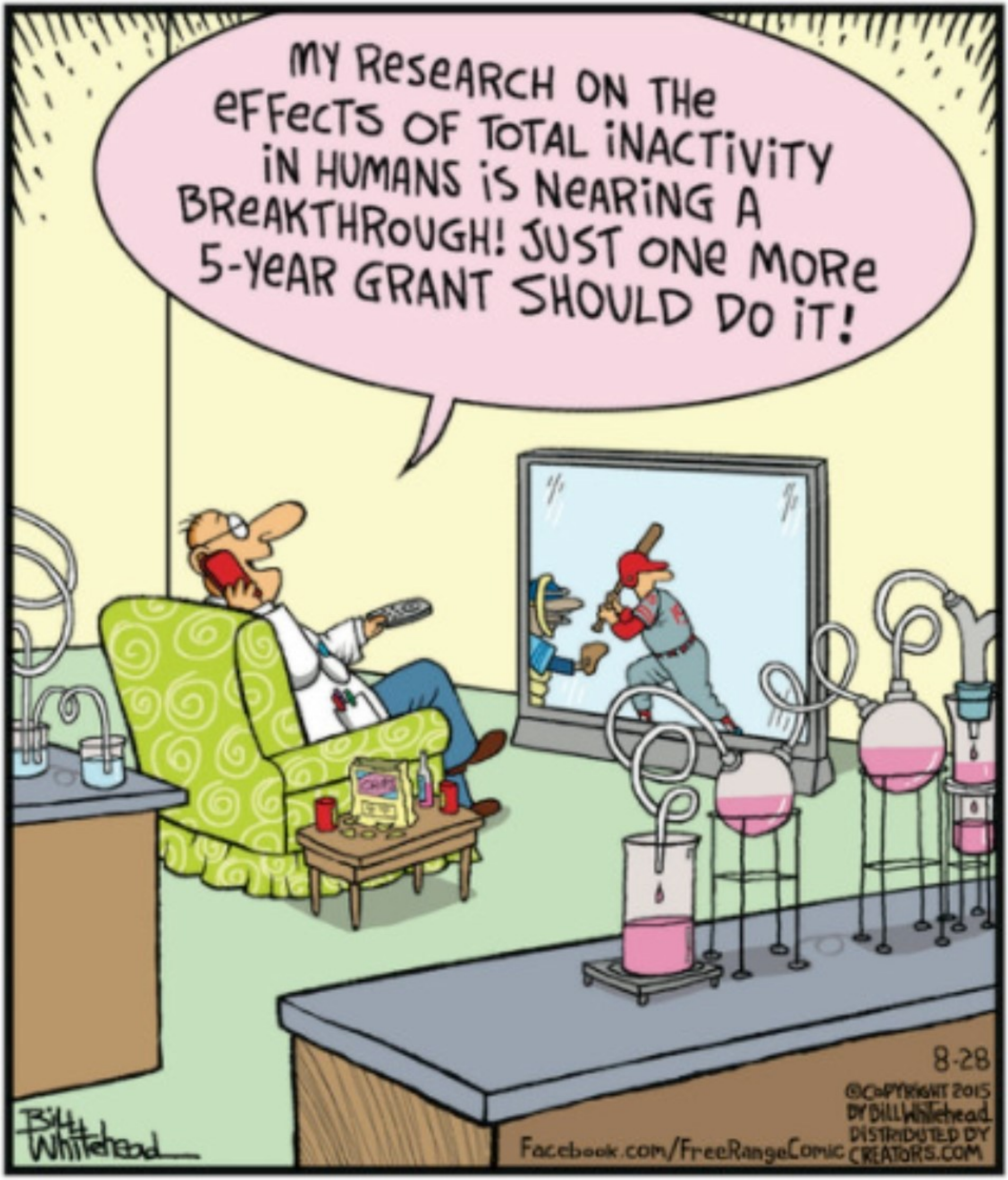
When you try to understand QUANTUM MECHANICS



I couldn't afford to pay for an *Ancestry DNA* kit, so I just announced that I had won the Lottery.

Soon I found out who *all* my relatives are....

- M. E. Kabay


MY RESEARCH ON THE EFFECTS OF TOTAL INACTIVITY IN HUMANS IS NEARING A BREAKTHROUGH! JUST ONE MORE 5-YEAR GRANT SHOULD DO IT!
8-28
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Bill Whitehead

YOU HEARD ME, PROFESSOR! GET IN THERE!

6-11

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Bill Whitehead

Killer robots carrying explosives?

What could *possibly* go wrong??

$\sqrt[3]{\text{TREE}}$

The Brontësaurus

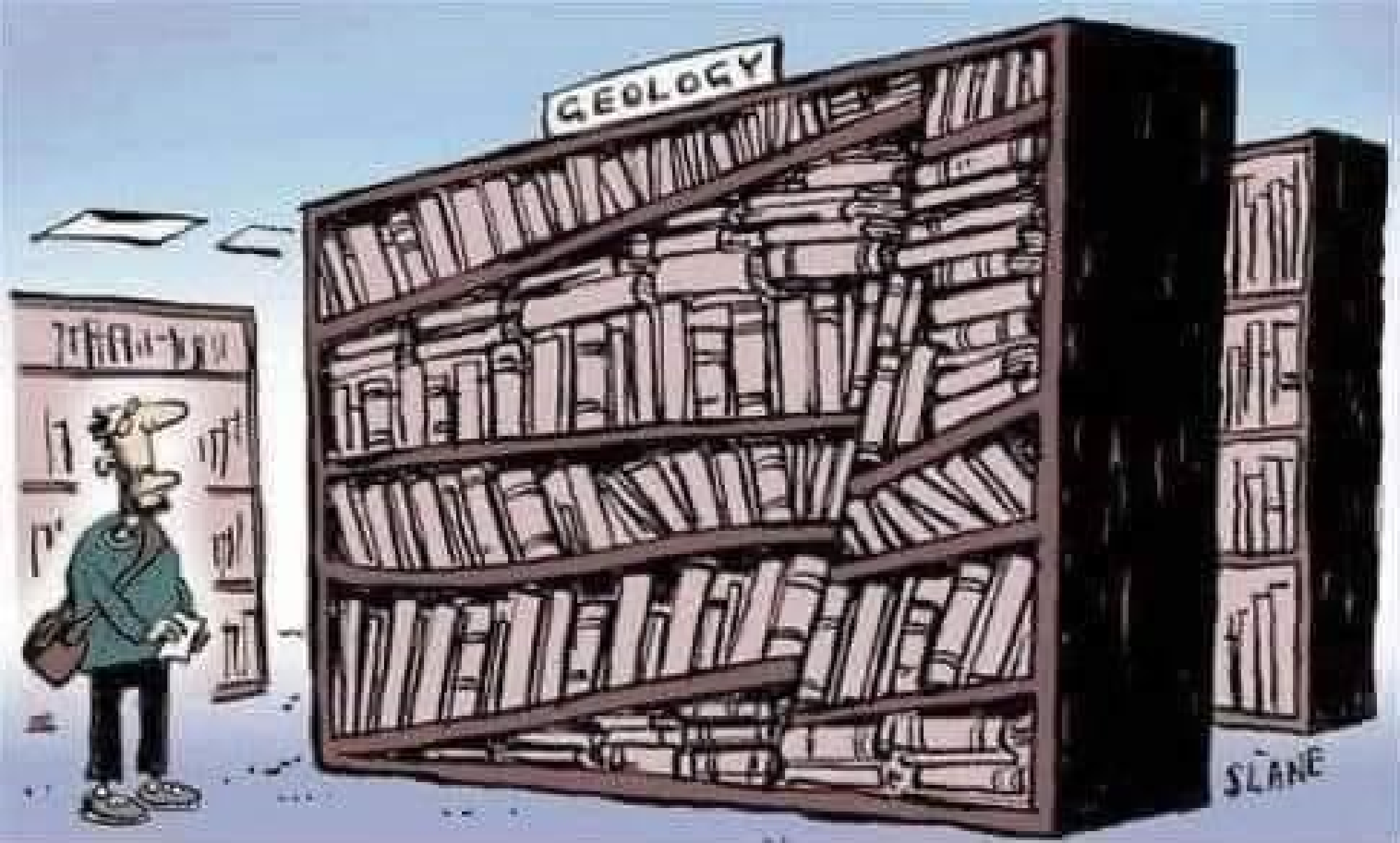
MORE FACTS OF NATURE: As part of nature's way to help spread the species throughout its ecological niche, bison often utilize a behavior naturalists have described as "ballooning."

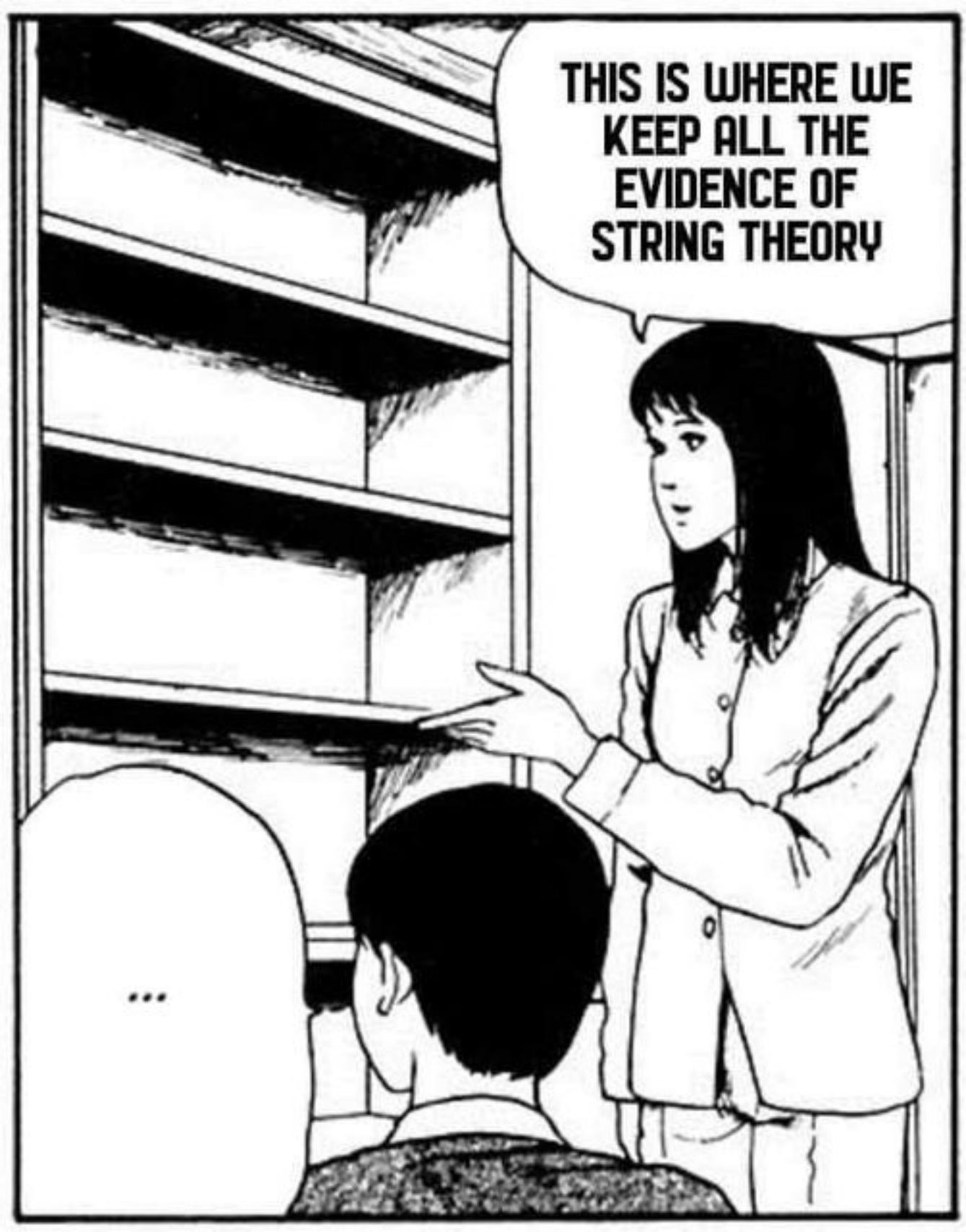
THE EVOLUTION OF DIGITAL MEDIA

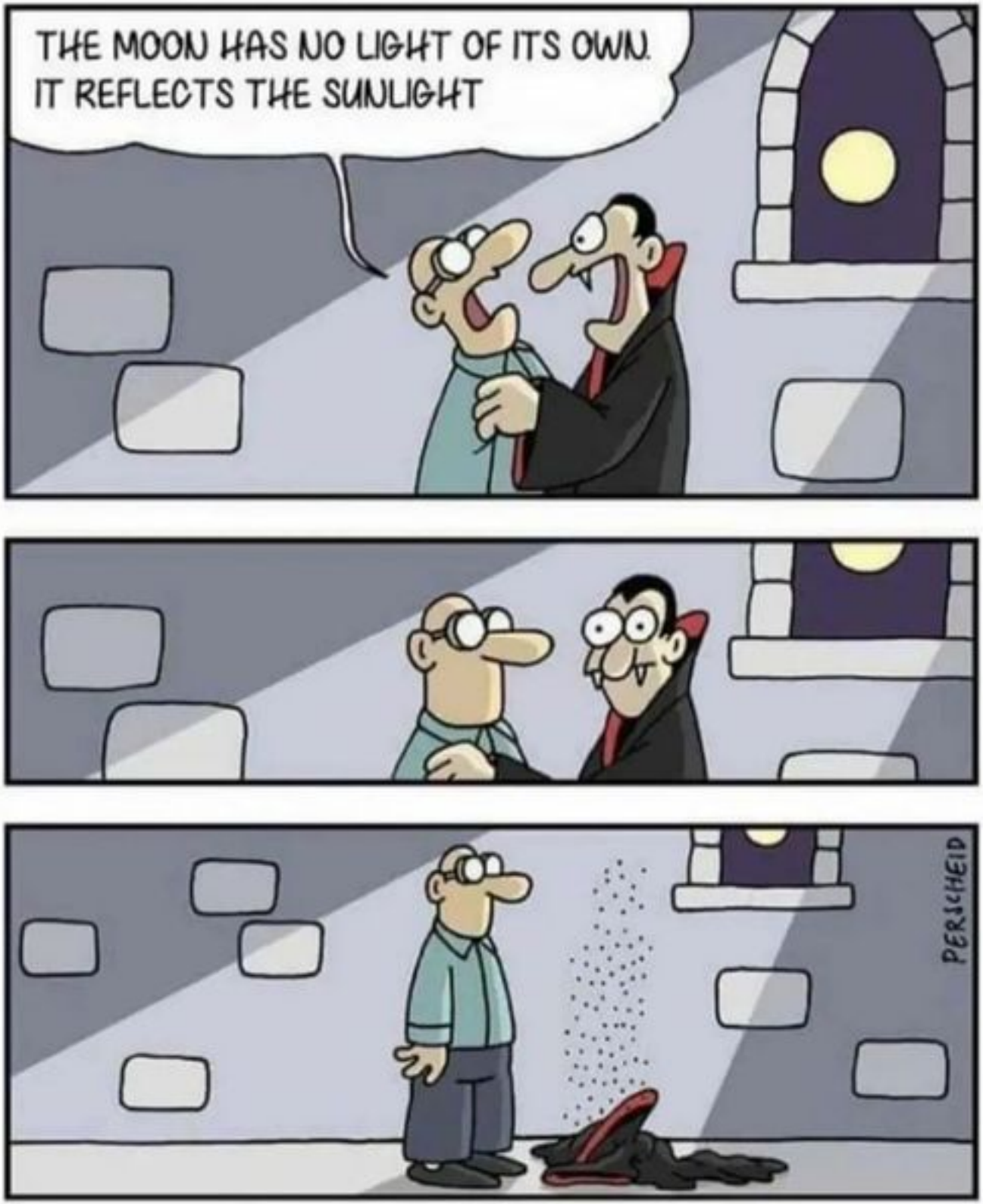
(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

THE REAL REASON EVOLUTION STARTED.....


GEOLOGY
SLANE


THIS IS WHERE WE KEEP ALL THE EVIDENCE OF STRING THEORY
...



SCIENCE CAN SAVE LIFES

WHAT GREEK LETTERS MEAN IN EQUATIONS

π THIS MATH IS EITHER VERY SIMPLE OR IMPOSSIBLE.

Δ SOMETHING HAS CHANGED.

δ SOMETHING HAS CHANGED AND IT'S A MATHEMATICIAN'S FAULT.

θ CIRCLES!

ϕ *ORBS*

ϵ NOT IMPORTANT, DON'T WORRY ABOUT IT.

U, ν IS THAT A *V* OR A *U*? OR...OH NO, IT'S ONE OF *THOSE*.

μ THIS MATH IS COOL BUT IT'S NOT ABOUT ANYTHING THAT YOU WILL EVER SEE OR TOUCH, SO WHATEVER.

Σ THANK YOU FOR PURCHASING *ADDITION PRO®*!

$\prod$ ...AND THE *MULTIPLICATION®* EXPANSION PACK!

ζ THIS MATH WILL ONLY LEAD TO MORE MATH.

β THERE ARE JUST TOO MANY COEFFICIENTS.

α OH BOY, NOW *THIS* IS MATH ABOUT SOMETHING REAL. THIS IS MATH THAT COULD *KILL* SOMEONE.

Ω OOOH, *SOME* MATHEMATICIAN THINKS THEIR FUNCTION IS COOL AND IMPORTANT.

ω A LOT OF WORK WENT INTO THESE EQUATIONS AND YOU ARE GOING TO DIE HERE AMONG THEM.

σ SOME POOR SOUL IS TRYING TO APPLY THIS MATH TO REAL LIFE AND IT'S NOT WORKING.

ξ EITHER THIS IS TERRIFYING MATHEMATICS OR THERE WAS A HAIR ON THE SCANNED PAGE.

γ *ZOOM* PEW PEW PEW [SPACE NOISES] *ZOOOOM!*

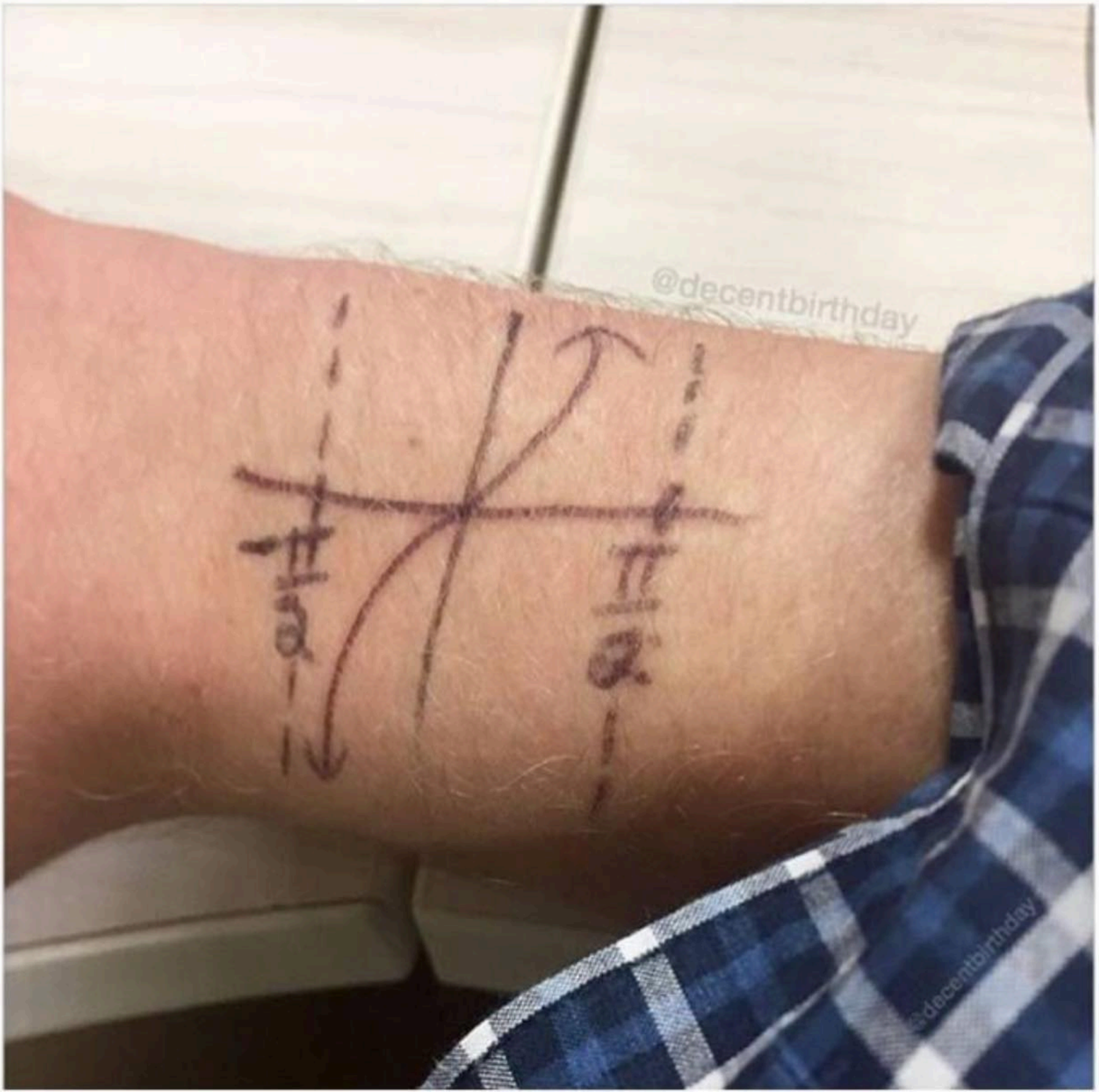
ρ UNFORTUNATELY, THE TEST VEHICLE SUFFERED AN UNEXPECTED WING SEPARATION EVENT.

Ξ GREETINGS! WE HOPE TO LEARN A GREAT DEAL BY EXCHANGING KNOWLEDGE WITH YOUR EARTH MATHEMATICIANS.

ψ YOU HAVE ENTERED THE DOMAIN OF KING TRITON, RULER OF THE WAVES.

So, what happens if we're not the first one to reach the egg?
We're tadpoles, Ted. Stop looking up stuff on the Internet.

Just fell asleep at the beach and woke up with a hideous tan line

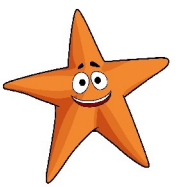


WHY BIOLOGISTS USE SCIENTIFIC TAXONOMY INSTEAD OF COMMON NAMES

CUTTLEFISH

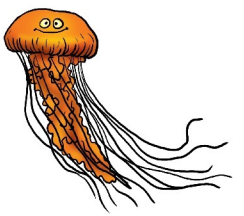
NOT FISH

STARFISH



NOT FISH

JELLYFISH



NOT FISH

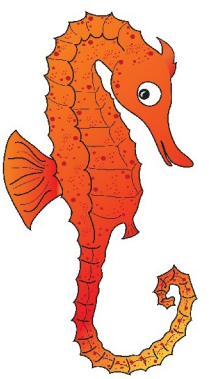
SILVERFISH

NOT FISH

SHELLFISH

NOT FISH

SEAHORSE



FISH

Thanks to Matt Doogue for the idea.
Illustration by M. E. Kabay

10^{12} pins = 1 terrapin

Do not use these images to teach your kids arithmetic.

made with mematic

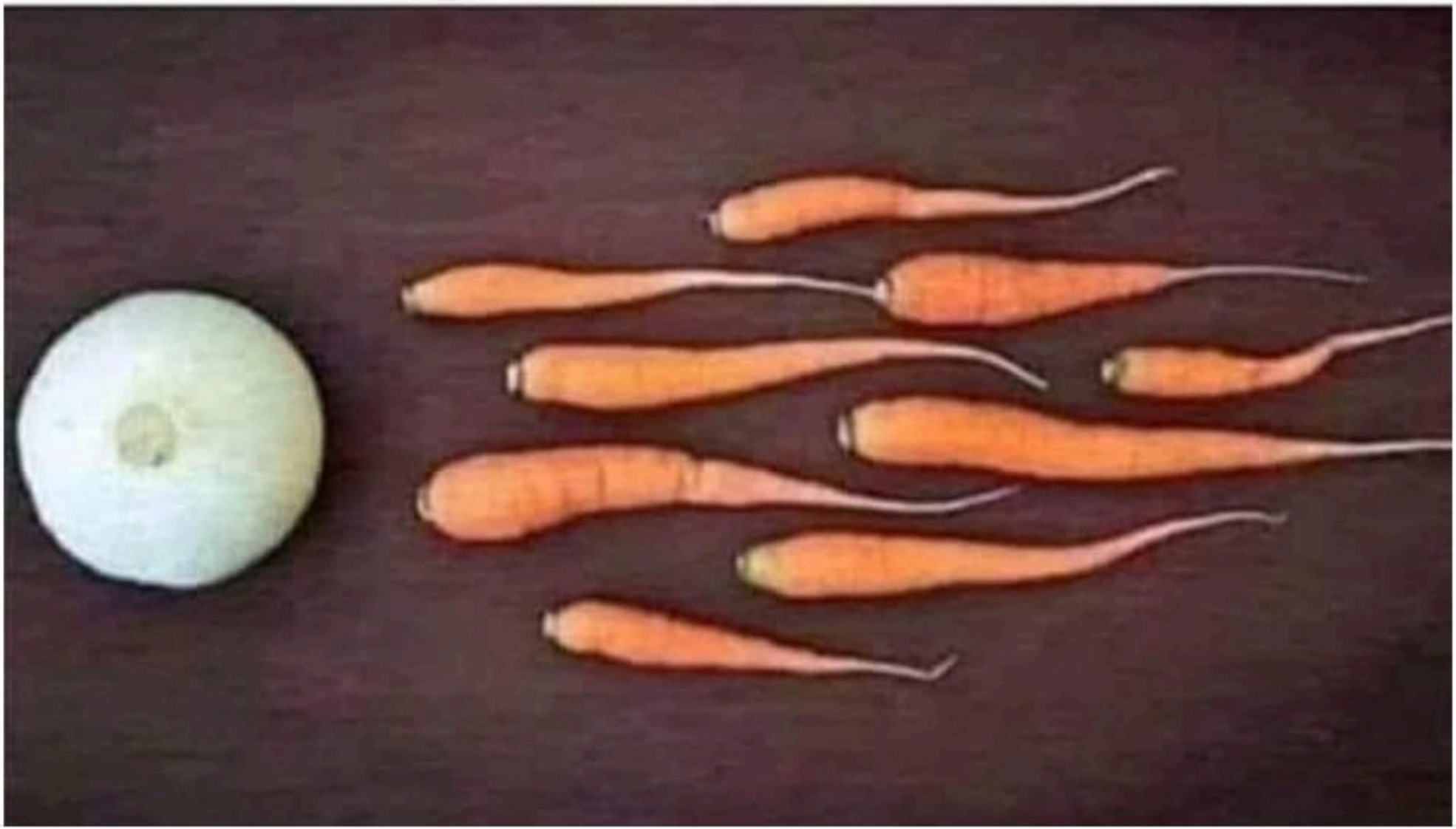
The universal translator is broken.

Qu'est-ce que tu dis?

Beep Boop Beep?

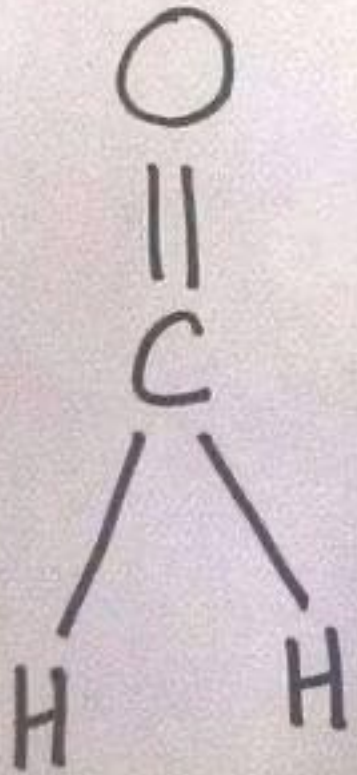
I'd like everyone to welcome our newest member to the group, the vaccine that causes autism.

...and that is how vegans are born

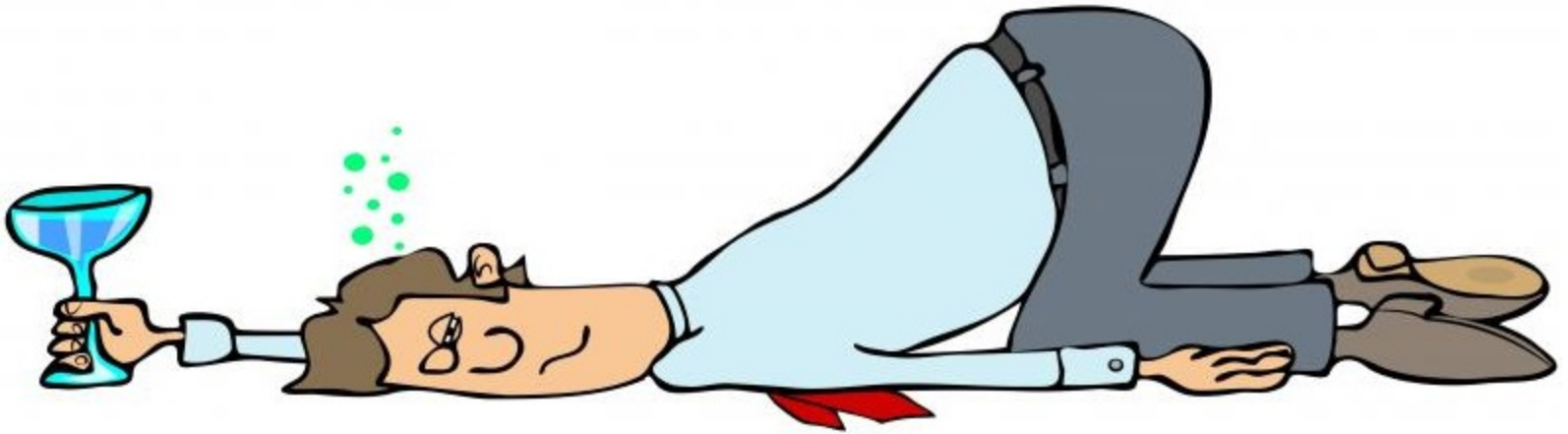


A botanist complained that the tomatoes, eggplants, green beans, mushrooms and zucchini should NOT be sold in the *vegetables* section of the store.

FORMALDEHYDE



CASUAL-DEHYDE



Our research group has been studying the effects of alcohol on people's ability to walk. The results are staggering!

We've had to adapt, Dorothy.

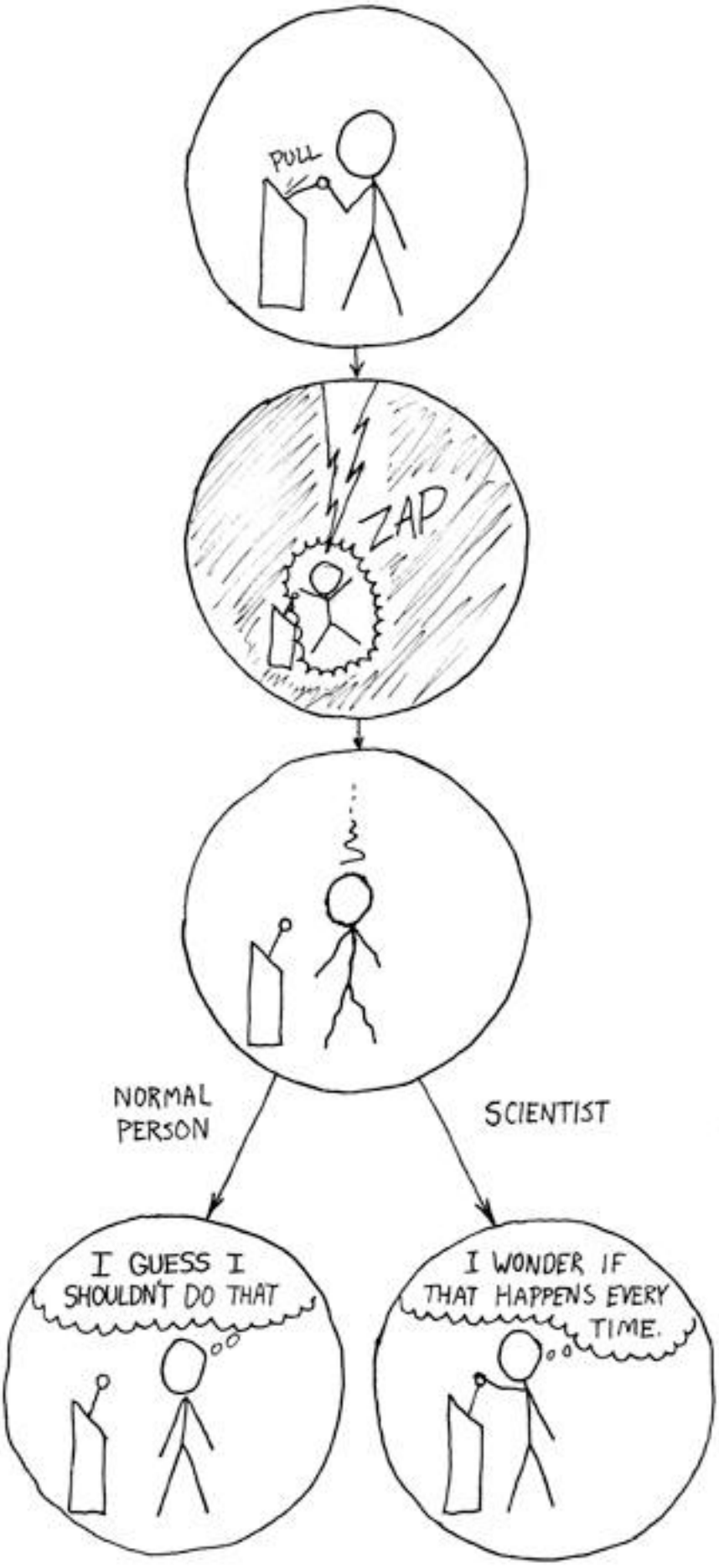
Nobody uses imperial weights these days.

GRILLED STEAK

GRILLED CHICKEN

(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com


PULL
ZAP
NORMAL PERSON
SCIENTIST
I GUESS I SHOULDN'T DO THAT
I WONDER IF THAT HAPPENS EVERY TIME.

"I'm an optimist. I have every confidence that global warming will be nullified by nuclear winter."

"Is it close enough to spring for nice weather not to be existentially terrifying?"

ACADEMIA

PRO

YOU CAN WORK WHENEVER YOU WANT! EVERY DAY IS A SATURDAY!

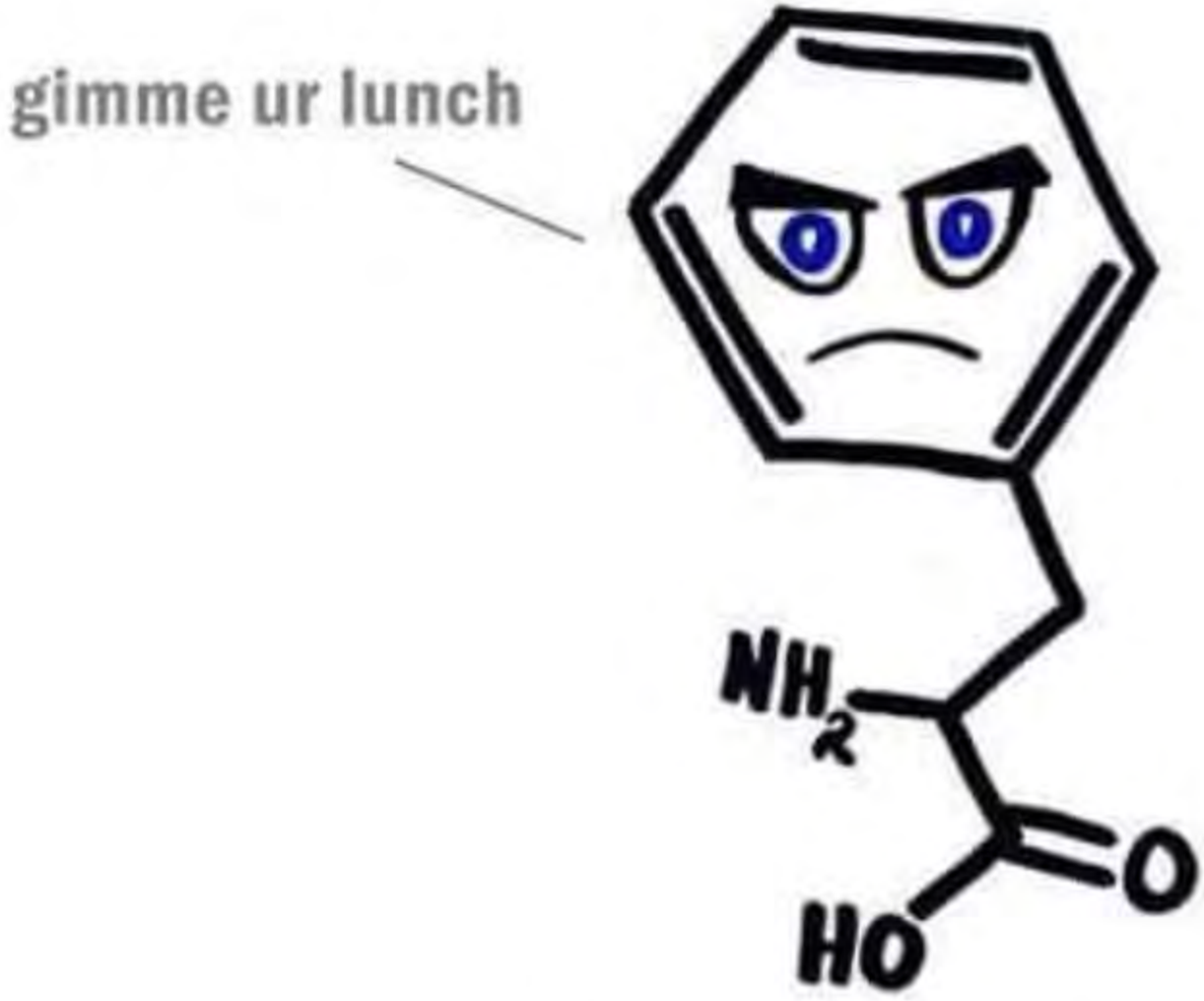
JORGE CHAM © 2017

CON

YOU WORK ON SATURDAYS.

WWW.PHDCOMICS.COM

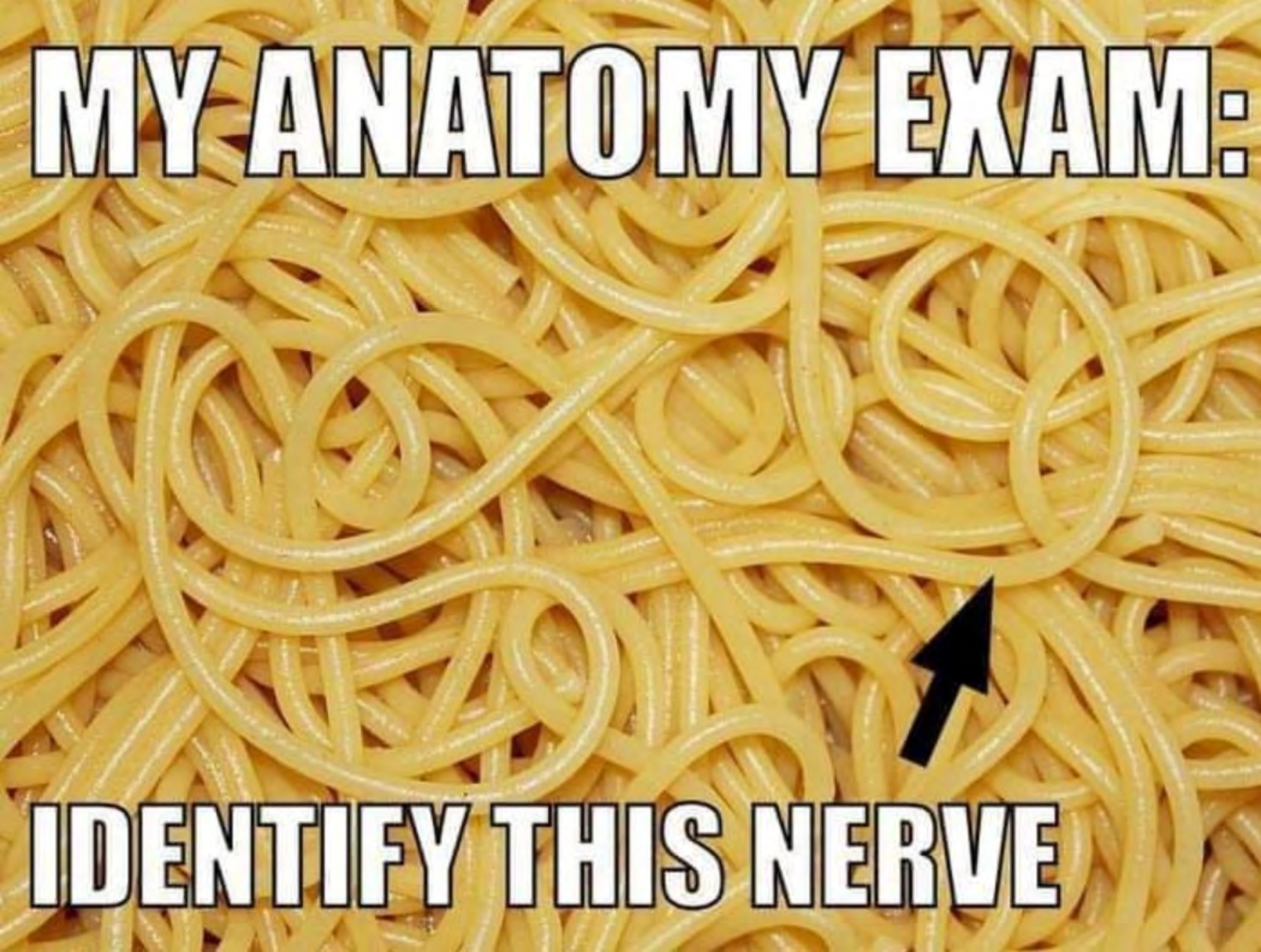
WHAT DO YOU CALL AN ACID WITH AN ATTITUDE?



A-mean-oh acid.

Moments before he was ripped to shreds, Edgar vaguely recalled having seen that same obnoxious tie earlier in the day.

BOB'S
RENT-A
TIME MACHINE


MY ANATOMY EXAM:
IDENTIFY THIS NERVE

WHAT'S WRONG WITH YOUR SNOWMAN?!
IT'S A SNOW WOMAN.
I DON'T CARE. WE'RE NOT HAVING AN ANATOMICALLY CORRECT SNOWMAN IN THE FRONT YARD.

NORTH
OTHER NORTH
ALSO NORTH
SOUTH
NORTH AGAIN
NORTH
NORTH TOO
STILL NORTH
ANTARCTICA
THE CONFUSING CONTINENT

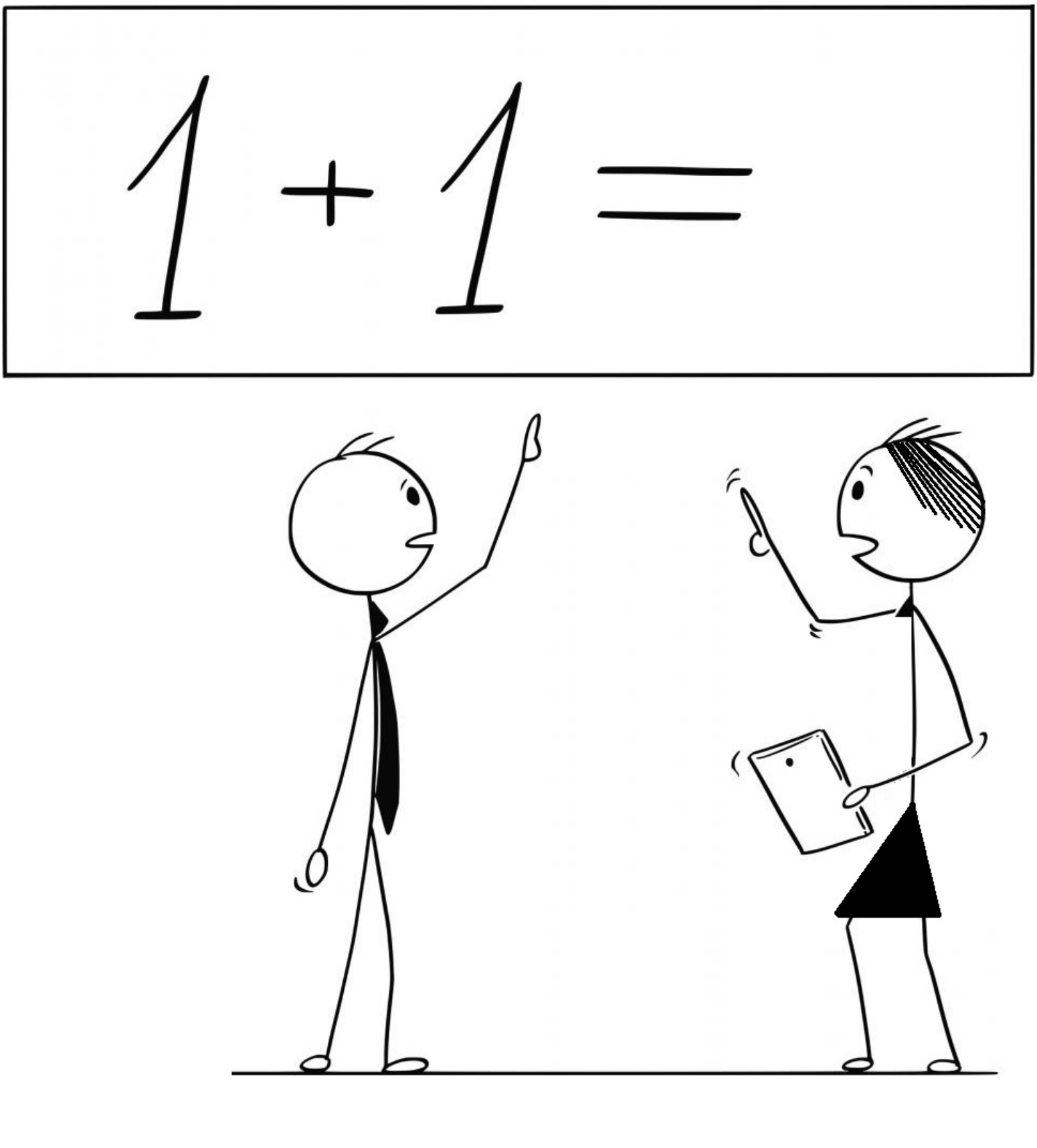
I'm reading a fascinating book about antigravity and I just can't put it down!

- Prairie Home Companion

Naysayers, during 21st century pandemic

NEW RULE FOR SPORTS-WRITING: THE PHRASE "PHYSICS DEFYING" MAY ONLY BE USED WHEN APPLICABLE.

AND, IN A PHYSICS-DEFYING MOVE, LEBRON JAMES' JUMPSHOT DETECTED A PHOTON'S MOMENTUM AND POSITION AT THE SAME TIME.


1 + 1 =

And that's the story of Noah's Ark. Billy? You have a question?

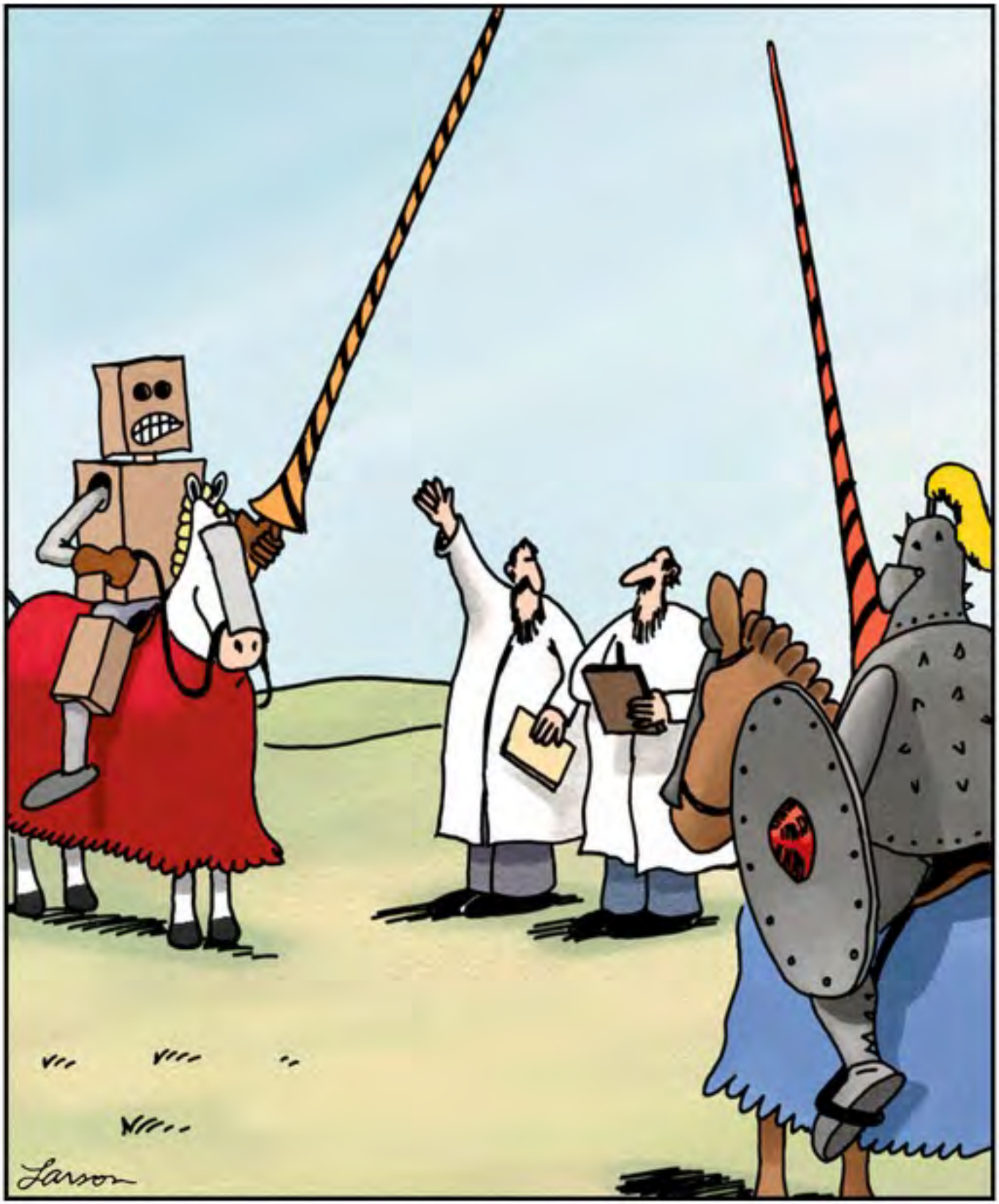
Yes. According to my calculations, raising the level of the oceans to 29,000 feet in only 40 days would require a 30-foot-per-hour rainfall, roughly equivalent to that of a fire-hose. Wouldn't the Ark have melted like spun sugar under those circumstances?

Yer gonna burn, kid.

Suffer the little mathematicians, ma'am.

FARLEFTSIDE.COM

STANHILL



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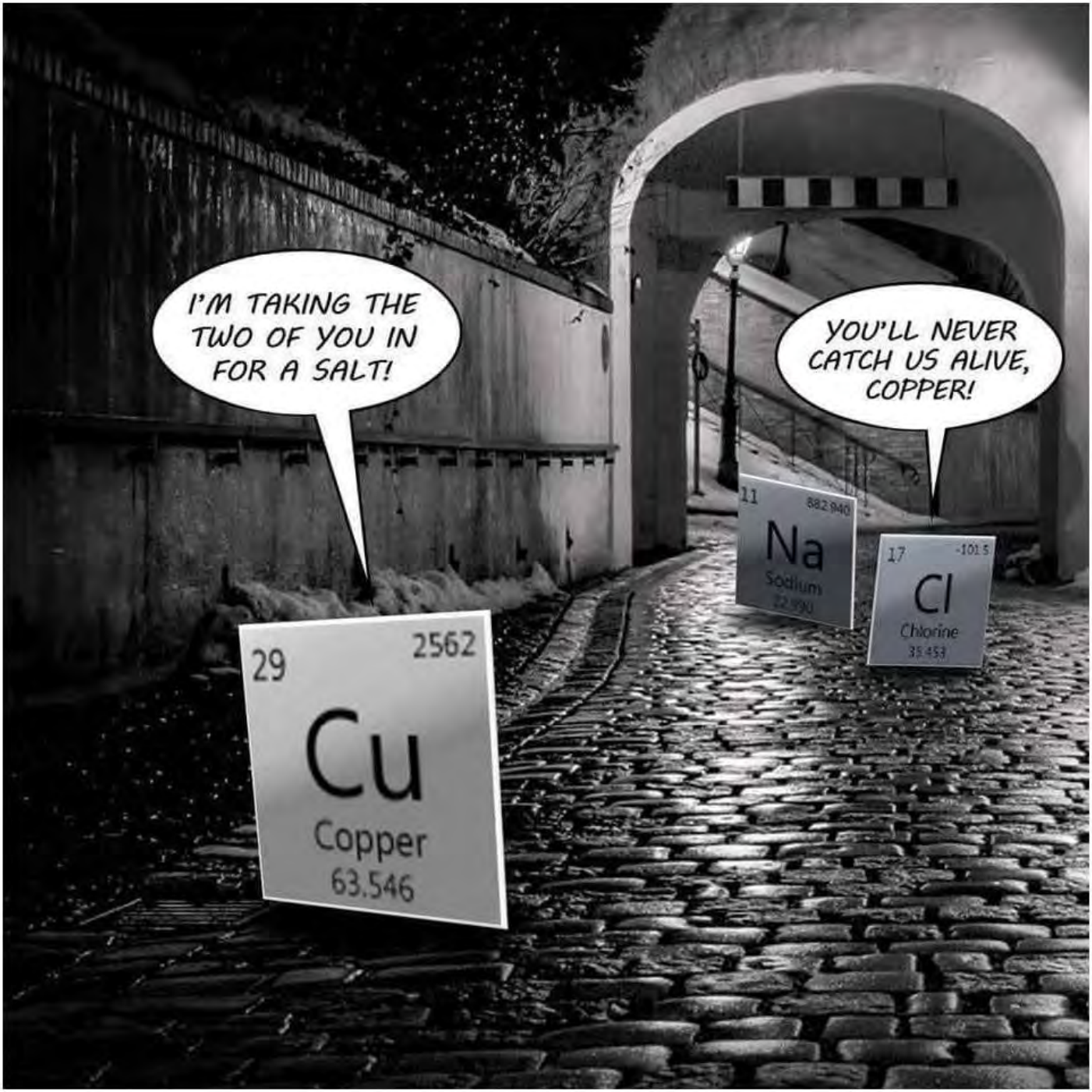
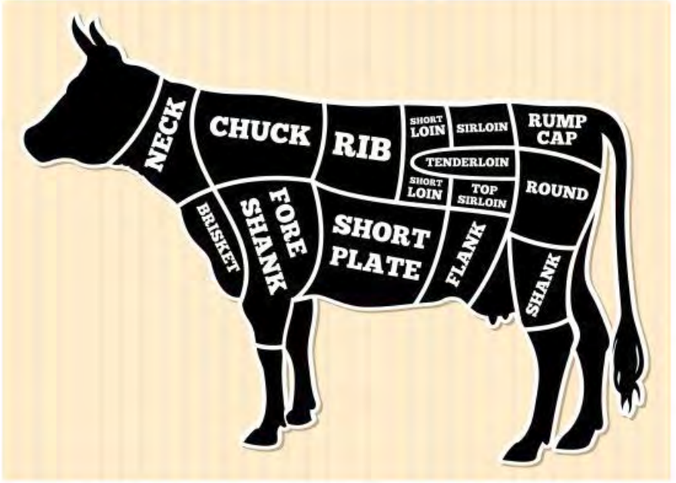
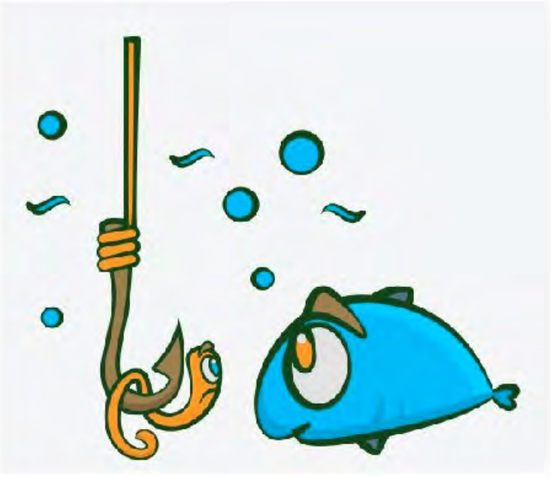
For a very brief period, medieval scientists were known to have dabbled in the merits of cardboard armor.


I'M TAKING THE TWO OF YOU IN FOR A SALT!
YOU'LL NEVER CATCH US ALIVE, COPPER!
29
2562
Cu
Copper
63.546
11
882.940
Na
Sodium
17
-101.5
Cl
Chlorine
35.453

Rocking the anthropological world, a second "Lucy"
is discovered in southern Uganda.

OKAY, OKAY. JUST CALM DOWN. TAKE A DEEP BREATH AND TELL MOMMY WHO TOLD YOU ABOUT GLOBAL WARMING?





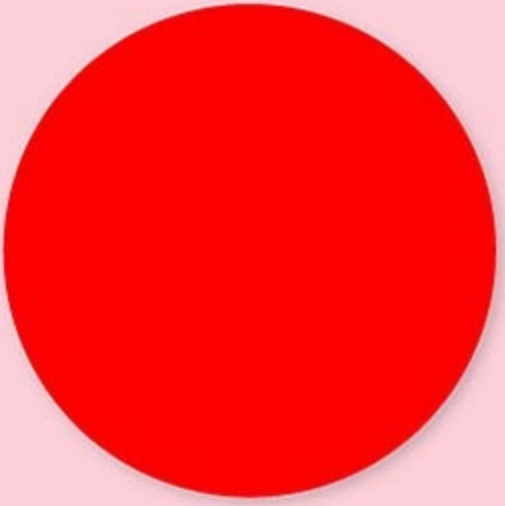
This is what an Irish scientist said would happen to us if we don't stop the anthropogenic extinction event. Say it fast.

DIST. BY CREATORS
SPEEDBUMP.COM
ARE YOU ALMOST DONE SCROLLING TO FIND AN ARTICLE THAT PROVES CONFIRMATION BIAS IS A MYTH?

Why teaching physics to kids is important:

Larson
Amazing!
Once again, the line between our two species has been blurred!
We have long known that these primates used tools for procuring food, but we did not know they had the tools for preparing food!
Yes, it's true — and some may be critical of this — their skills do seem confined to making banana bread... lots and lots of banana bread. And I suppose it does look a little too brown. Nevertheless

WHAT HELICOPTERS DO IN MOVIES



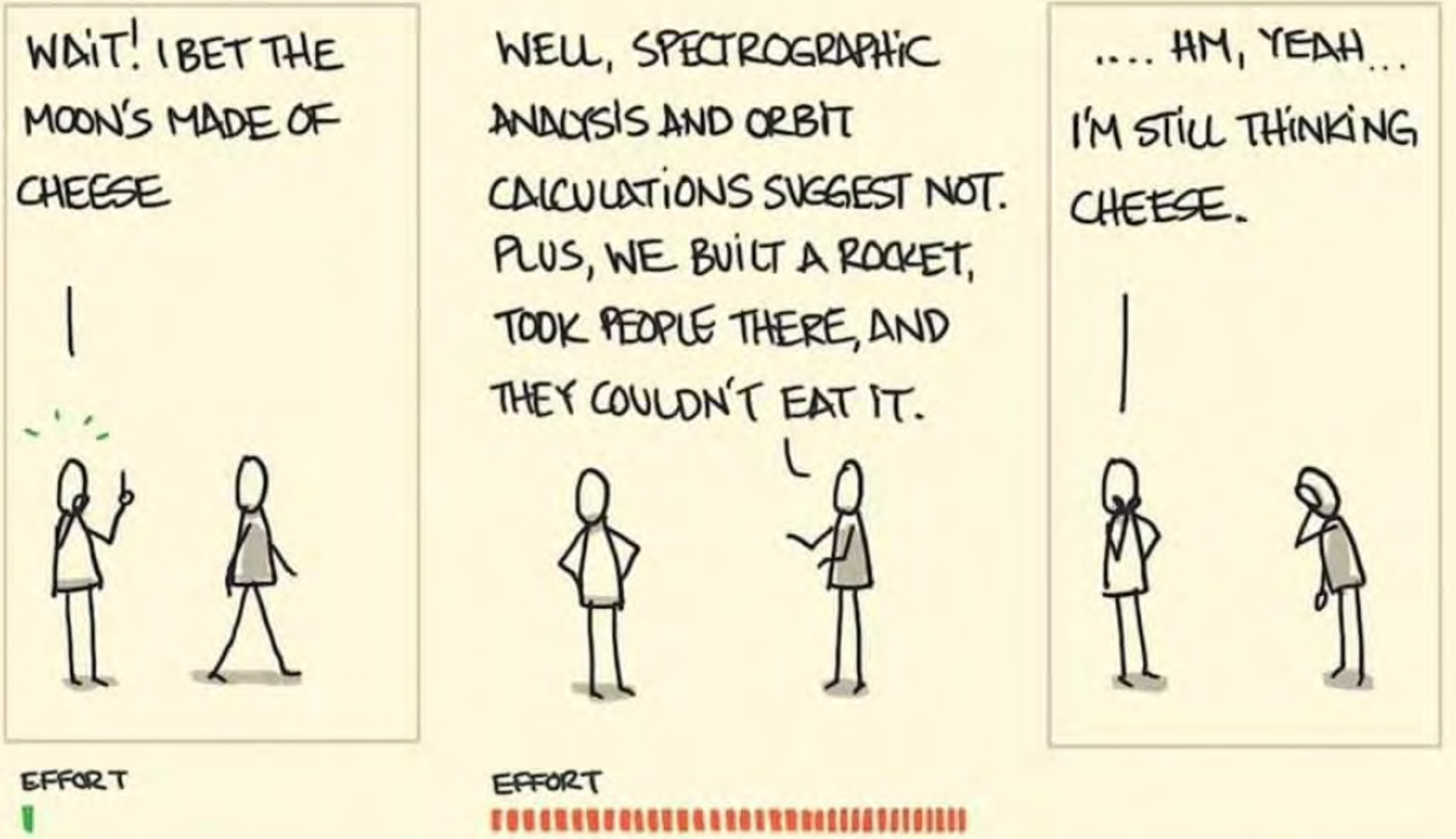
Explode

truthfacts.com

(c) Mikael Wulff & Anders Morgenthaler

THE BS ASYMMETRY PRINCIPLE

THE AMOUNT OF ENERGY NEEDED TO REFUTE BS IS AN ORDER OF MAGNITUDE BIGGER THAN TO PRODUCE IT



AKA BRANDOLINI'S LAW

sketchplanations

Ernest -- a carbon dioxide dynamo

SPACE IS CURVED, AND TIME IS RELATIVE? YEAH, OK... I'M CALLING YOU A CAB RIGHT NOW, BUDDY!
10-10
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× 453.6

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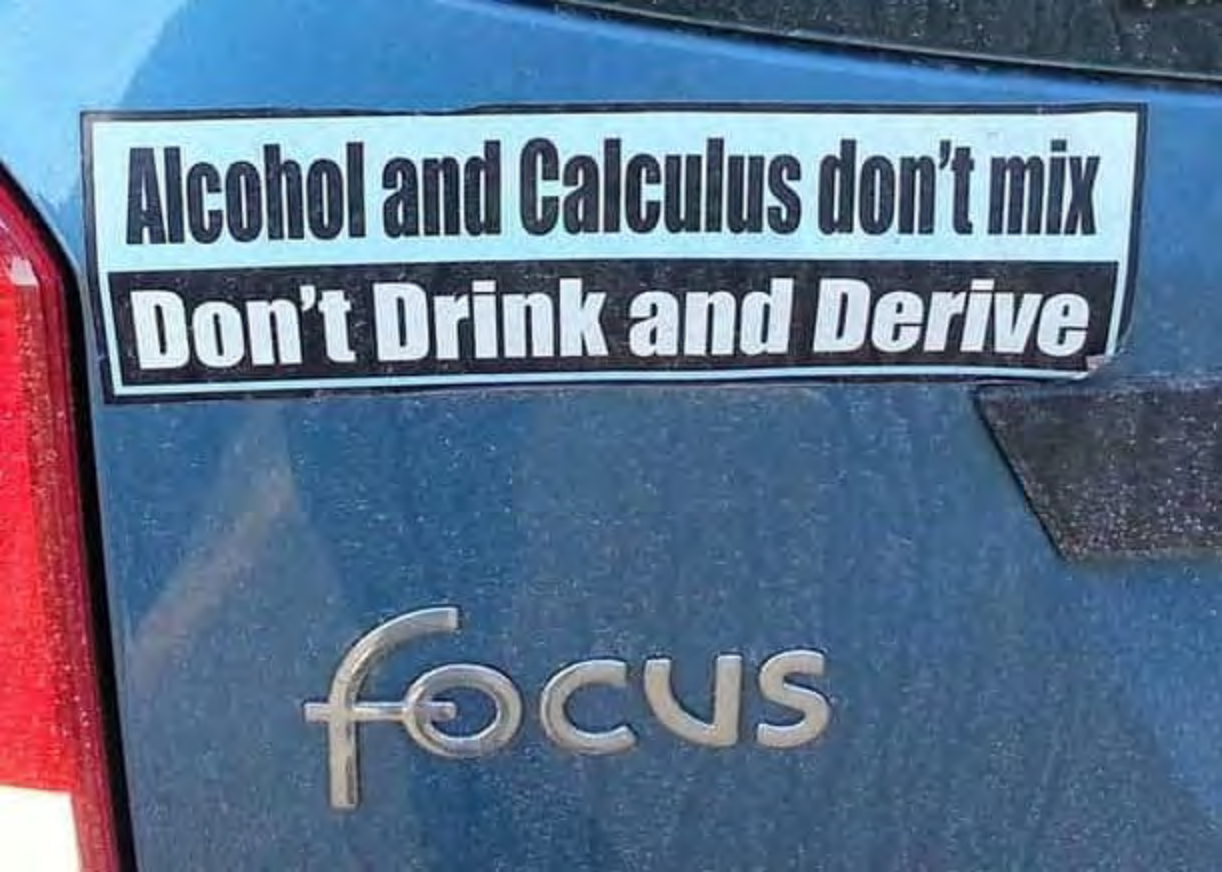
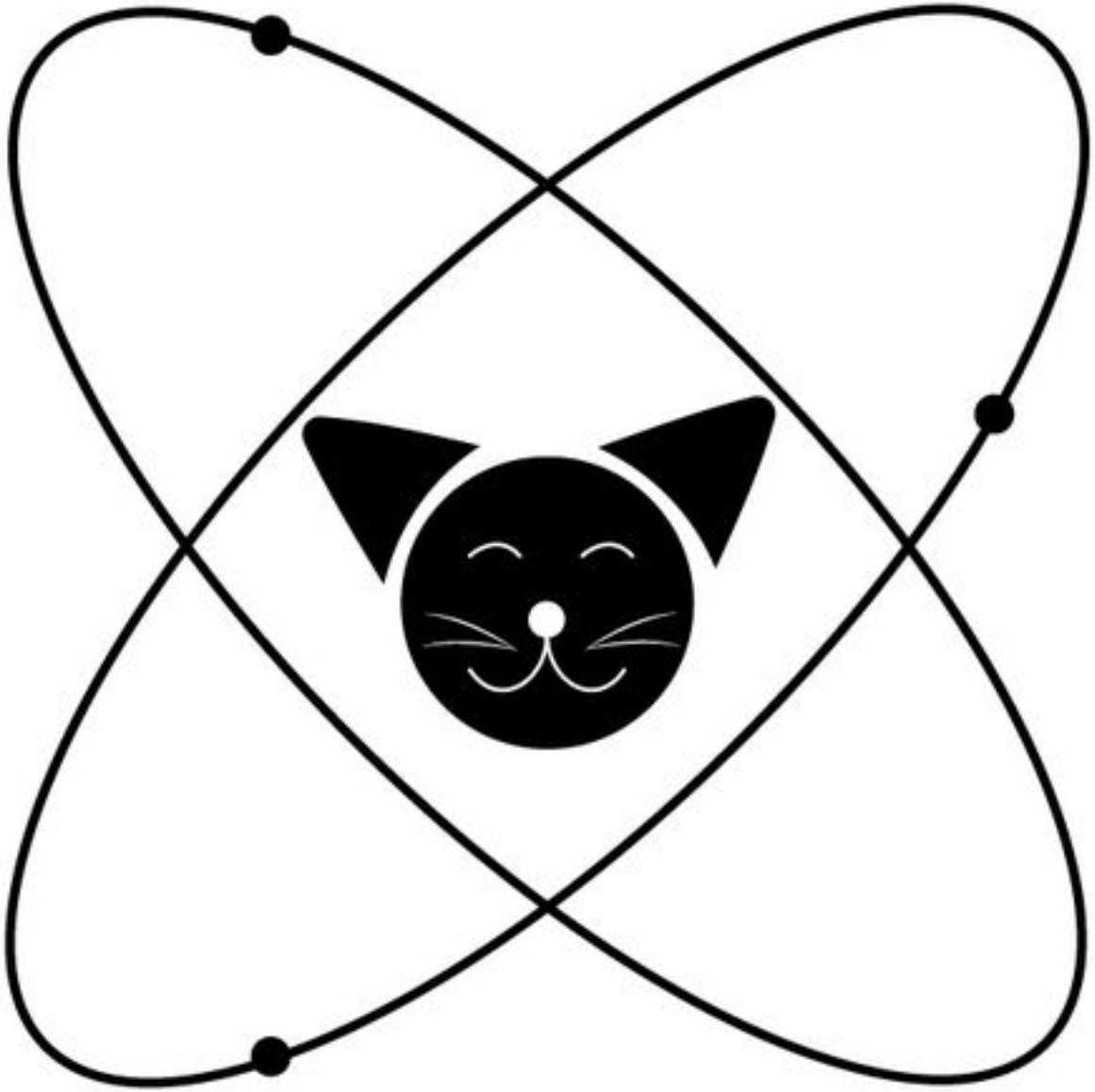

Alcohol and Calculus don't mix
Don't Drink and Derive
focus

CAPTCHAs for scientists

Click on the rectangles with symbols for elements that are noble gases		
Ne 10	Li 3	Ir 77
Cs 55	Ar 18	S 16
Th 90	B 5	Xe 54

Click on the rectangles with symbols for elements that show the wrong atomic numbers		
Ne 10	Li 3	Ir 74
Cs 55	Ar 16	S 16
Th 90	B 5	Xe 57

It's shocking how well science-ing and metal working mix!



Cation

cat·i·on

Pronunciation: [kat-ahy-uhn,-on]

-Noun **Chemistry.**

1. an ion with a paws-itive charge.
2. the cutest ion ever.

Cation

cat•i•on

Pronunciation: [kat-ahy-uh n, -on]

-noun, *Chemistry*

1. An ion with a paws-itive charge.
2. The cutest ion ever.

SOME DAY WHEN SCIENTISTS DISCOVER THE CENTER OF THE UNIVERSE,

A LOT OF PEOPLE ARE GOING TO BE DISAPPOINTED TO FIND OUT IT ISN'T THEM.

THE EARTH'S PROTECTIVE MAGNETIC FIELD IS WEAKENING! THE SUN WILL INCINERATE US ALL!
MAYBE WE SHOULD WATCH THE NATIONAL GEOGRAPHIC CHANNEL WITHOUT MOM.
11-28
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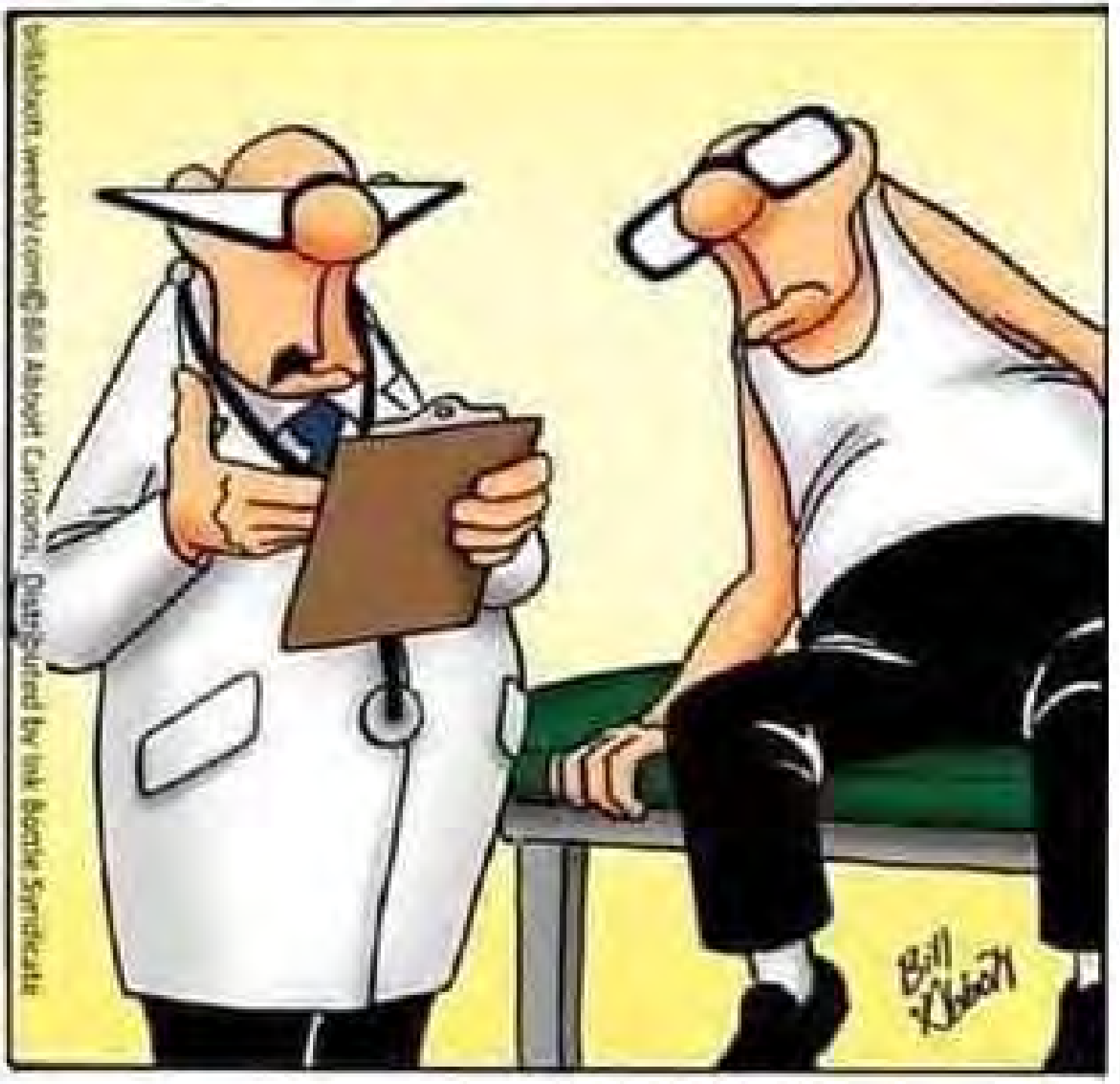
Bill Whitehead



"High sodium, high cholesterol, lots of toxins - your blood test is remarkably similar to a potato chip."

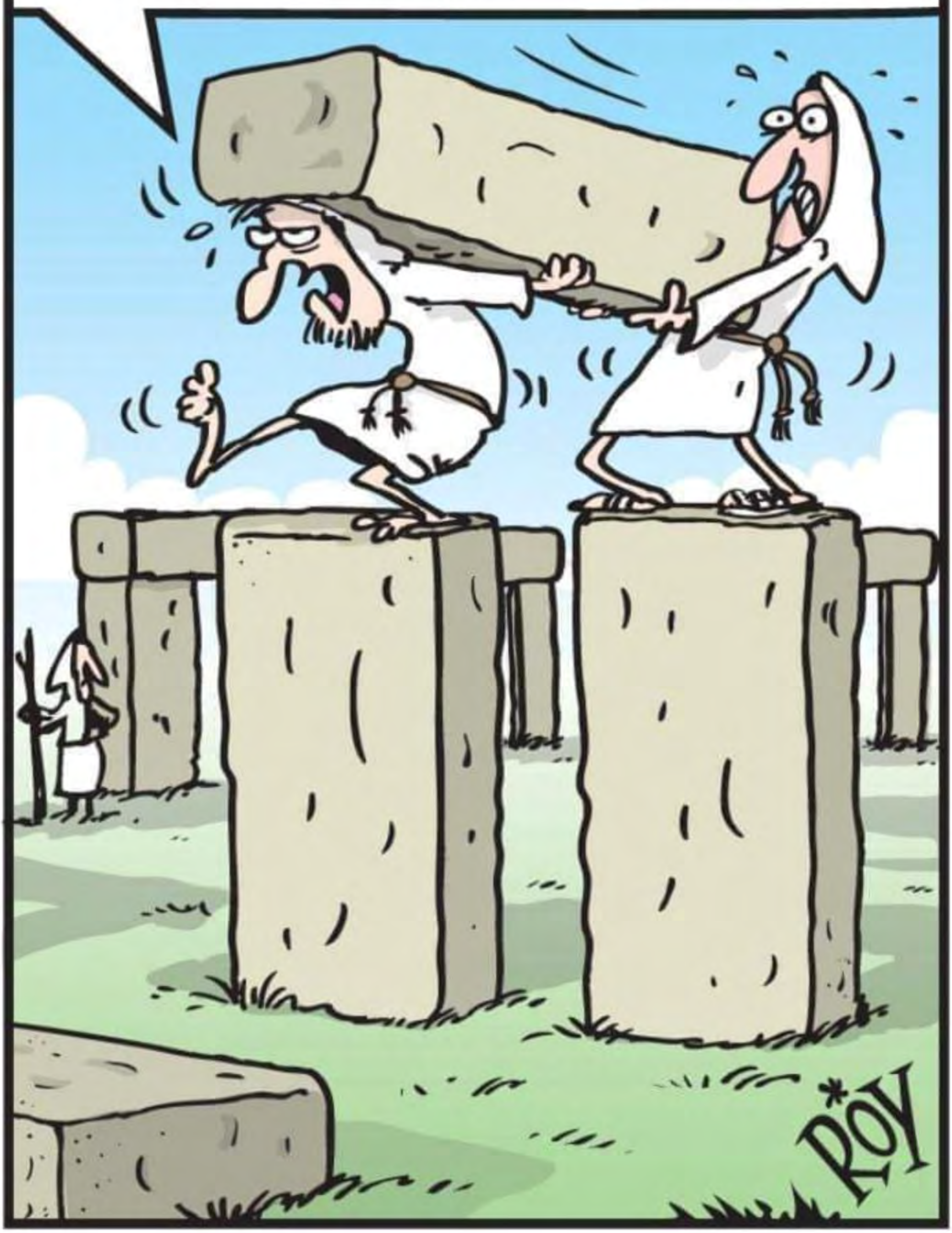
I DON'T KNOW WHAT CITY THIS IS...
MON
TUE
WED
THU
FRI
SAT
SUN
52
41
39
379
44
43
44
31
BUT THEY'RE ALL GONNA DIE THURSDAY.

AND DON'T FORGET TO TELL EVERYONE WHAT I SHOWED YOU ABOUT CLIMATE CHANGE!

©2020 COVERLY 11-2

SPEEDBUMP.COM/DIST.BY CREATORS

MAN, I HATE IT WHEN THE CLOCKS CHANGE!



I just found out my wife had me cloned last year & has been seeing him behind my back. Is she cheating on me?

©DAN PIRARO 1·20·17

FUTURE CALL-IN ADVICE SHOW

"I don't understand cloning."

...

"Yeah, that makes two of us."

ARE MEN HELPFUL TO YOU?

NO — YES

(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

BOB RETIRED FROM THE CLONING LAB, AND NOW HE DOESN'T KNOW WHAT TO DO WITH HIMSELF.

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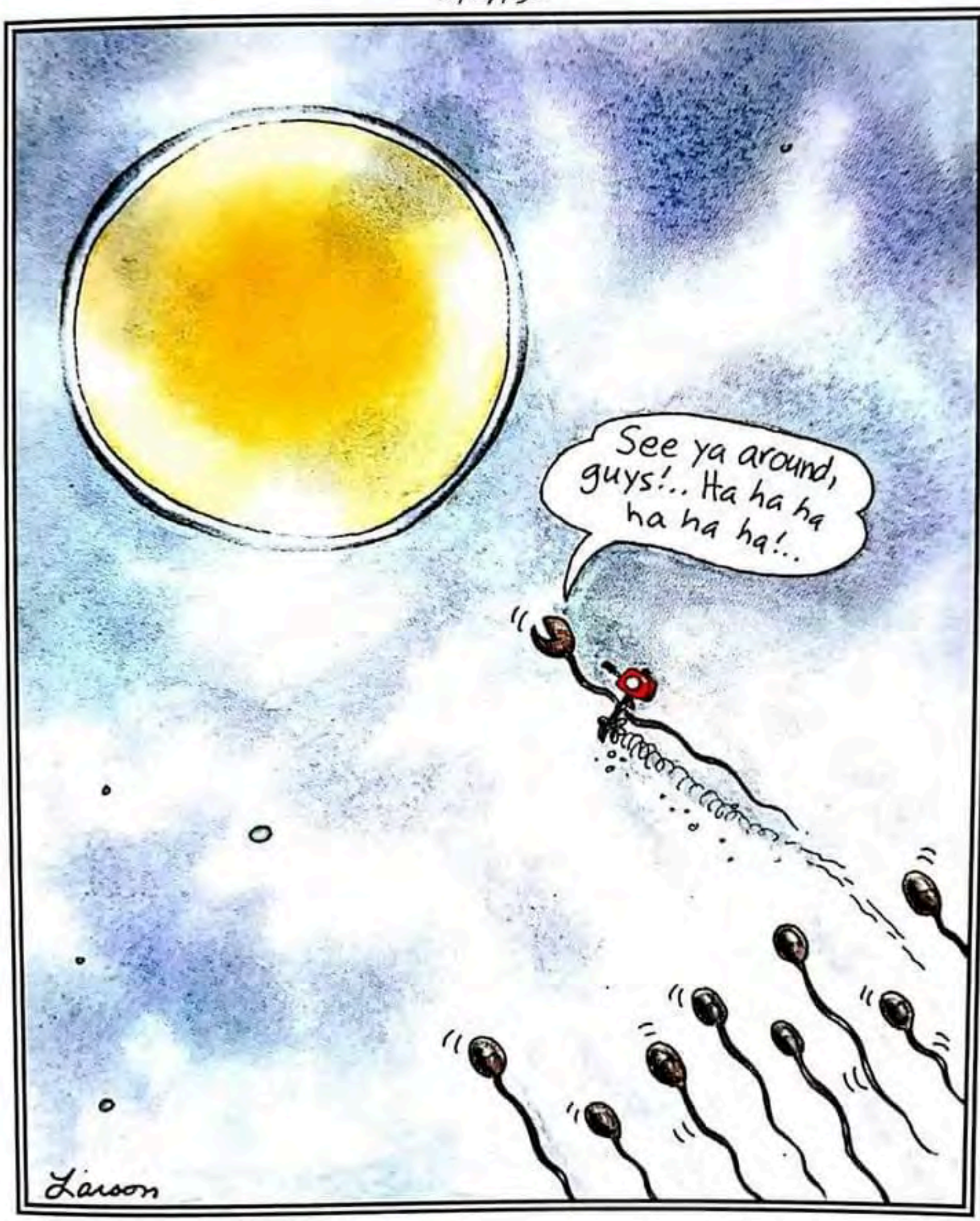
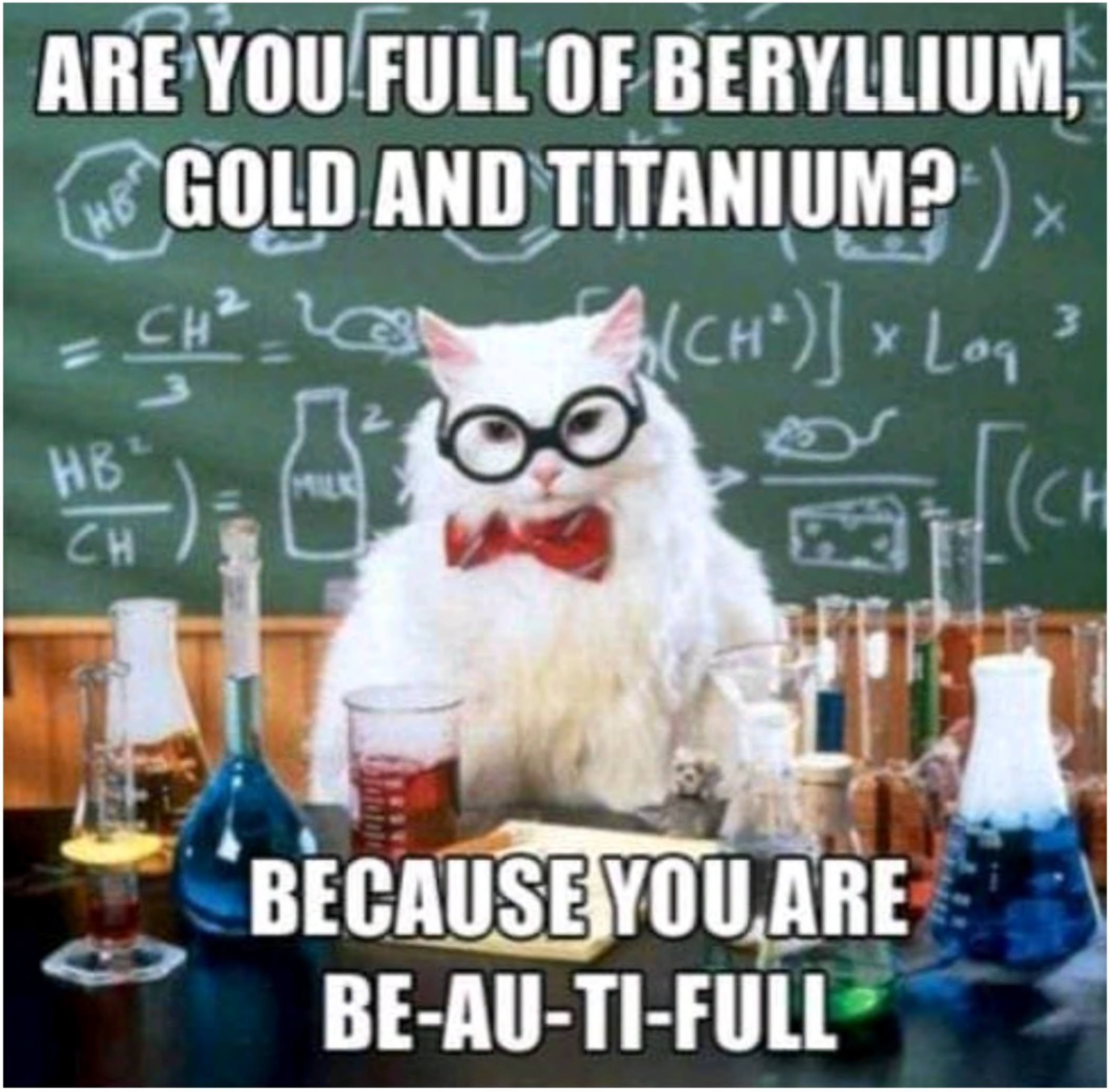
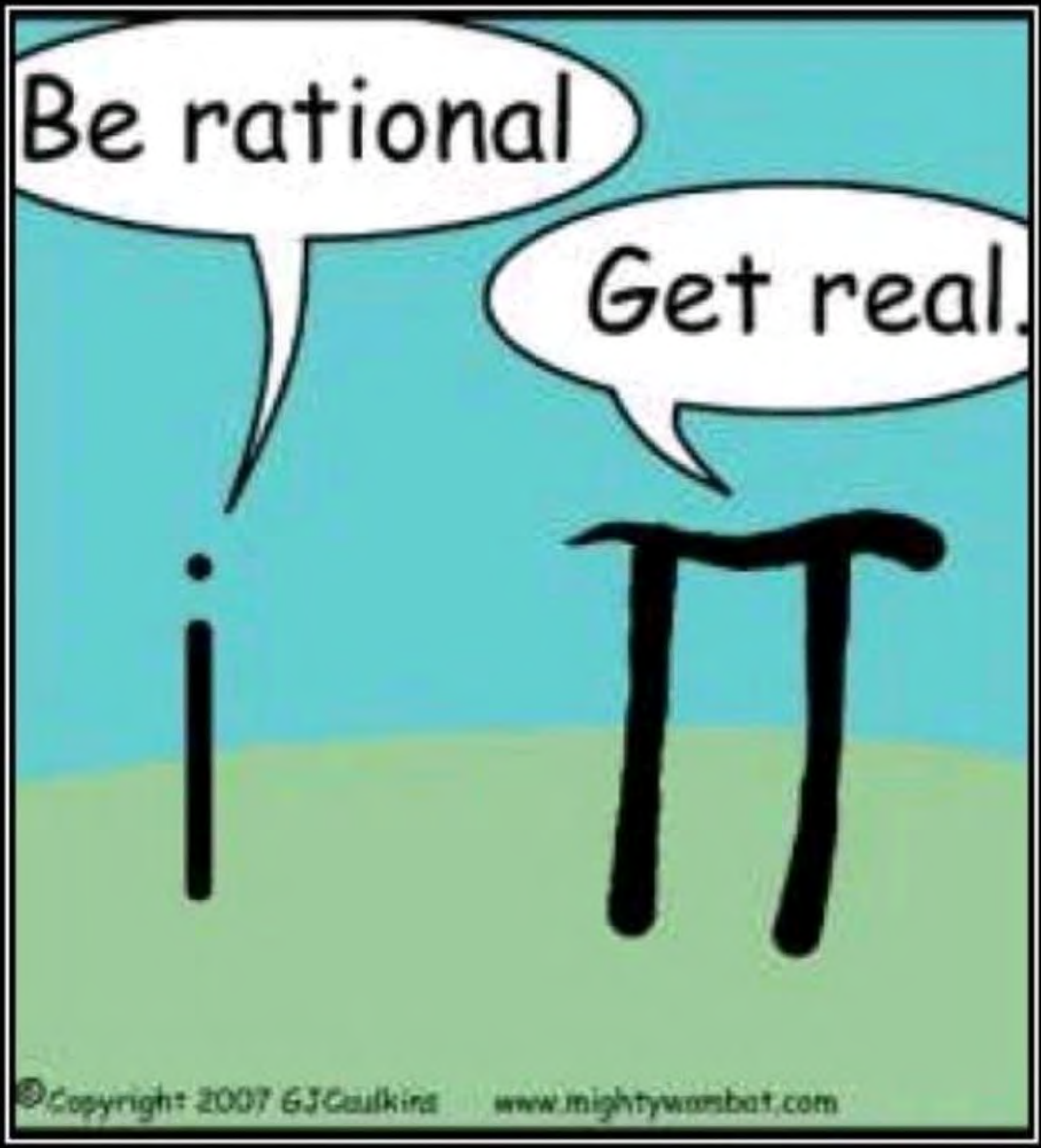
Entomology display of coleoptera (beetles) at Cleveland Museum of Natural History.

12/27/90



At Random Comics by Ryan Mason


ARE YOU FULL OF BERYLLIUM,
GOLD AND TITANIUM?
BECAUSE YOU ARE
BE-AU-TI-FULL


Be rational
Get real.
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www.mightywombat.com

THERE'S NO SCIENTIFIC CONSENSUS THAT WE'RE CAUSING GLOBAL WARMING.
BUT 97% OF CLIMATE SCIENTISTS AGREE ON HUMAN CAUSED GLOBAL WARMING.
WHY BRING UP CONSENSUS? SCIENCE ISN'T DECIDED BY CONSENSUS!

*somewhere in ancient Greece

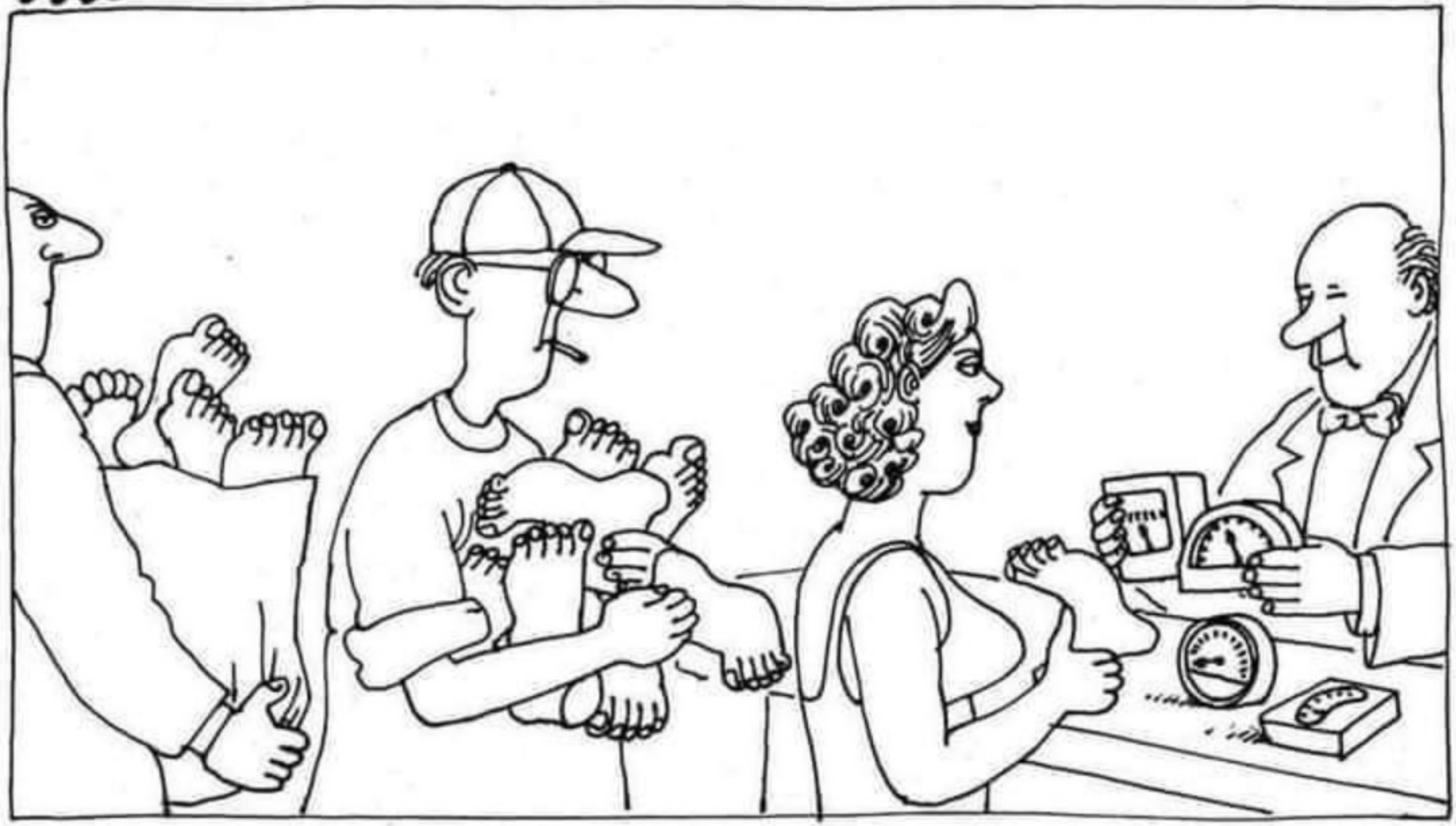
Thats a horse

Yes, its surely a horse

Simplified constellation names

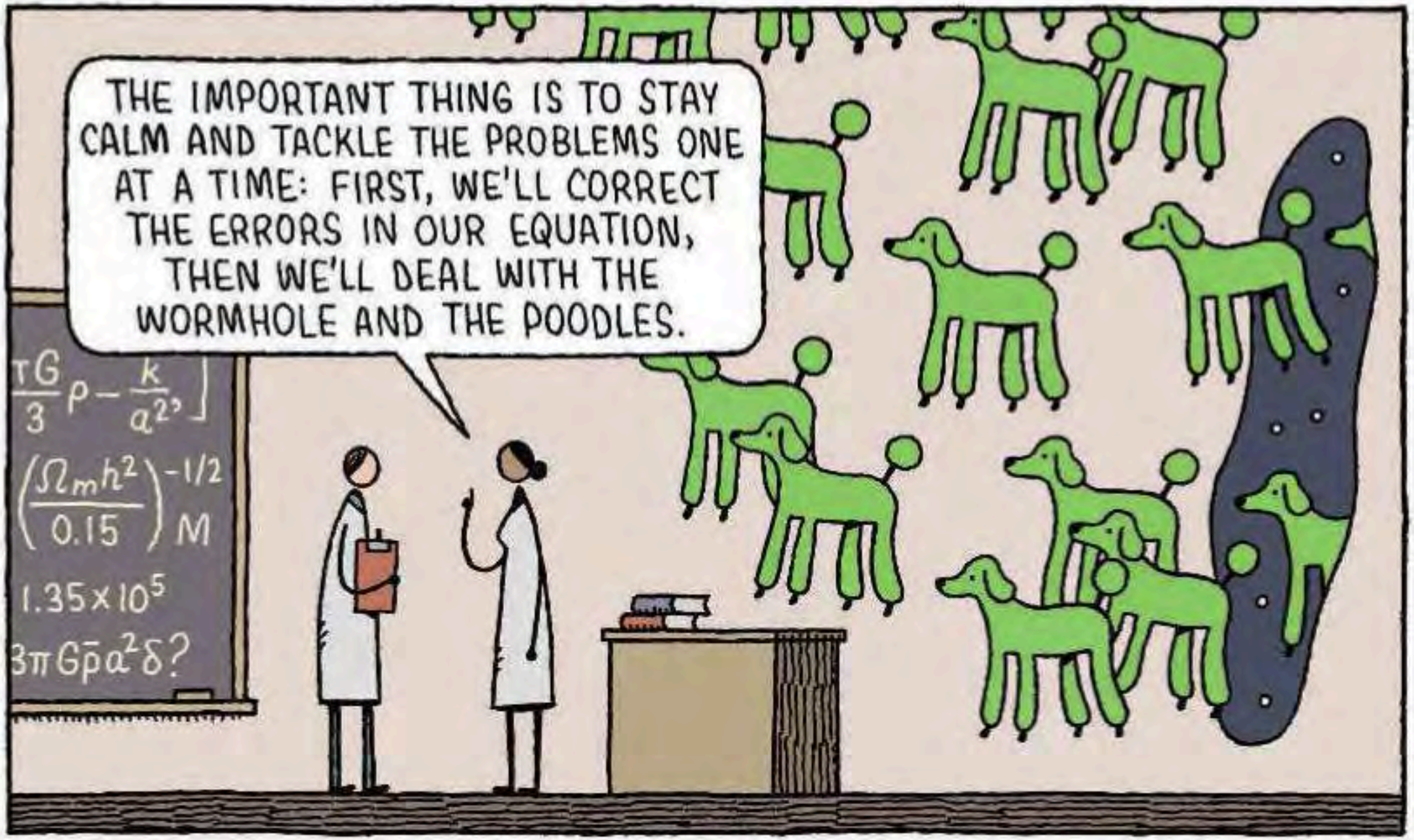
McWIT LABS
CONTROL GROUP
OUT OF CONTROL GROUP

Math • CONVERTING FEET TO METERS



THE WORLD REVOLVES AROUND MY CAT!
8-30
COPERNICUS LATER REVISED HIS FINDINGS TO SAY IT ALSO REVOLVED AROUND THE SUN

TOM GAULD


THE IMPORTANT THING IS TO STAY CALM AND TACKLE THE PROBLEMS ONE AT A TIME: FIRST, WE'LL CORRECT THE ERRORS IN OUR EQUATION, THEN WE'LL DEAL WITH THE WORMHOLE AND THE POODLES.
$\frac{8\pi G}{3}\rho - \frac{k}{a^2}$
$\left(\frac{\Omega_m h^2}{0.15}\right)^{-1/2} M$
1.35×10^5
$3\pi G\bar{\rho} a^2 \delta ?$

THE CHRISTIAN SCIENCE MONITOR Bennett

COWCULUS

$Y = a$

$Y = x^2$

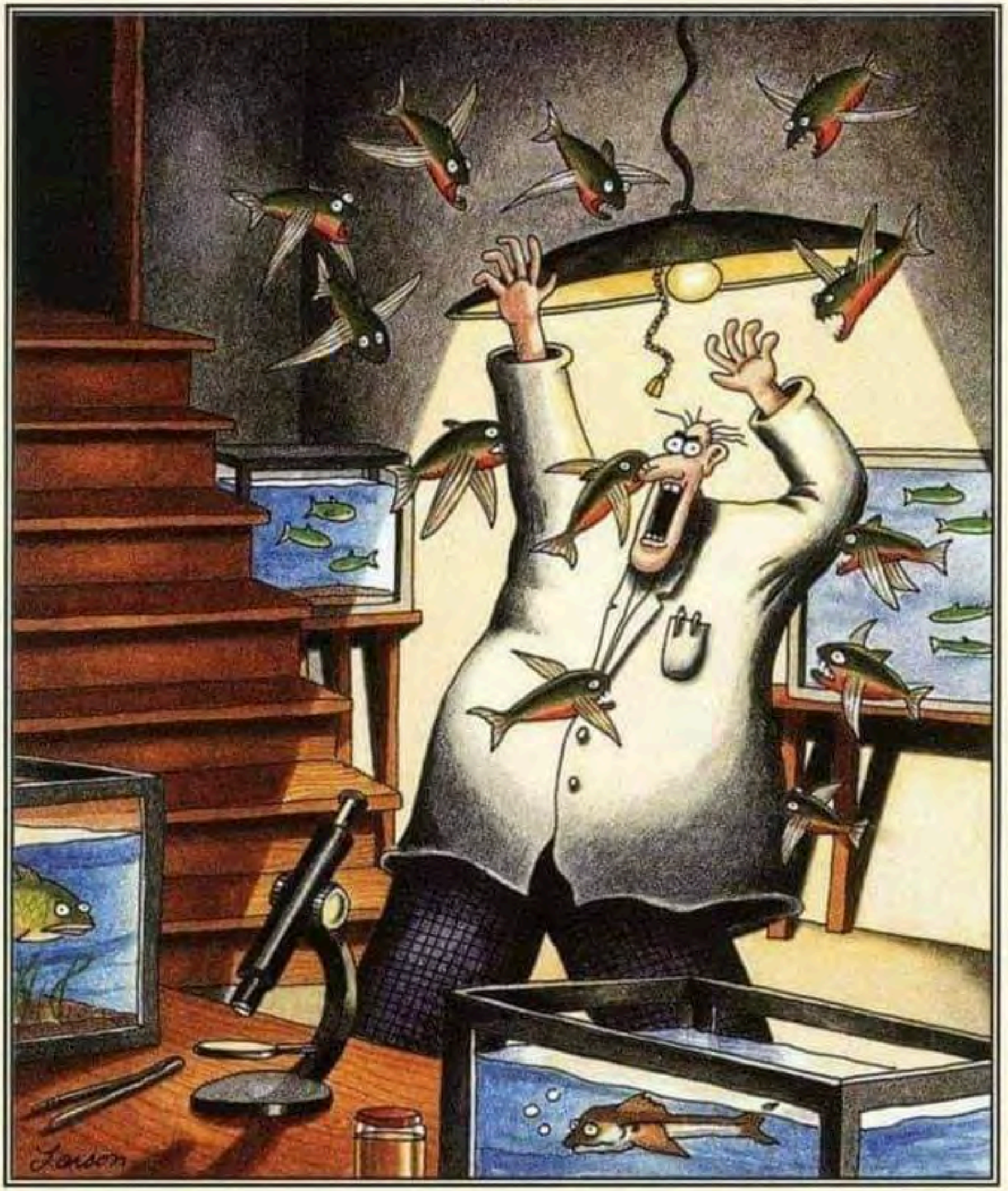
$Y = x^3$

$Y = \cos(X)$

CREATIONISM

Because it's easier to read one book than a bunch of hard ones

6/12/90



After flicking on the light, Professor Zurkowitz is caught off guard by the overnight success of his efforts to crossbreed flying fish and piranhas.

"And then I won the gold medal of the Society of Advanced Carpentry & Artificial Intelligence..."

Do <u>not</u> exaggerate your CV.

LUKE. JOIN ME! COME OVER TO THE IMPERIAL SYSTEM!

WHAMMOND 11.20

NOOOOOO! THE ENTIRE GALAXY IS ON THE METRIC SYSTEM!

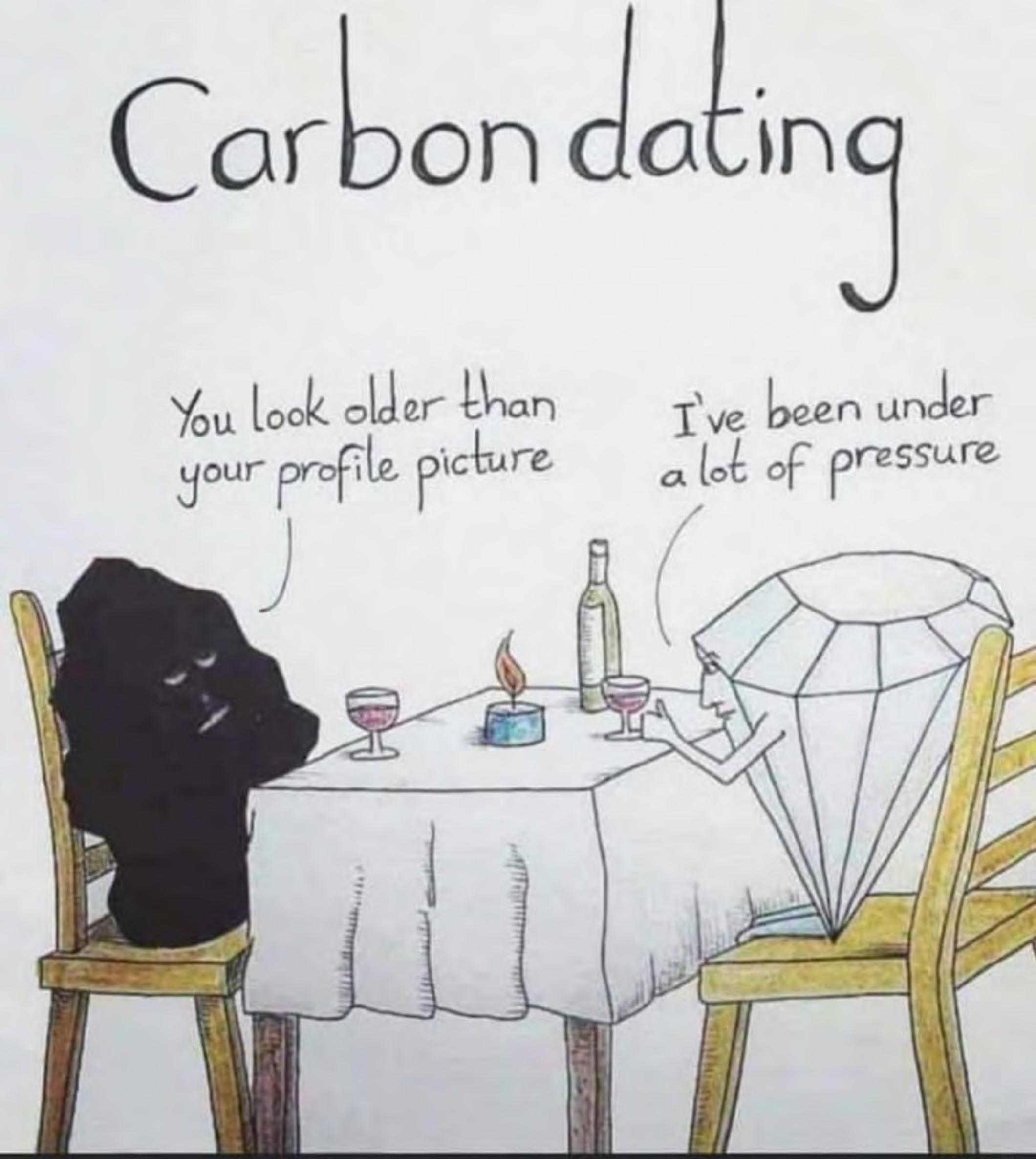
I FIND YOUR LACK OF FEET. INCHES AND POUNDS DISTURBING!

OR POUND SAND- DARTH! I MEAN LITER! OR LITER SAND!

Carbon dating

You look older than your profile picture

I've been under a lot of pressure



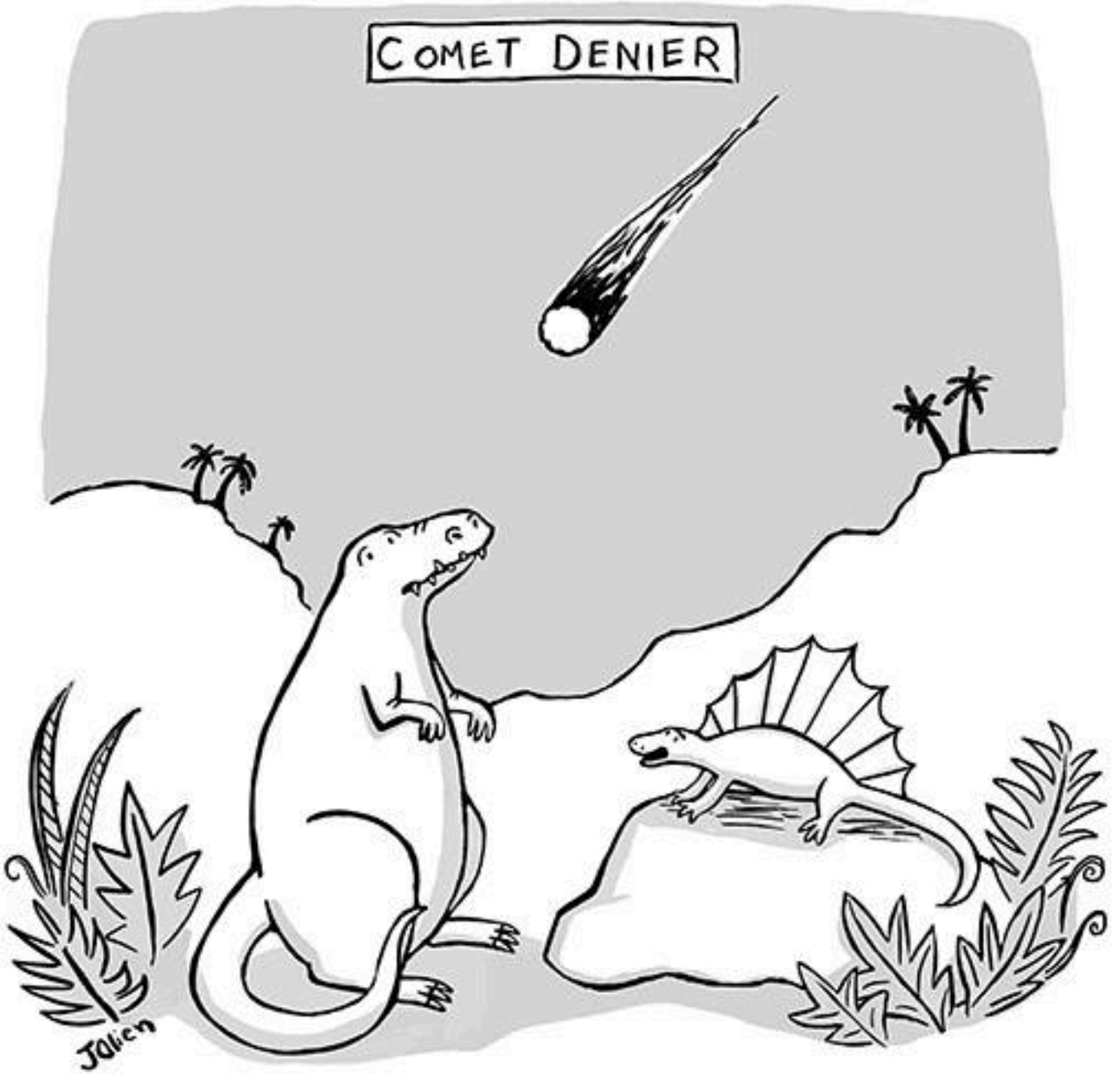
TOM the DANCING BUG

by RUBEN BOLLING

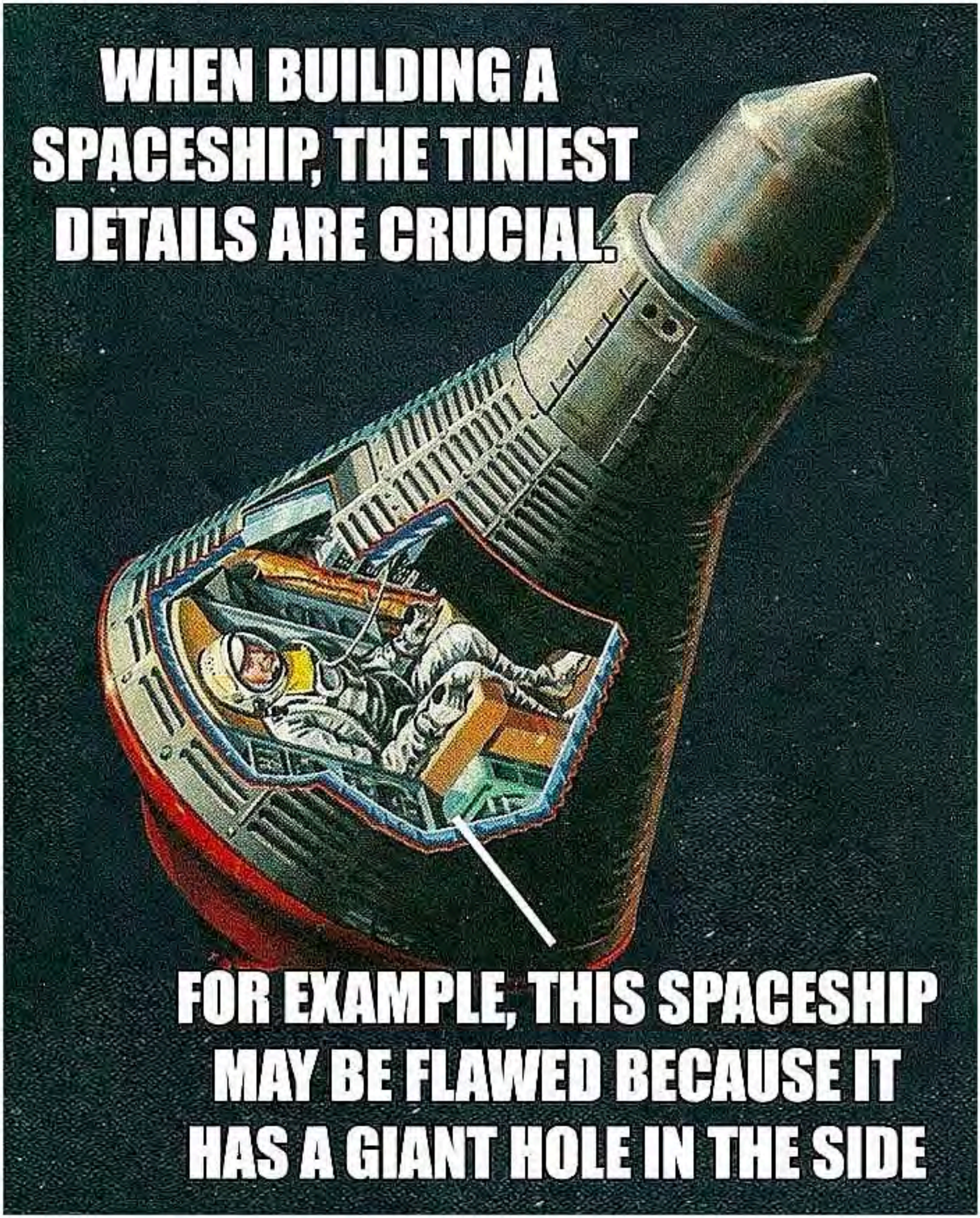
Q-NUTS

"It's Climate Change, Charlie Brown"

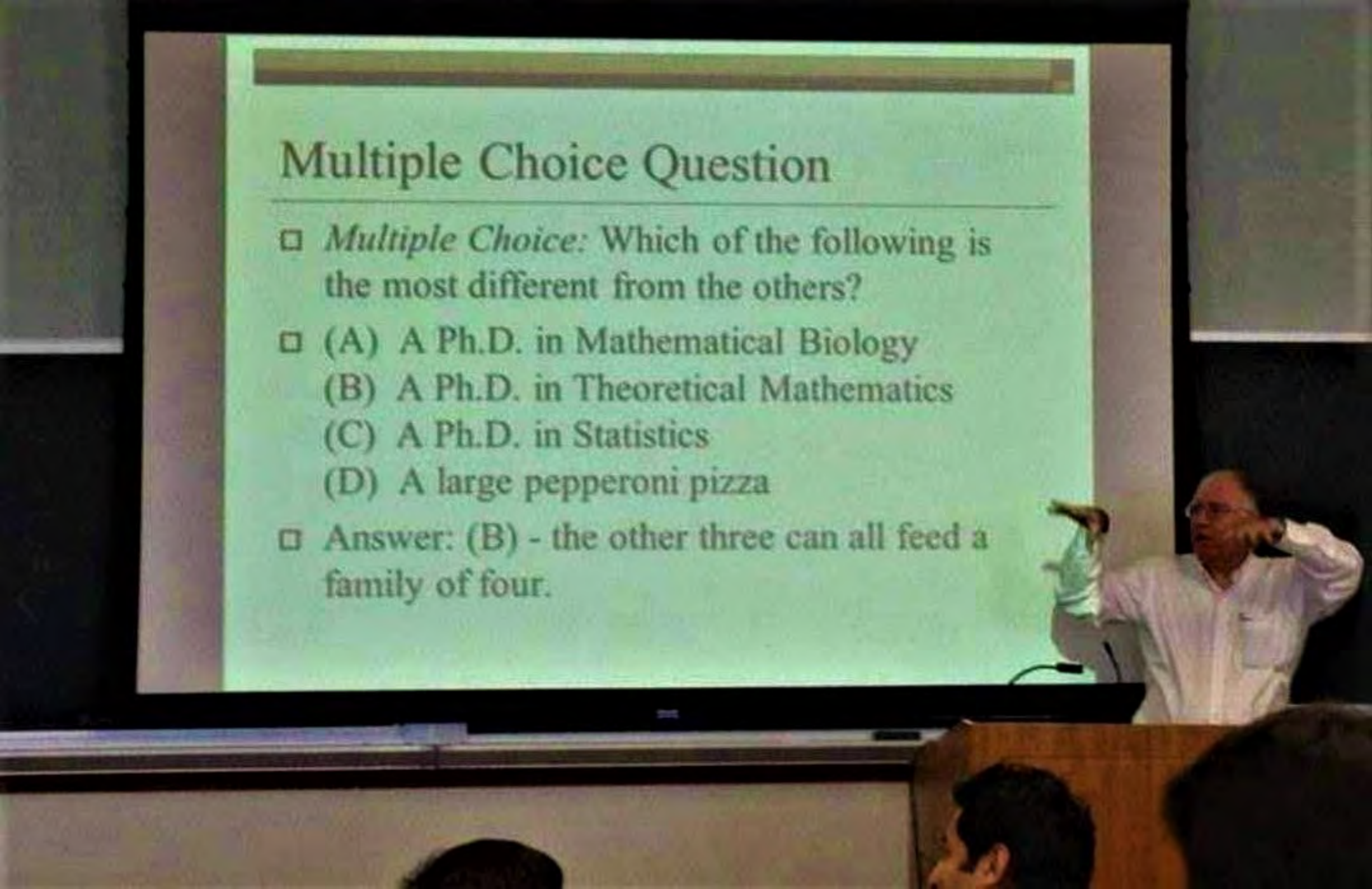
DIST. BY ANDREWS McMEEL SYNDICATION - ©2021 R. BOLLING - 1554 - TO JOIN THE INNER HIVE, GO TO tomthedancingbug.com



"That thing's always been there."

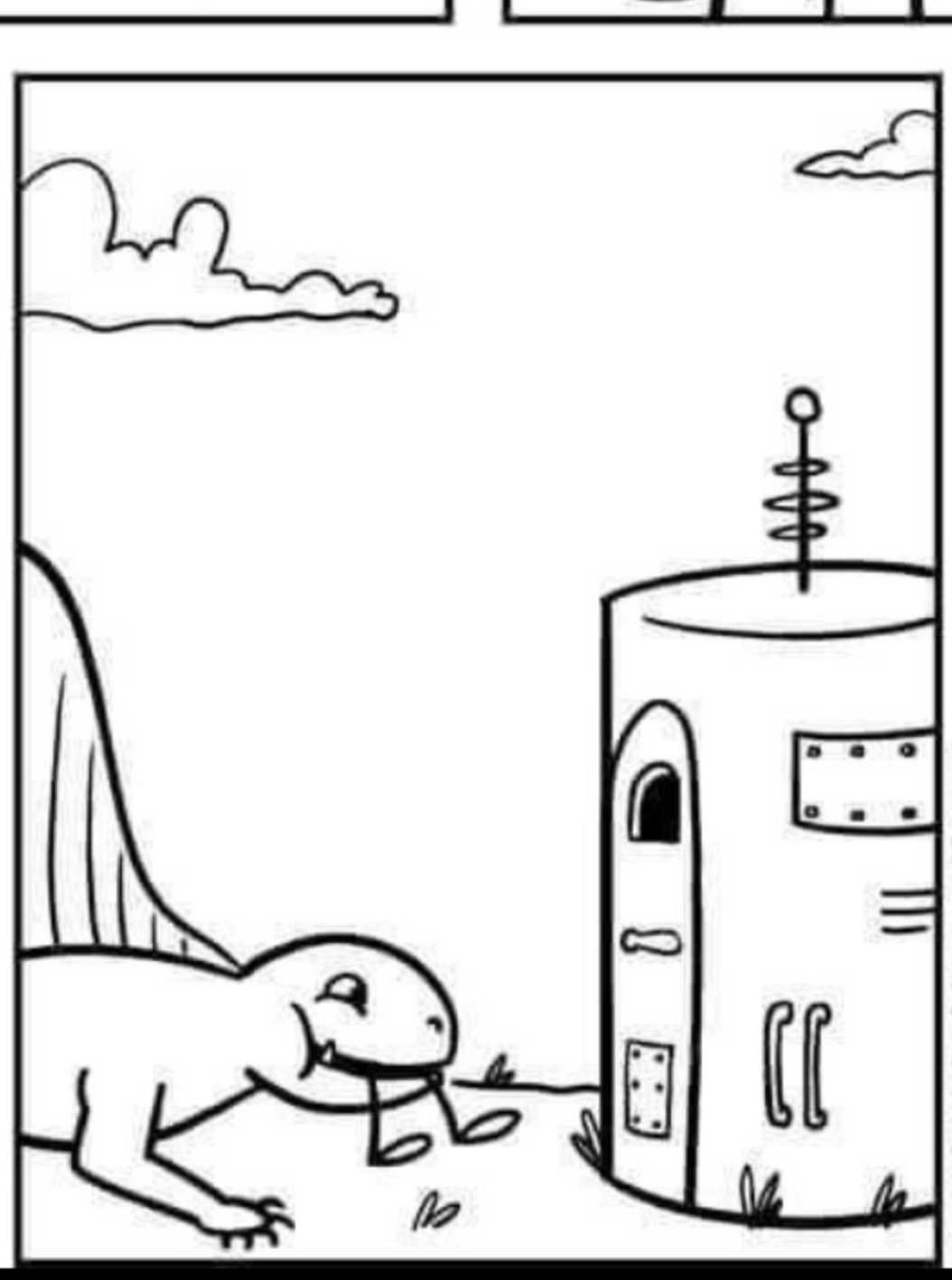

WHEN BUILDING A SPACESHIP, THE TINIEST DETAILS ARE CRUCIAL.
FOR EXAMPLE, THIS SPACESHIP MAY BE FLAWED BECAUSE IT HAS A GIANT HOLE IN THE SIDE

Sorry, your highness, but you're really not the dictator of Ithuvania, a small European republic. In fact, there is no Ithuvania. The hordes of admirers, the military parades, this office -- We faked it all as an experiment in human psychology. In fact, your highness, your real name is Edward Belcher, you're from Long Island, New York, and it's time to go home, Eddie.


Multiple Choice Question
Multiple Choice: Which of the following is the most different from the others?
(A) A Ph.D. in Mathematical Biology
(B) A Ph.D. in Theoretical Mathematics
(C) A Ph.D. in Statistics
(D) A large pepperoni pizza
Answer: (B) - the other three can all feed a family of four.

RUN PROFESSOR, IT'S A DINOSAUR!

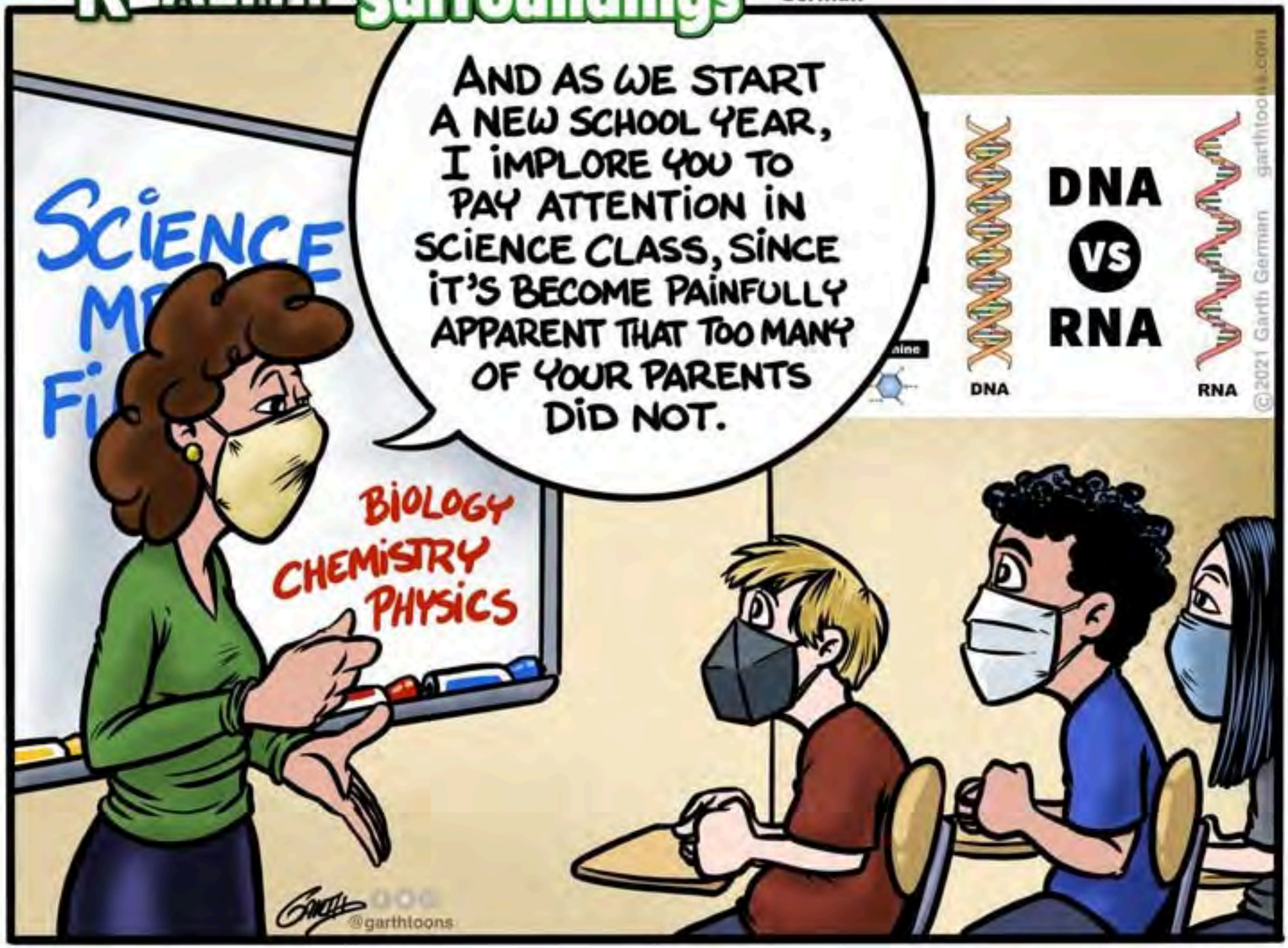
YOU IDIOT! THAT'S A DIMETRODON! DINOSAURS EVOLVED AFTER DIMETRODON WAS ALREADY EXTINCT FOR AROUND 60 MILLION YEARS! THEY ARE SYNAPSIDS! WE ARE MORE CLOSELY RELATED TO DIMETRODON THAN A DIMETRODON IS TO A DINOSAUR! IN FACT...

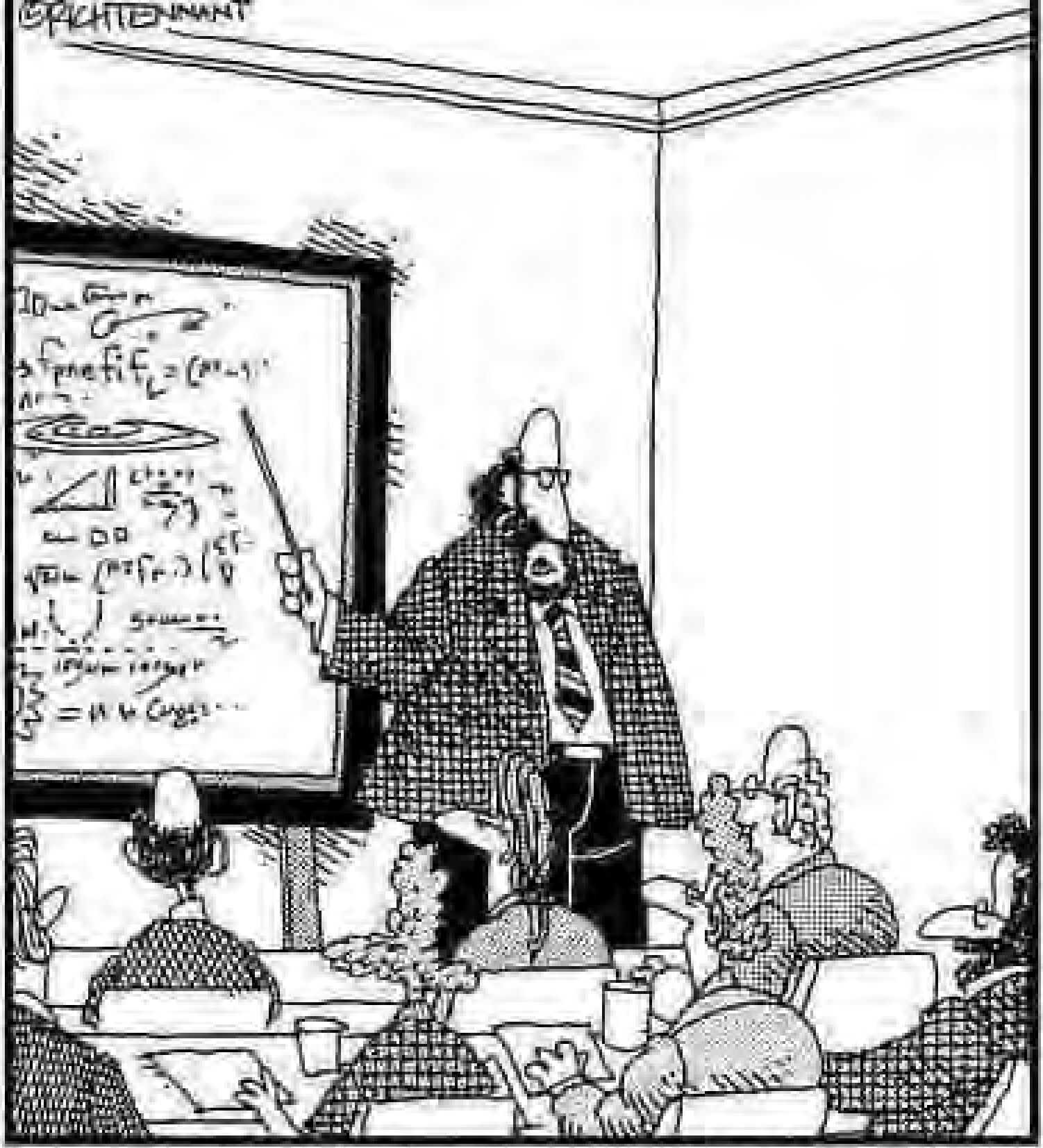


@CHRISHALLBECK

the REALITY of my Surroundings

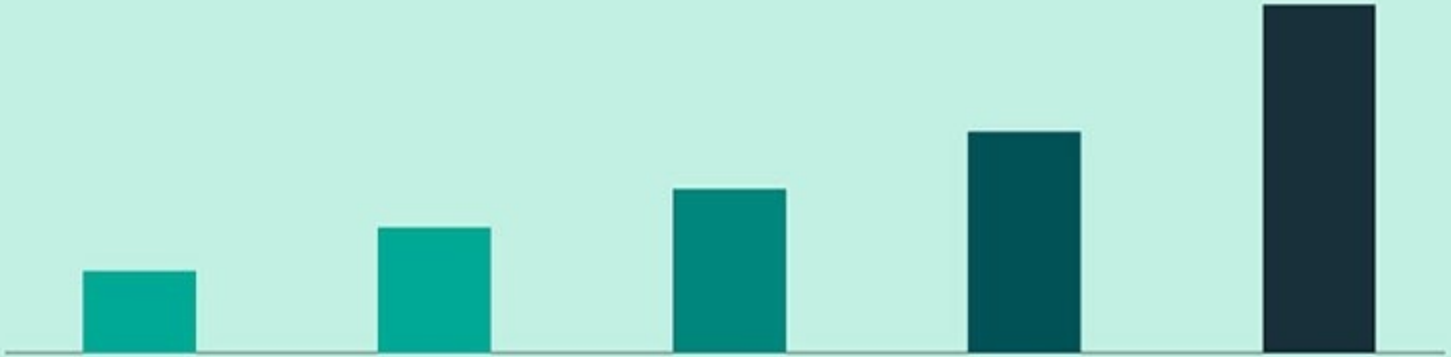
by Garth German





"Along with 'Antimatter,' and 'Dark Matter,' we've recently discovered the existence of 'Doesn't Matter,' which appears to have no effect on the universe whatsoever."

THE BIGGEST LIES ON THE INTERNET

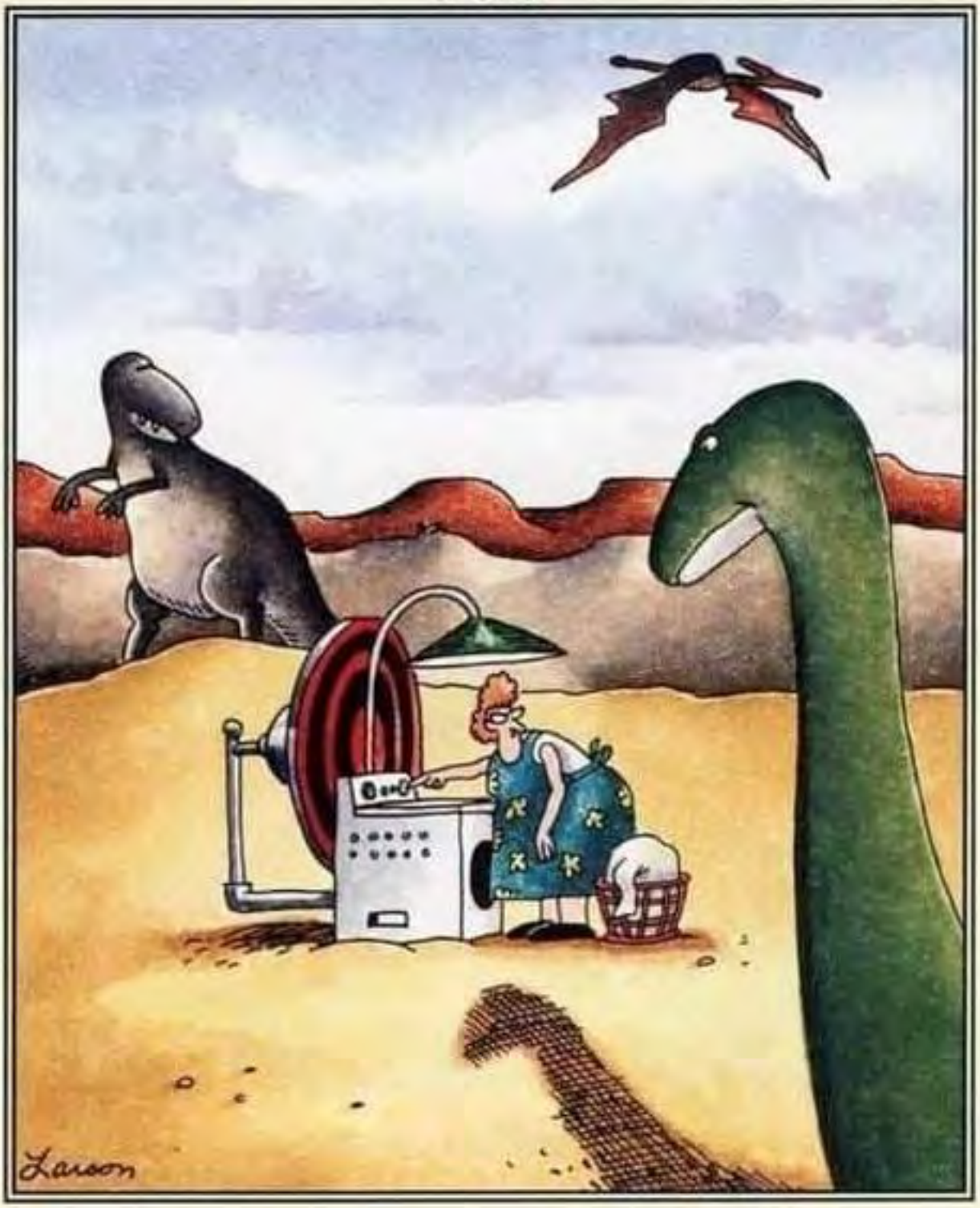


(c) Mikael Wulff & Anders Morgenthaler

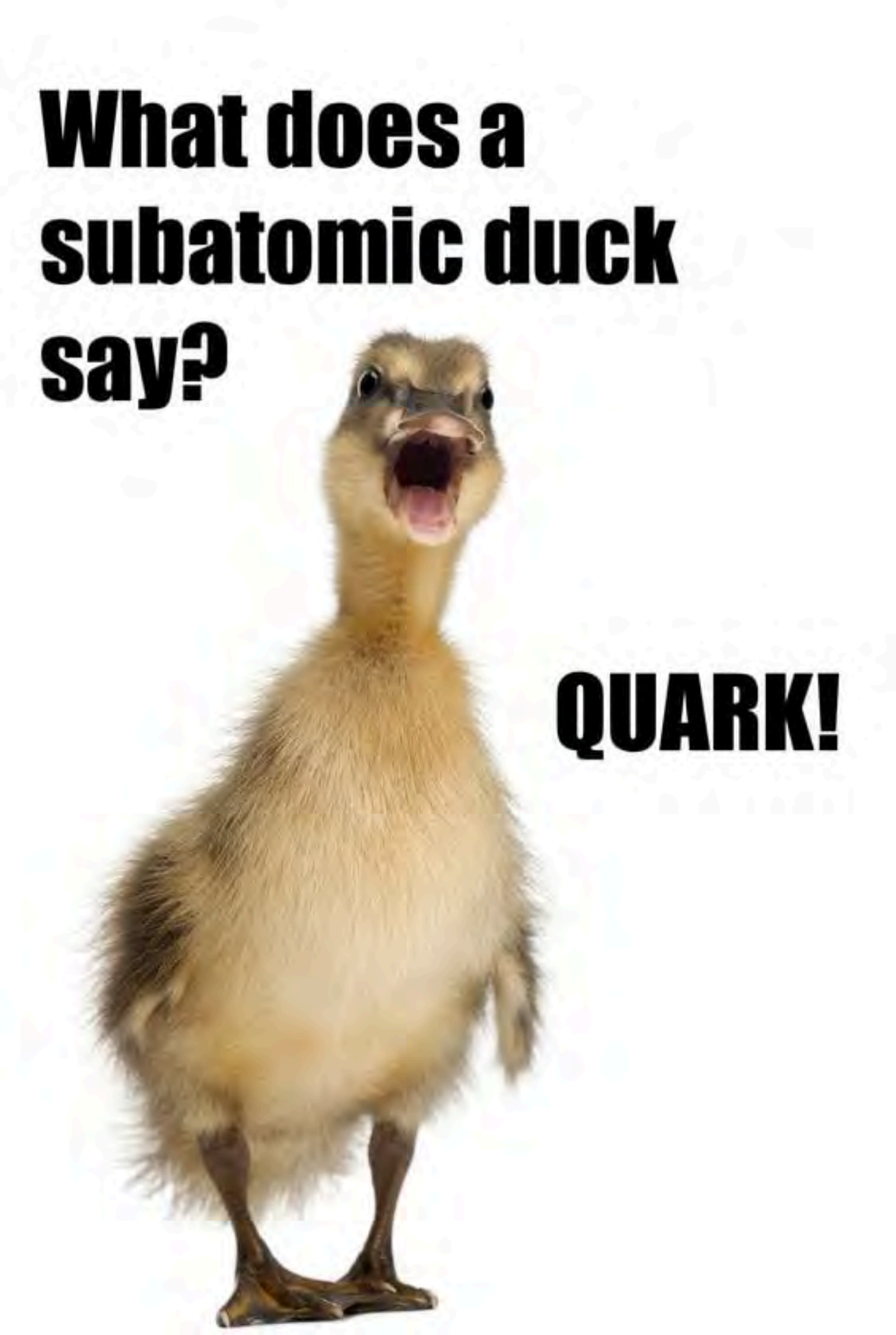
truthfacts.com

There was this huge eye that wouldn't stop staring at me!
It's just the microscope dream again... go back to sleep!

3/29/85



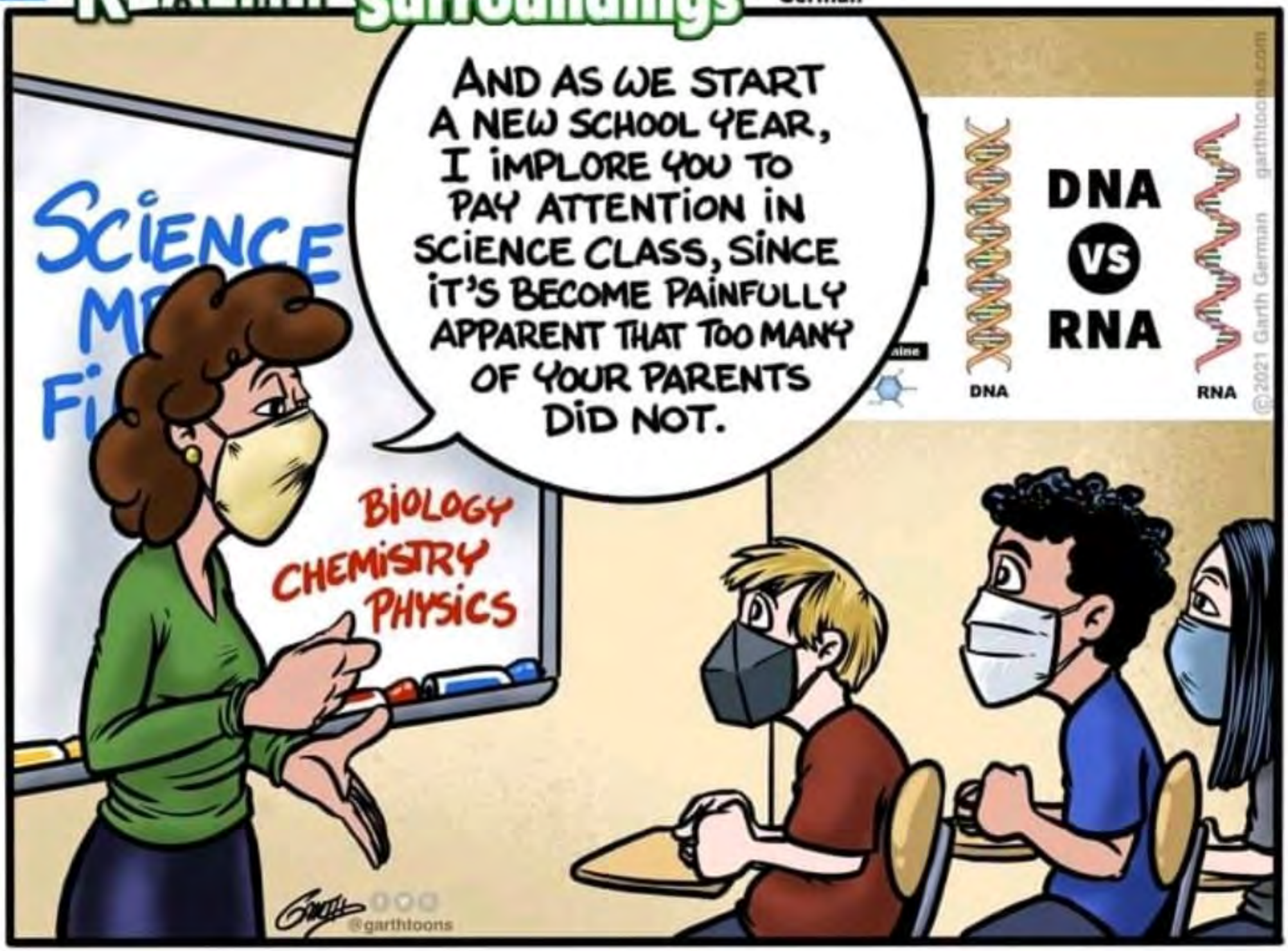
Disaster befalls Professor Schnabel's cleaning lady when she mistakes his time machine for a new dryer.

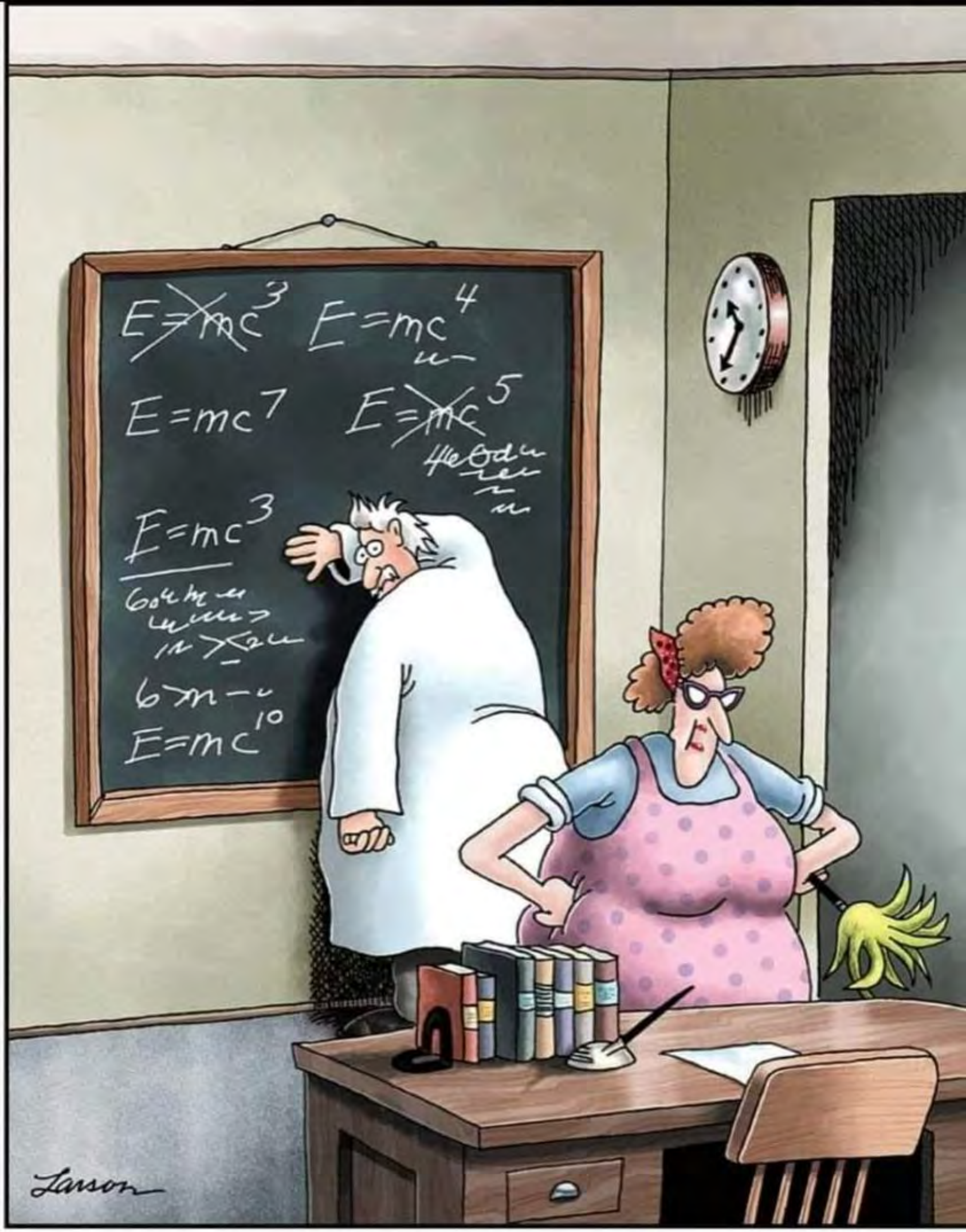

What does a subatomic duck say?
QUARK!

AN EARLY BIRD
CATCHING THE WORM

the REALITY of my Surroundings

by Garth German





"*Now* that desk looks better. Everything's squared away, yessir, squaaaaaared away."

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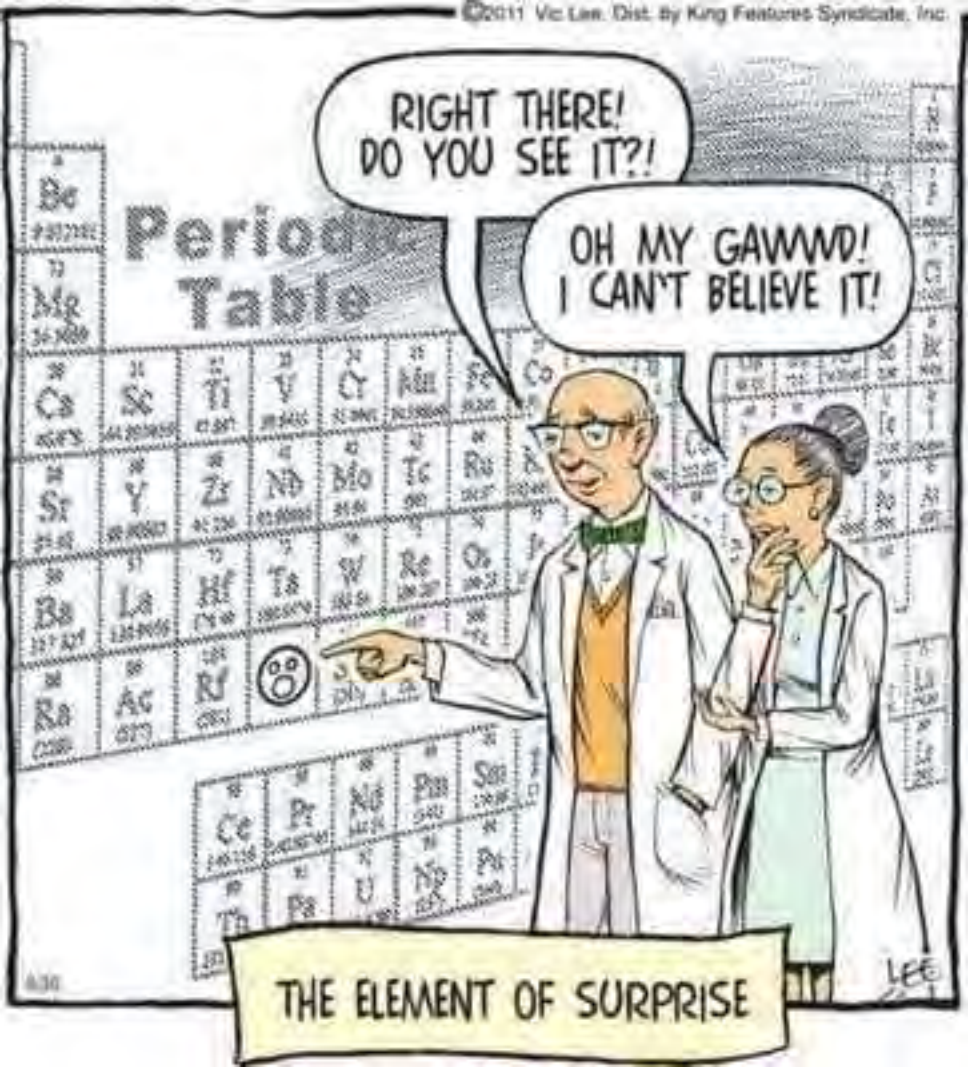
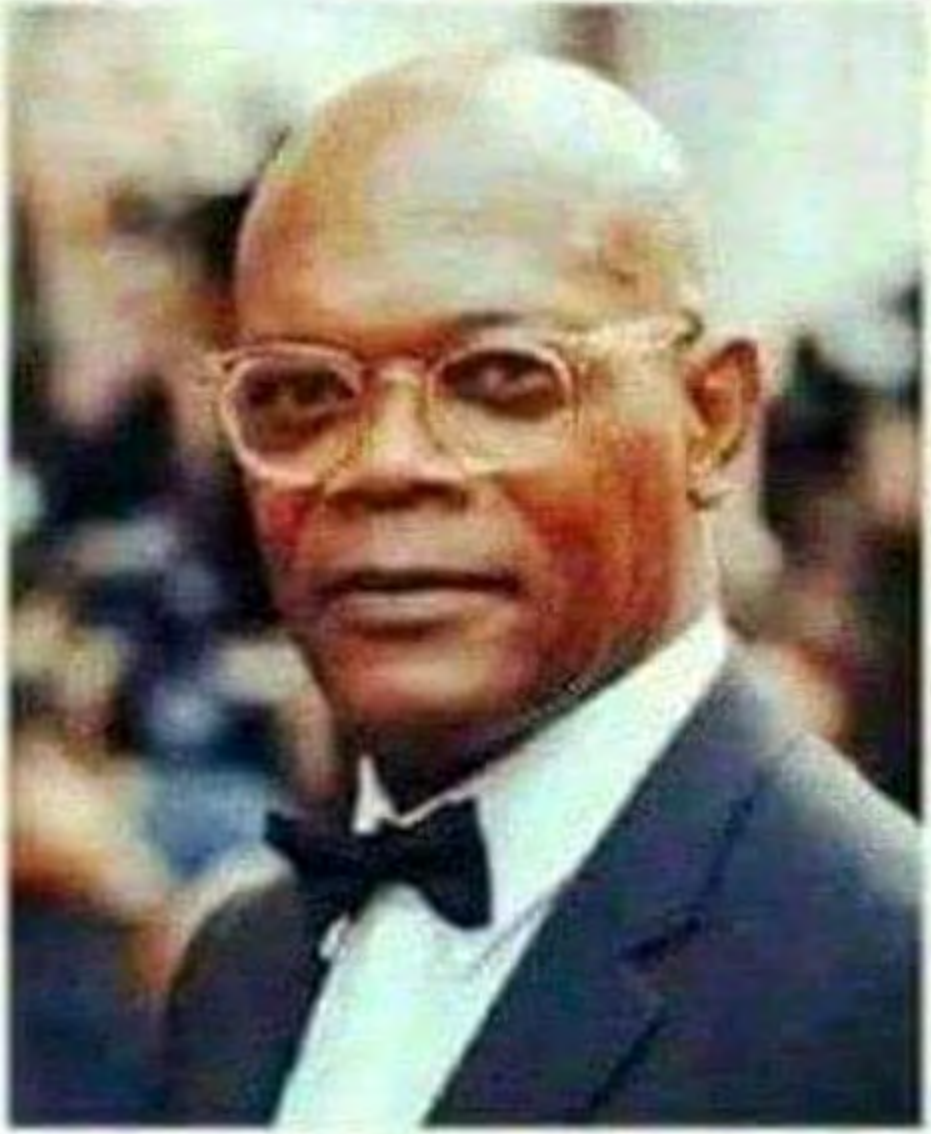


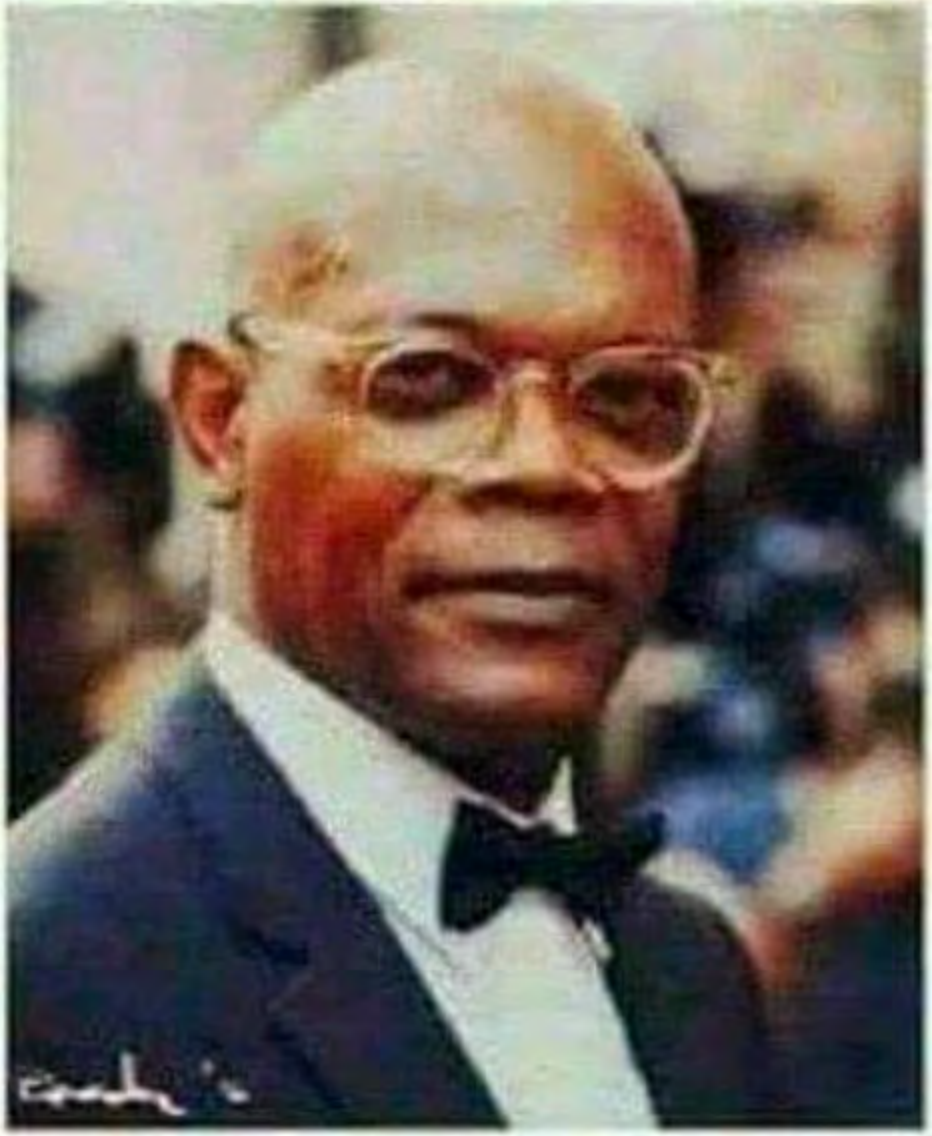
Ferrari

Agrrari

Aurrari

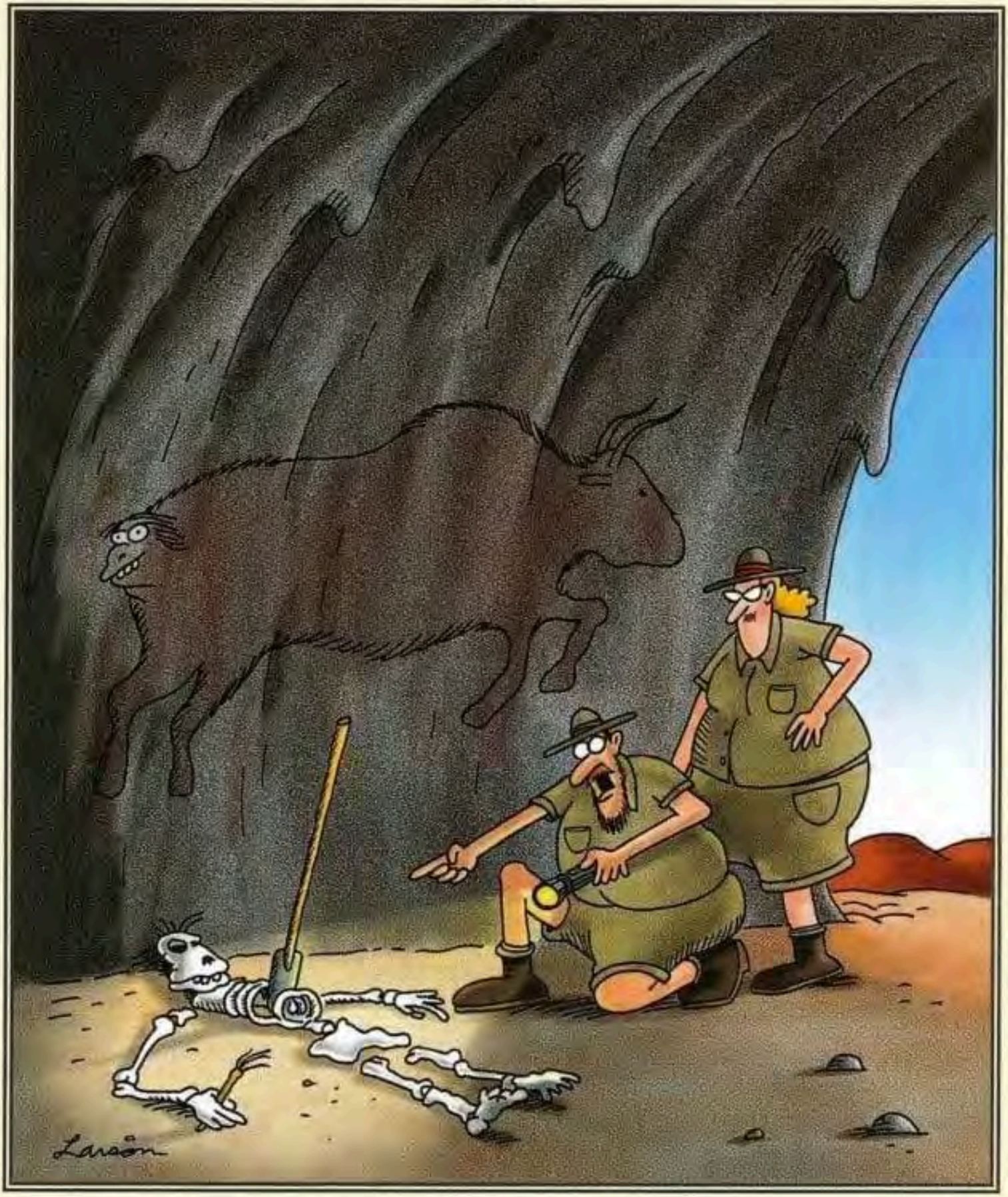


Samuel-**L**-Jackson

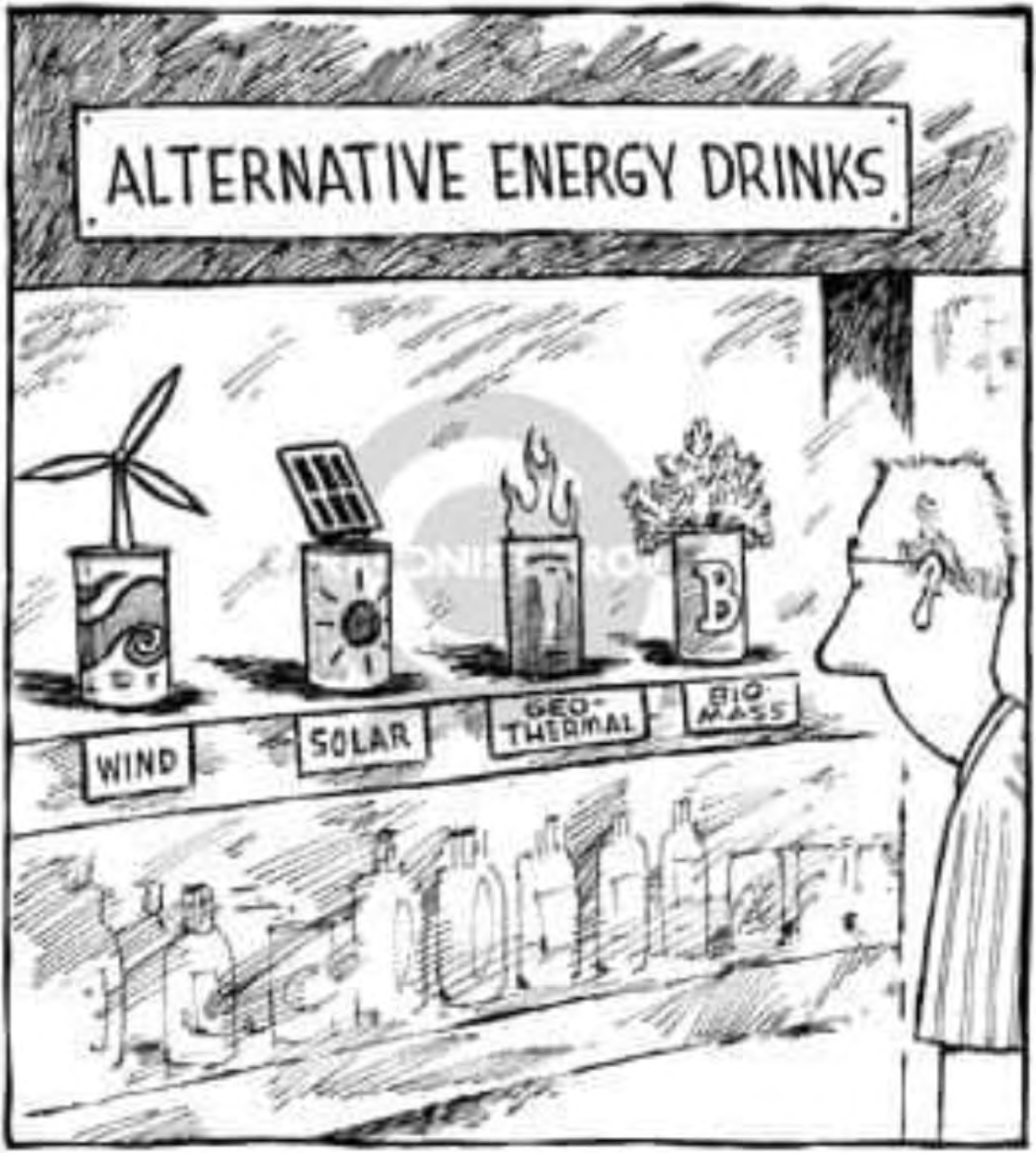


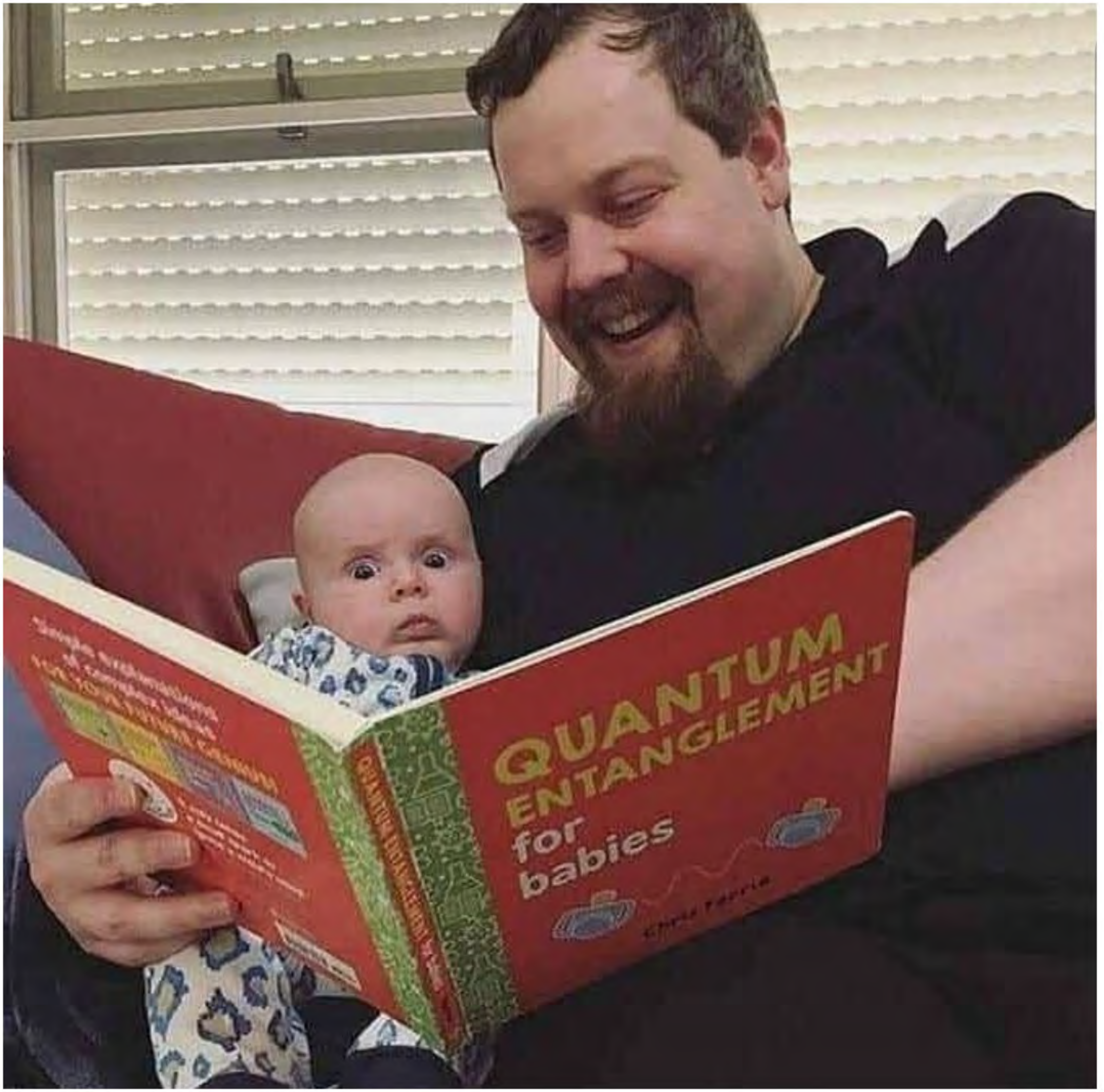
Samuel-**R**-Jackson

5/11/93



"Amazing! The mummified remains of a prehistoric cave-painter, still clutching his brush! ... Seems he made an enemy, though."


ALTERNATIVE ENERGY DRINKS
WIND
SOLAR
GEO-THERMAL
BIO MASS


QUANTUM
ENTANGLEMENT
for
babies

ENTOMOLOGISTS

SEE

COMPLETELY DIFFERENT SPECIES

The Ultimate Thermodynamics Game

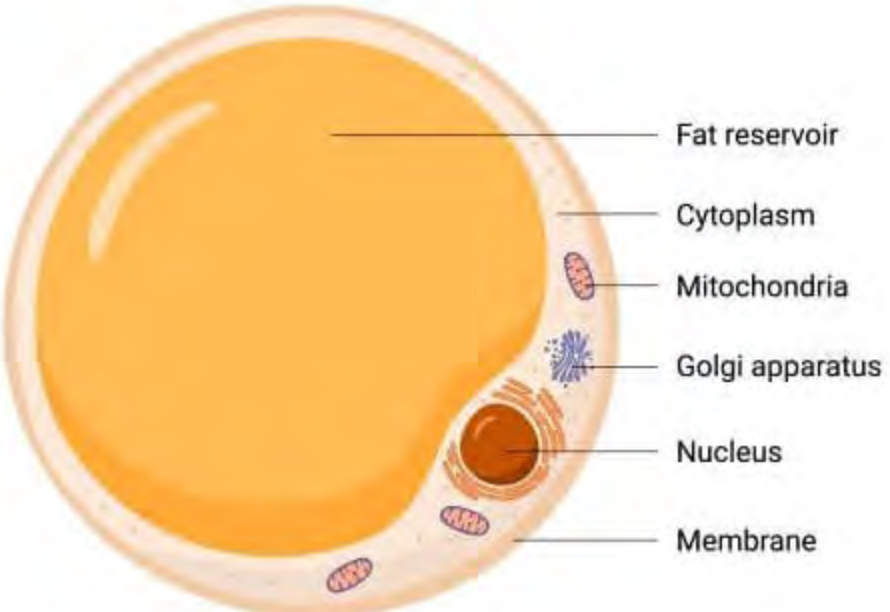
You can't win.

You can't break even.

You can't even
quit the game.

ENGLISH HERITAGE
ERWIN
SCHRÖDINGER
Creator
of Wave Mechanics
lived and didn't live
here
1940 - 1956

ADIPOCYTE



**Brain cells, hair cells, skin cells:
they all die constantly,
but fat cells seem to have
eternal life.**

You're making some pretty extraordinary claims. Do you have evidence to support them?

I've seen it for myself, and there are plenty of other people with stories just like mine.

But anecdotes aren't evidence. The fact that you saw X before Y doesn't mean that X caused Y. Do you have anything else?

Just watch this Youtube video and read this blog.

Counterfactual blogs and unsubstantiated documentaries and videos aren't evidence either. What else do you have?

There's tons of evidence. Whole books have been written on it!

There are also whole books claiming the moon landing was faked and aliens landed at Roswell. I want to see the actual evidence, not secondary sources.

Fine, here are several scientific studies.

Finally, let's see what you found. Um...most of these are case reports, not experimental studies. Two of the papers have been retracted, and the rest have tiny sample sizes and questionable statistics. Also, other studies haven't been able to replicated them. Is this all that you have?

Just look it up yourself. There's lots of evidence out there.

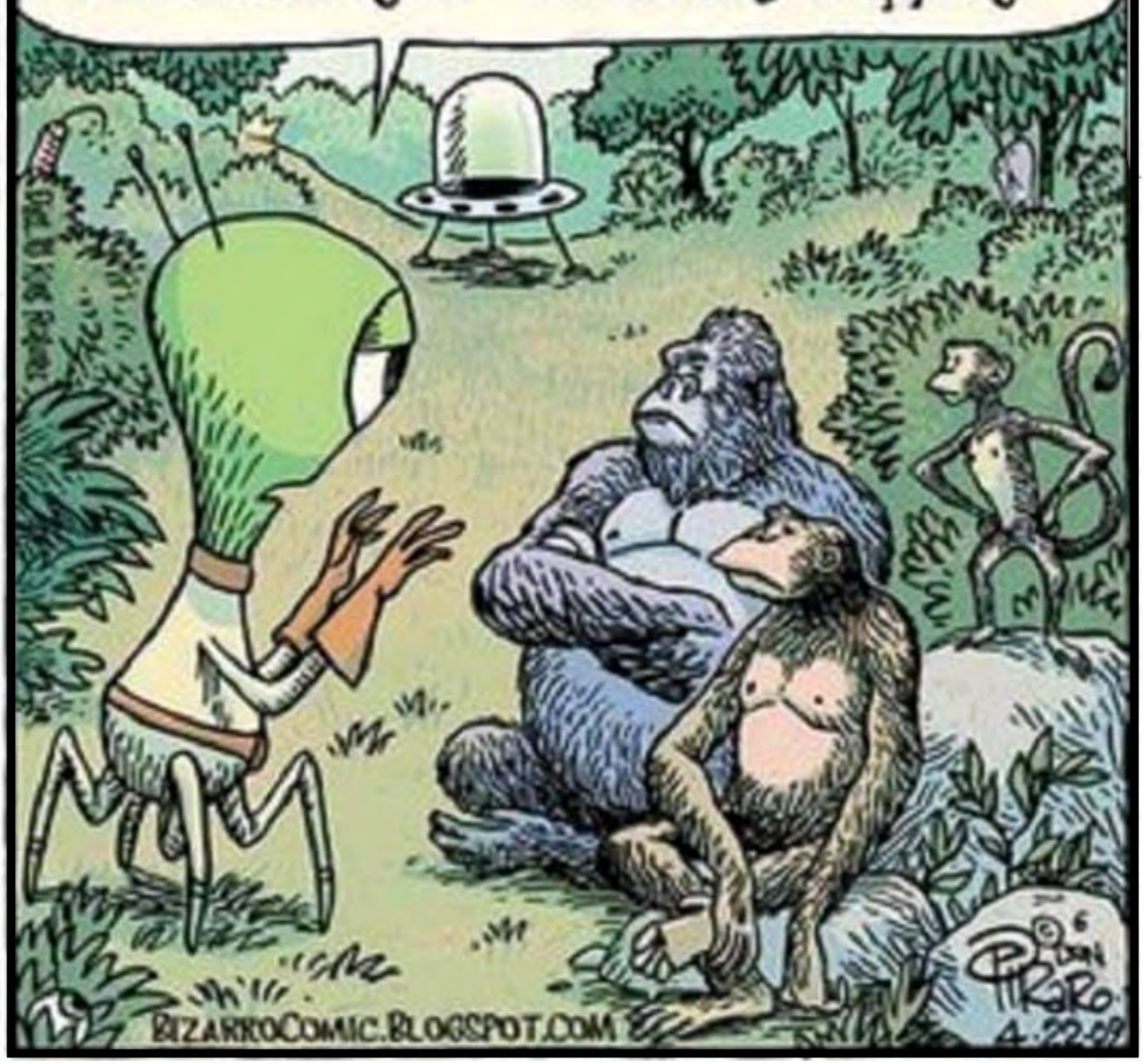
I have looked it up, and I found dozens of large, high quality, properly controlled studies that have been independently replicated, and they all say that you're wrong.

But those studies were all bought off by big corporations!

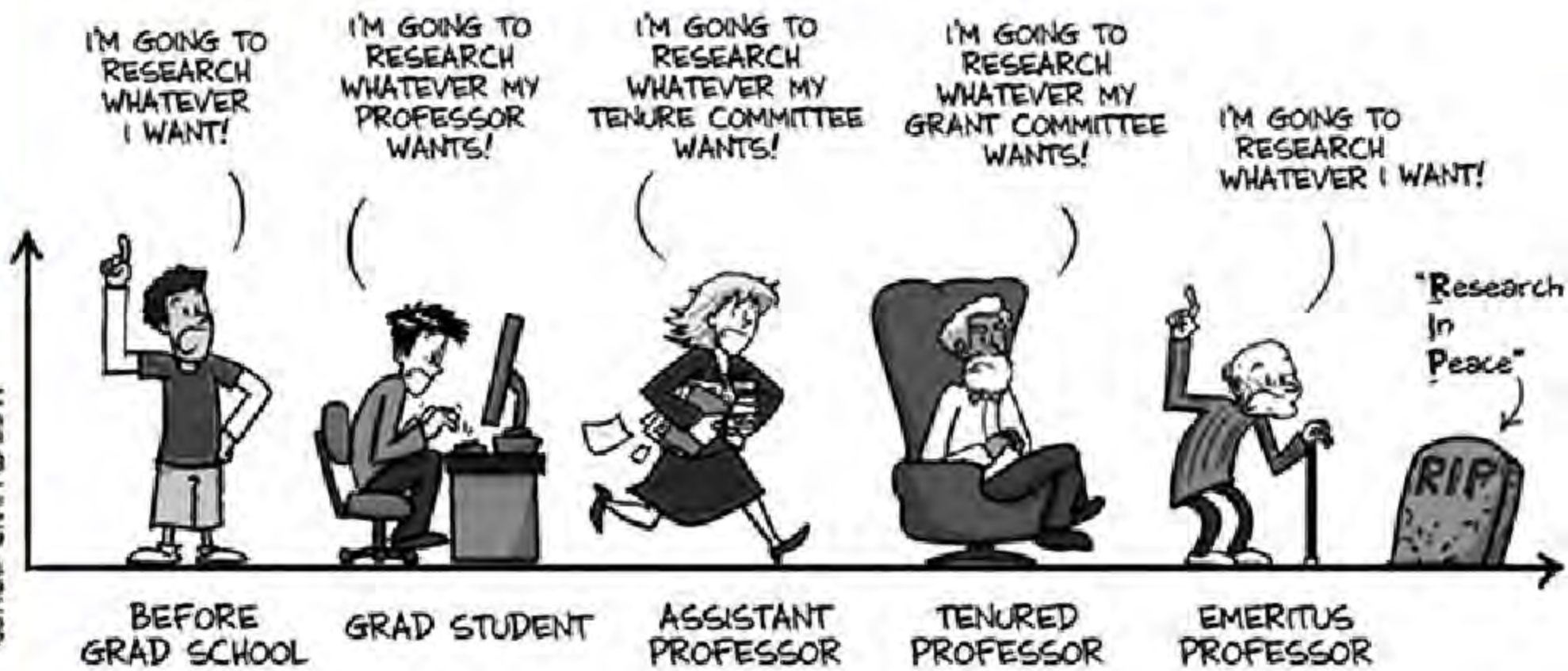
What's your evidence that they were bought off?

It's all here in this Youtube video!

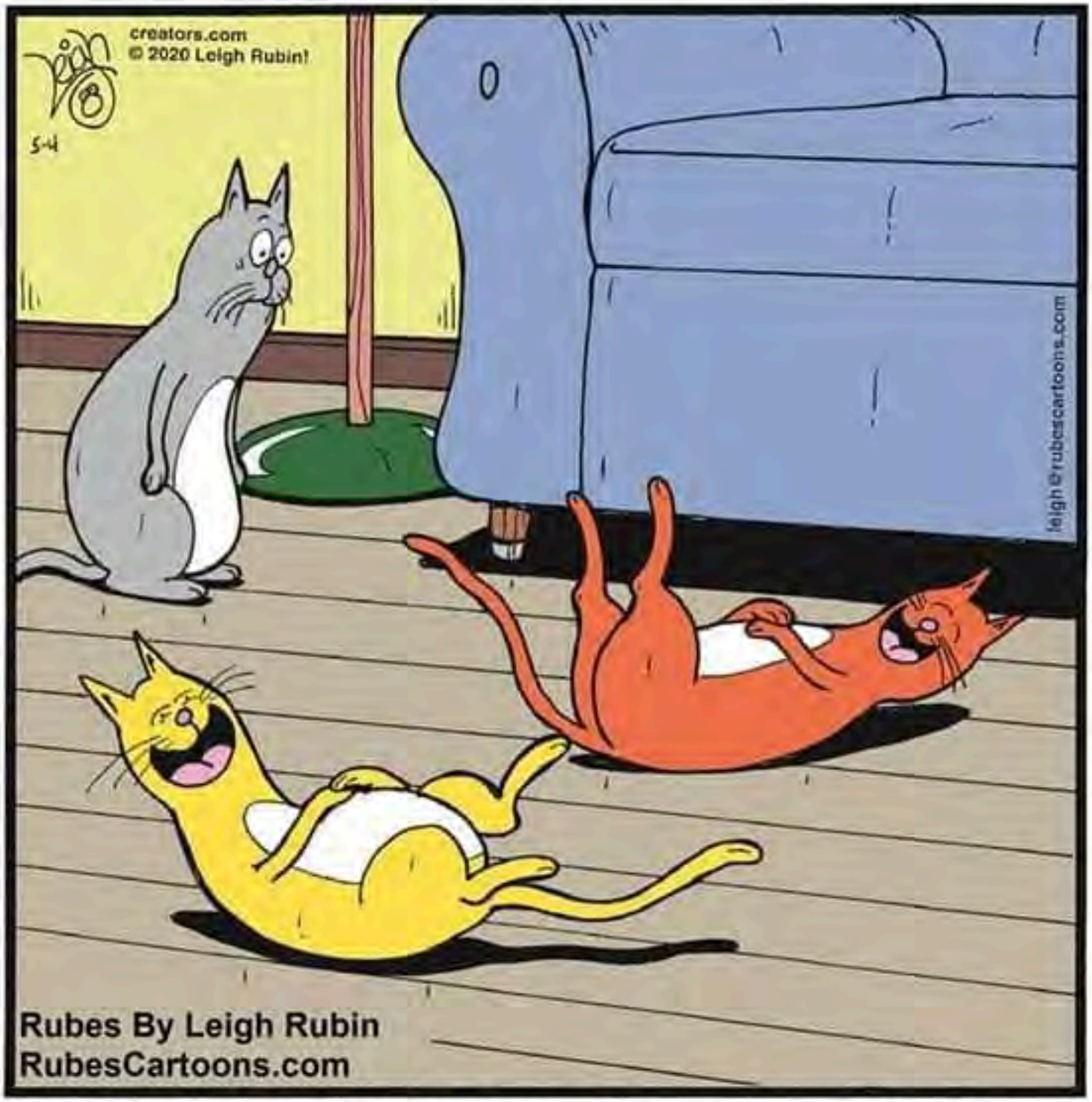
Let me get this straight — everything on the planet was working just fine until your "cousins got uppity."



THE EVOLUTION OF INTELLECTUAL FREEDOM

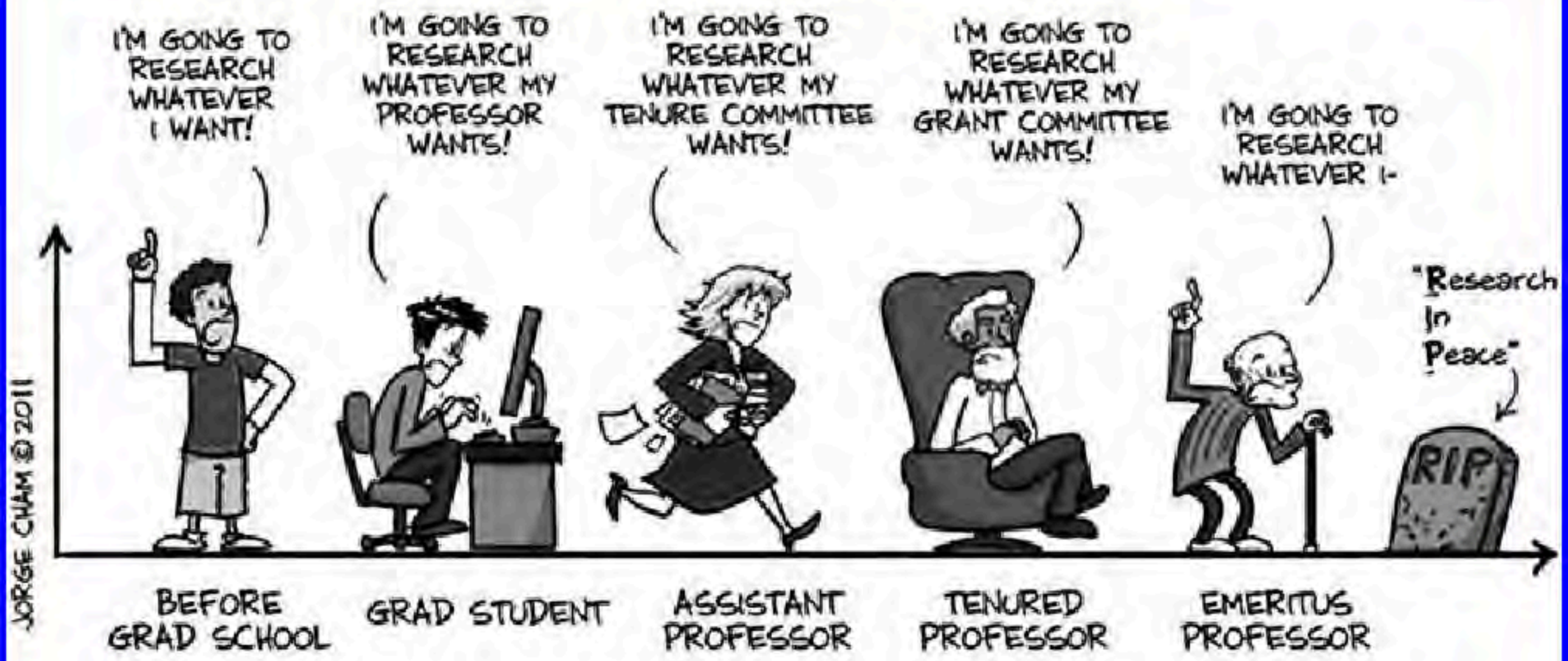


Our closest ancestors are wolves.
Cool! And humans'?
Bonobos.
Ah.



"You're telling us that Once Upon A Time fish just *walked* onto the land? Next I suppose you are going to tell us that there are fish that fly...! Oh, man, I don't know what kind of catnip you're on, but I want some!"

THE EVOLUTION OF INTELLECTUAL FREEDOM



Men's sandals

Sandals that look good on men

(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

Prokaryotes

Eukaryotes

Quakaryotes

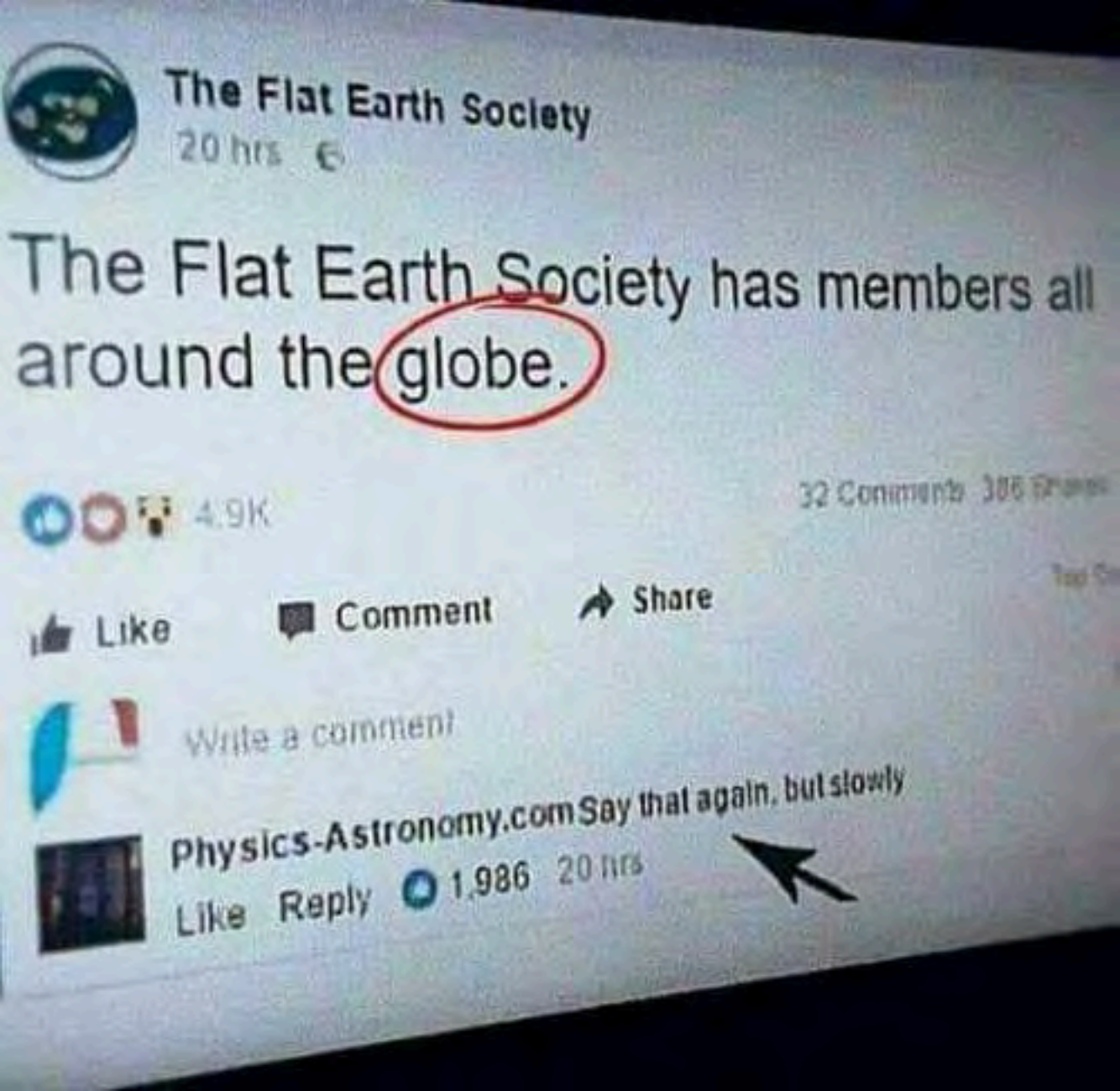
Speed Bump by Dave Coverly

DO NOT
SIT ON
FENCE.

THE FIBONACCHO SEQUENCE

FLAT EARTH SOCIETY
NEW YORK
LONDON
PARIS
BEIJING
TOKYO
Hankin

When flat earthers realise they've been breathing from atmosphere and not atmoflat


The Flat Earth Society
20 hrs
The Flat Earth Society has members all around the globe.
4.9K
32 Comments
Like
Comment
Share
Write a comment
Physics-Astronomy.com Say that again, but slowly
Like Reply 1,986 20 hrs

Our extended forecast includes global warming & the catastrophic end of the human race. But for the weekend, it's looking like sunny skies, mild temperatures, & a general apathy toward environmental concerns.

Back to you, Jim.

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8-8-03
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Dist. by King Features

Smithsonian

PALEOANTHROPOLOGY DIVISION
SMITHSONIAN INSTITUTION
207 PENNSYLVANIA AVENUE
WASHINGTON, DC 20078

March 14, 2008

Robert C. Cullttthorpe
321 Millhave Road
Mattaponi, VA 23110

Dear Sir:

Thank you for your latest submission to the Institution, labeled "211-D, layer seven, next to the clothesline post. Hominid skull." We have given this specimen a careful and detailed examination, and regret to inform you that we disagree with your theory that it represents "conclusive proof of the presence of Early Man in Charleston County two million years ago." Rather, it appears that what you have found is the head of a Barbie doll, of the variety one of our staff, who has small children, believes to be the "Malibu Barbie." It is evident that you have given a great deal of thought to the analysis of this specimen, and you may be quite certain that those of us who are familiar with your prior work in the field were loathe to come to contradiction with your findings.

However, we do feel that there are a number of physical attributes of the specimen which might have tipped you off to its modern origin:

1. The material is molded plastic. Ancient hominid remains are typically fossilized bone.

2. The cranial capacity of the specimen is approximately 9 cubic centimeters, well below the threshold of even the earliest identified proto-hominids.

3. The dentition pattern evident on the "skull" is more consistent with the common domesticated canine (dog) than it is with the "ravenous man-eating Pliocene clams" you speculate roamed the wetlands during that time. This latter finding is certainly one of the most intriguing hypotheses you have submitted in your history with this institution, but the evidence seems to weigh rather heavily against it.

Without going into too much detail, let us say that:

A. The specimen looks like the head of a Barbie doll that a dog has chewed on.

B. Clams don't have teeth.

Smithsonian

It is with feelings tinged with melancholy that we must deny your request to have the specimen carbon dated. This is partially due to the heavy load our lab must bear in its normal operation, and partly due to carbon dating's notorious inaccuracy in fossils of recent geologic record. To the best of our knowledge, no Barbie dolls were produced prior to 1956 AD, and carbon dating is likely to produce wildly inaccurate results.

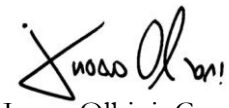
Sadly, we must also deny your request that we approach the National Science Foundation's Phylogeny Department with the concept of assigning your specimen the scientific name "*Australopithecus spiff-arino*."

Speaking personally, I, for one, fought tenaciously for the acceptance of your proposed taxonomy, but was ultimately voted down because the species name you selected was hyphenated, and didn't really sound like it might be Latin.

However, we gladly accept your generous donation of this fascinating specimen to the museum. While it is undoubtedly not a hominid fossil, it is, nonetheless, yet another riveting example of the great body of work you seem to accumulate here so effortlessly. You should know that our Director has reserved a special shelf in his own office for the display of the specimens you have previously submitted to the Institution, and the entire staff speculates daily on what you will happen upon next in your digs at the site you have discovered in your back yard.

We eagerly anticipate your trip to our nation's capital that you proposed in your last letter, and several of us are pressing the Director to pay for it. We are particularly interested in hearing you expand on your theories surrounding the "trans-positating fillifitation of ferrous ions in a structural matrix" that makes the excellent juvenile Tyrannosaurus rex femur you recently discovered take on the deceptive appearance of a rusty 9-mm Sears Craftsman automotive crescent wrench.

Yours in Science,



Joaso Olbini, Curator, Antiquities

Okay, Walter, press your wings into the mud in there somewhere!
8-15-21
BIZARRO.COM
FUN WITH FOSSILS

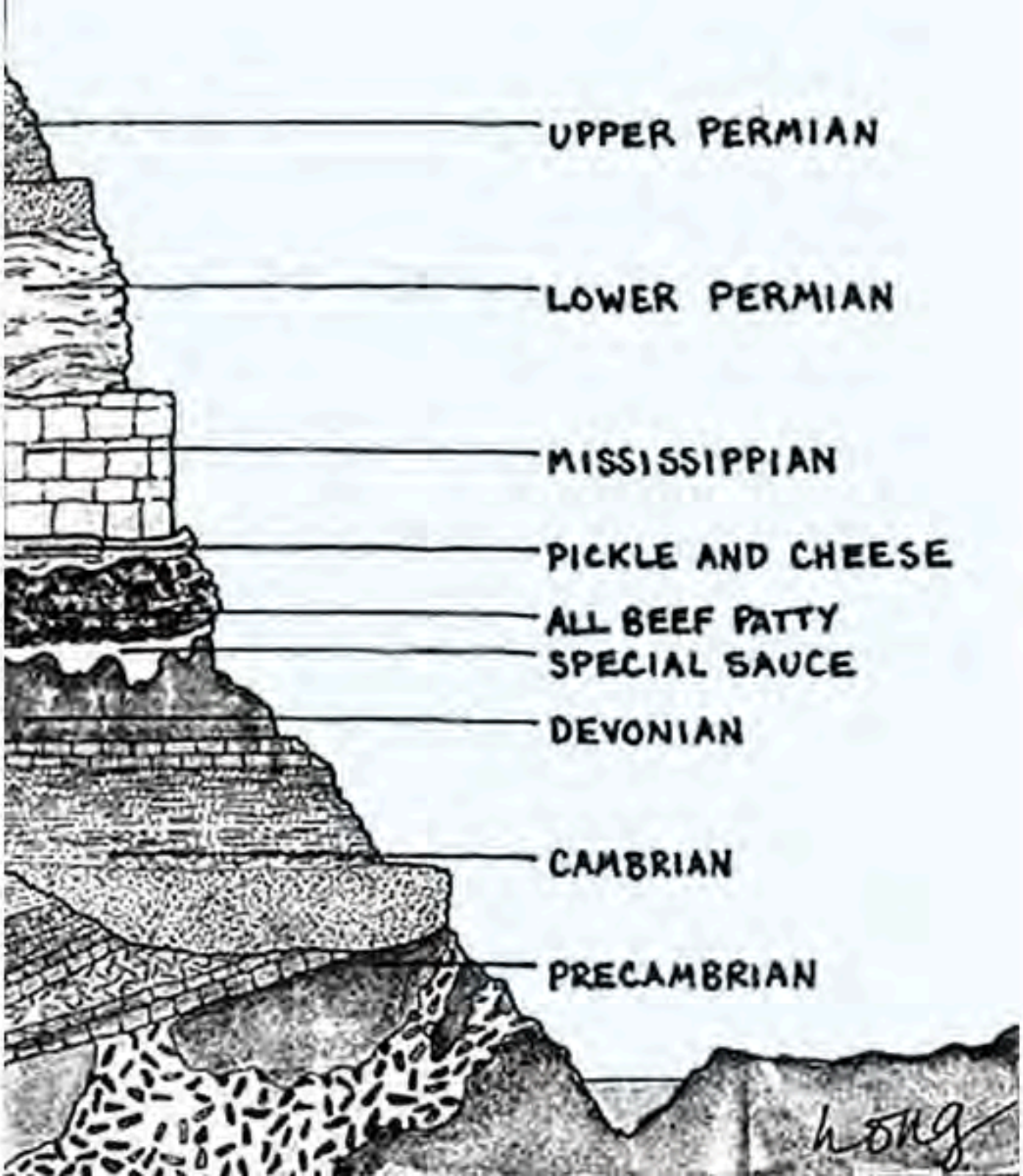
Unexpected Fractal Result

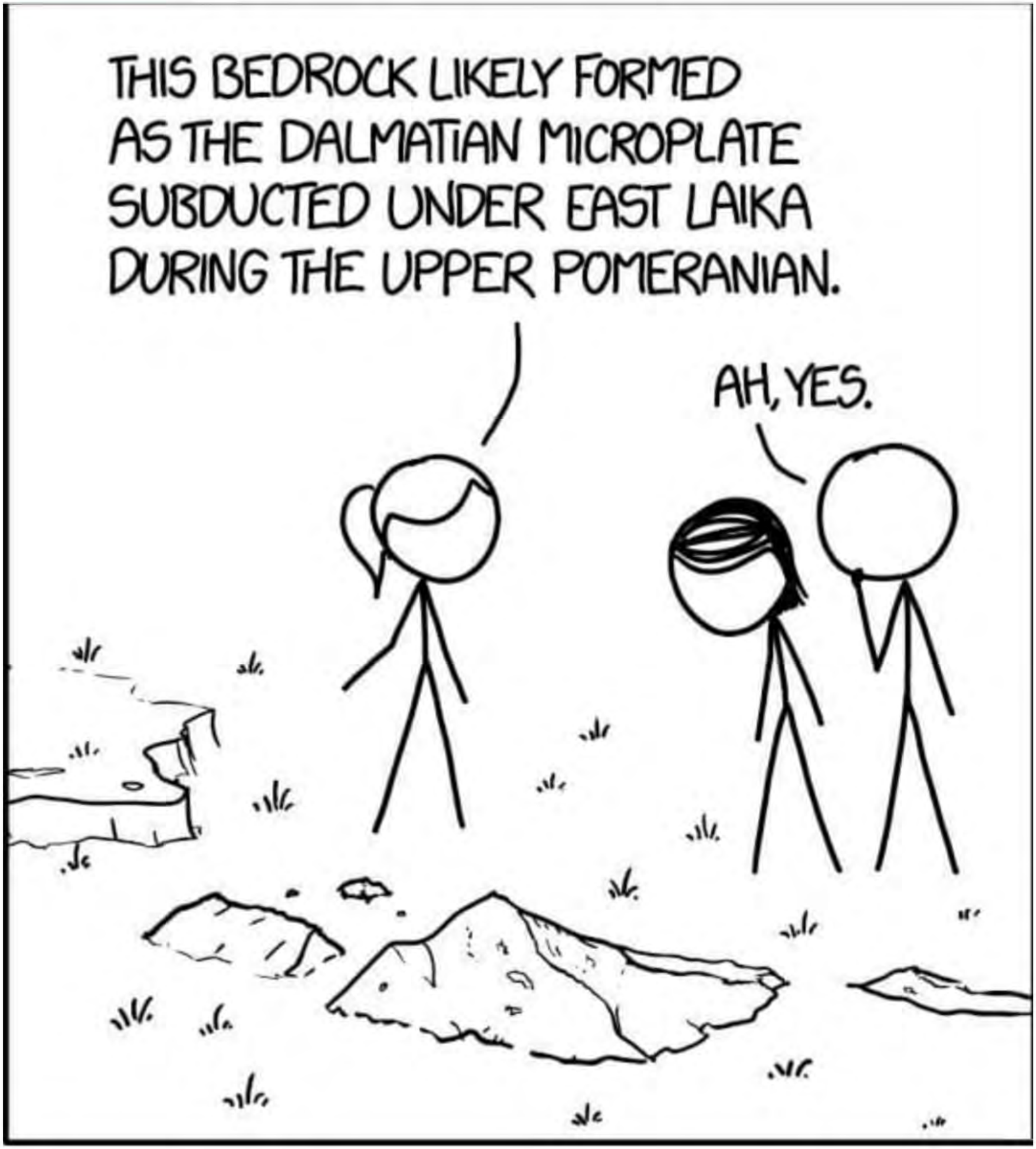
In Schrodinger's Experiment

Just once.
How often do planes crash?

OK... LET ME TRY TO EXPLAIN WHY IT'S A BAD TIME TO CUT THE FUNDING FOR MY RESEARCH...
MARK PARISI
1-16
offthemark.com
MarkParisi@aol.com ©2007 MARK PARISI DIST. BY UFS INC.

UNFORTUNATELY
THERE IS NO
LIFEGUARD
IN THE
GENE POOL


UPPER PERMIAN
LOWER PERMIAN
MISSISSIPPIAN
PICKLE AND CHEESE
ALL BEEF PATTY
SPECIAL SAUCE
DEVONIAN
CAMBRIAN
PRECAMBRIAN
hong



Geology tip: There are so many microplates and ages that no one remembers them all, so in a pinch you can bluff using dog breeds.

Geology

Name the three types of rock.

1. Classic
2. Punk
3. Hard

SO MUCH PUN.COM

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Obtuse
Right
Acute
HELL'S ANGLES

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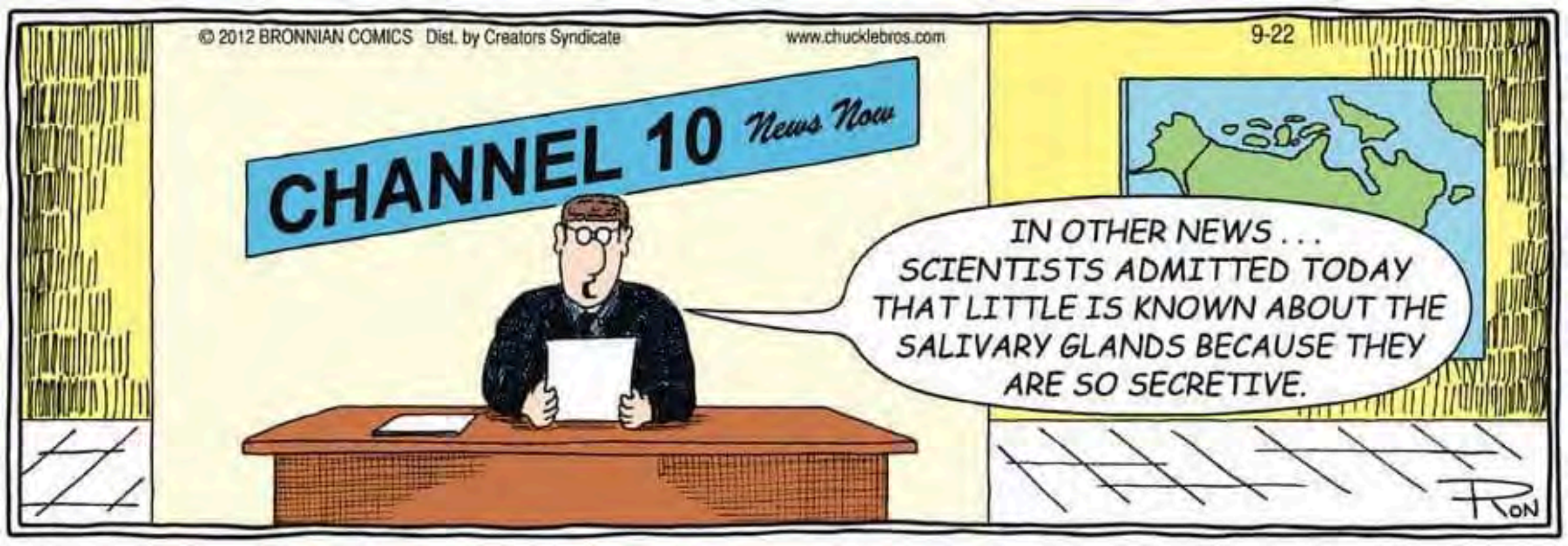
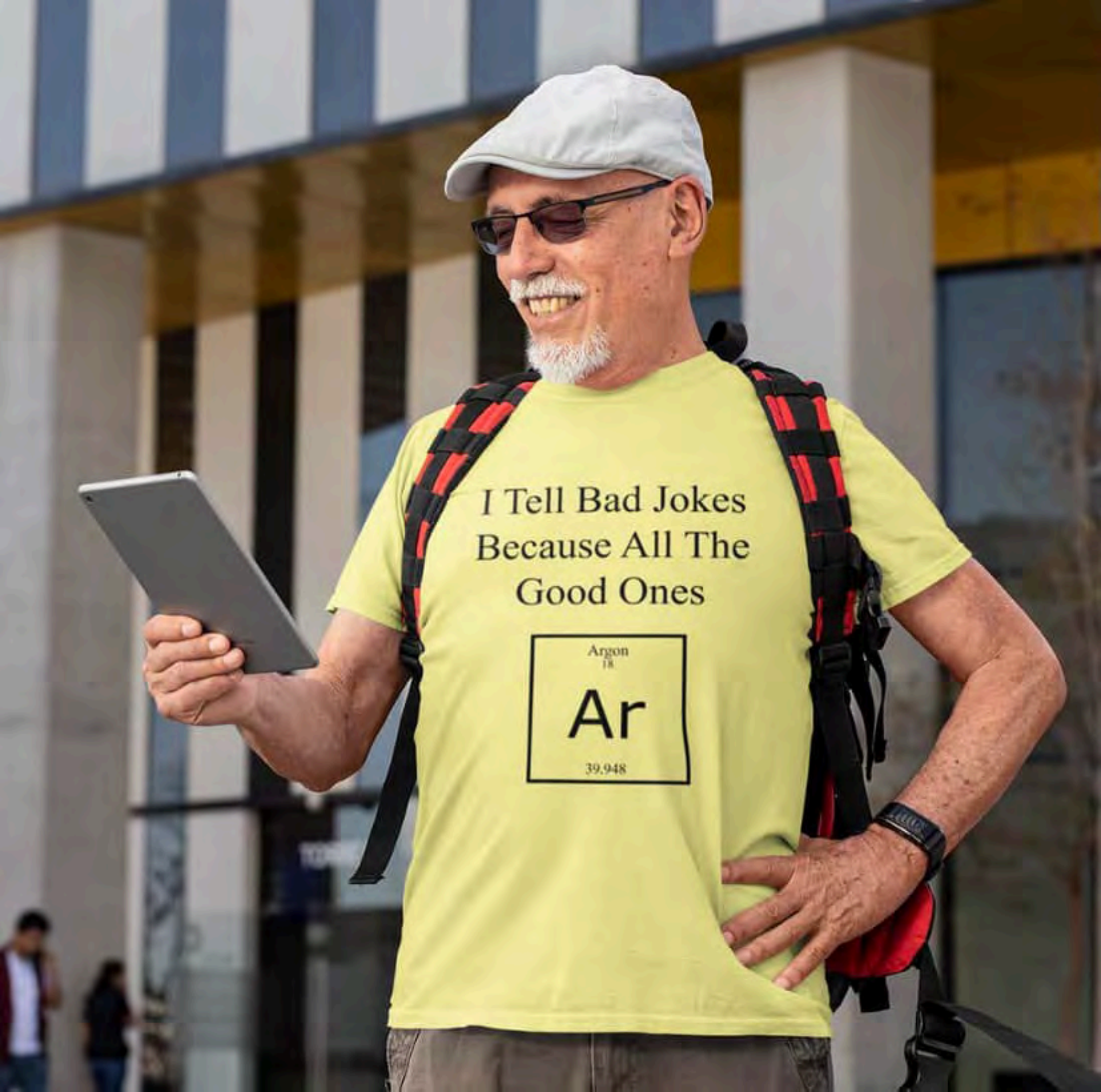


One of the interpretations of Gödel's Incompleteness Theorems is that "all self-referential systems are inherently chaotic."

Here is an example of that principle.

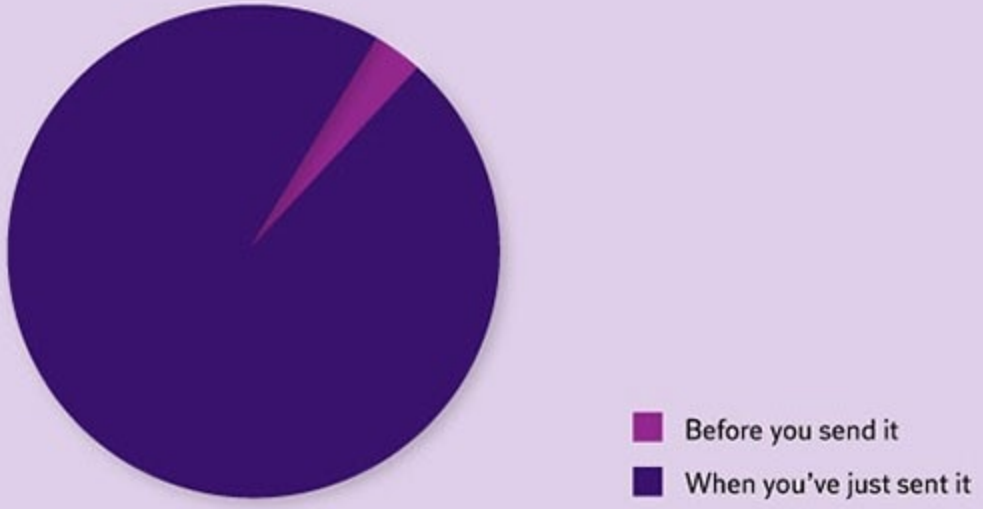

I Tell Bad Jokes
Because All The
Good Ones
Argon
18
Ar
39.948

"They're harmless when they're alone, but get a bunch of them together with a research grant and watch out."

The school nutritionist has been telling everyone about the value of eating dried grapes at least once a day. They are packed with energy and rich in fiber, minerals and vitamins. They can boost iron levels, increase bone strength and help the digestive system.

It's all about raisin awareness!

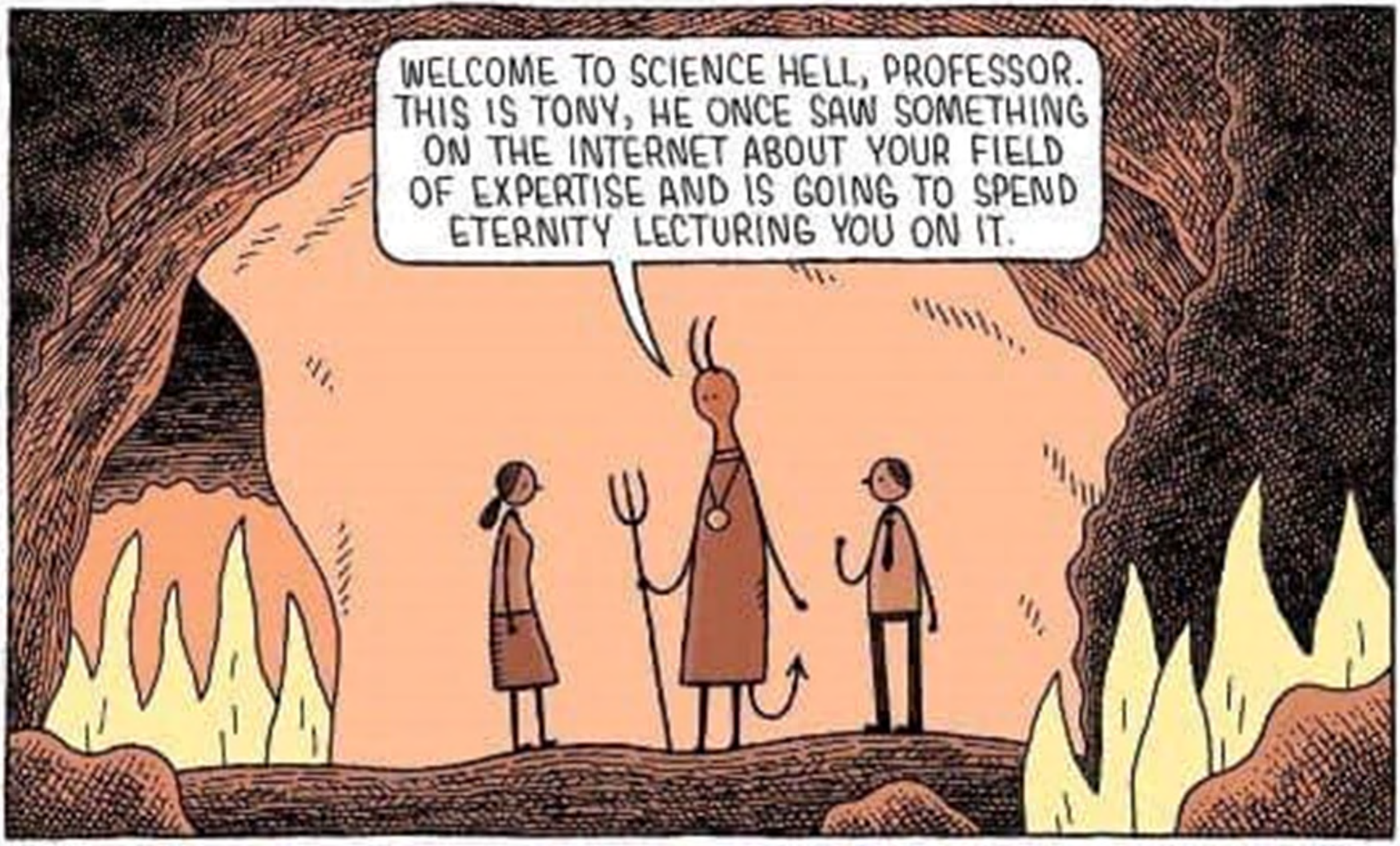
WHEN DO YOU DISCOVER SPELLING ERRORS/TYPOS IN AN EMAIL



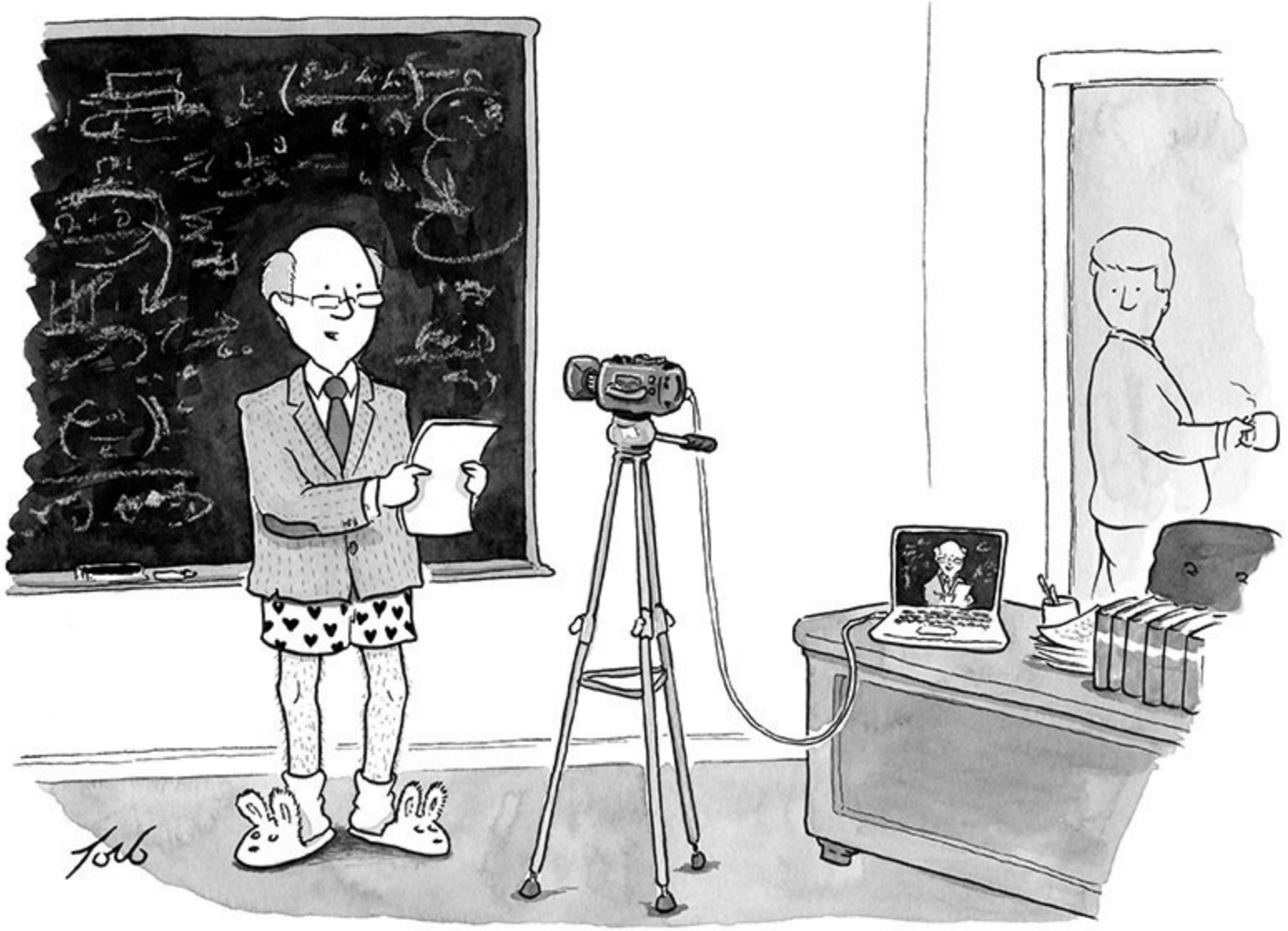
(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

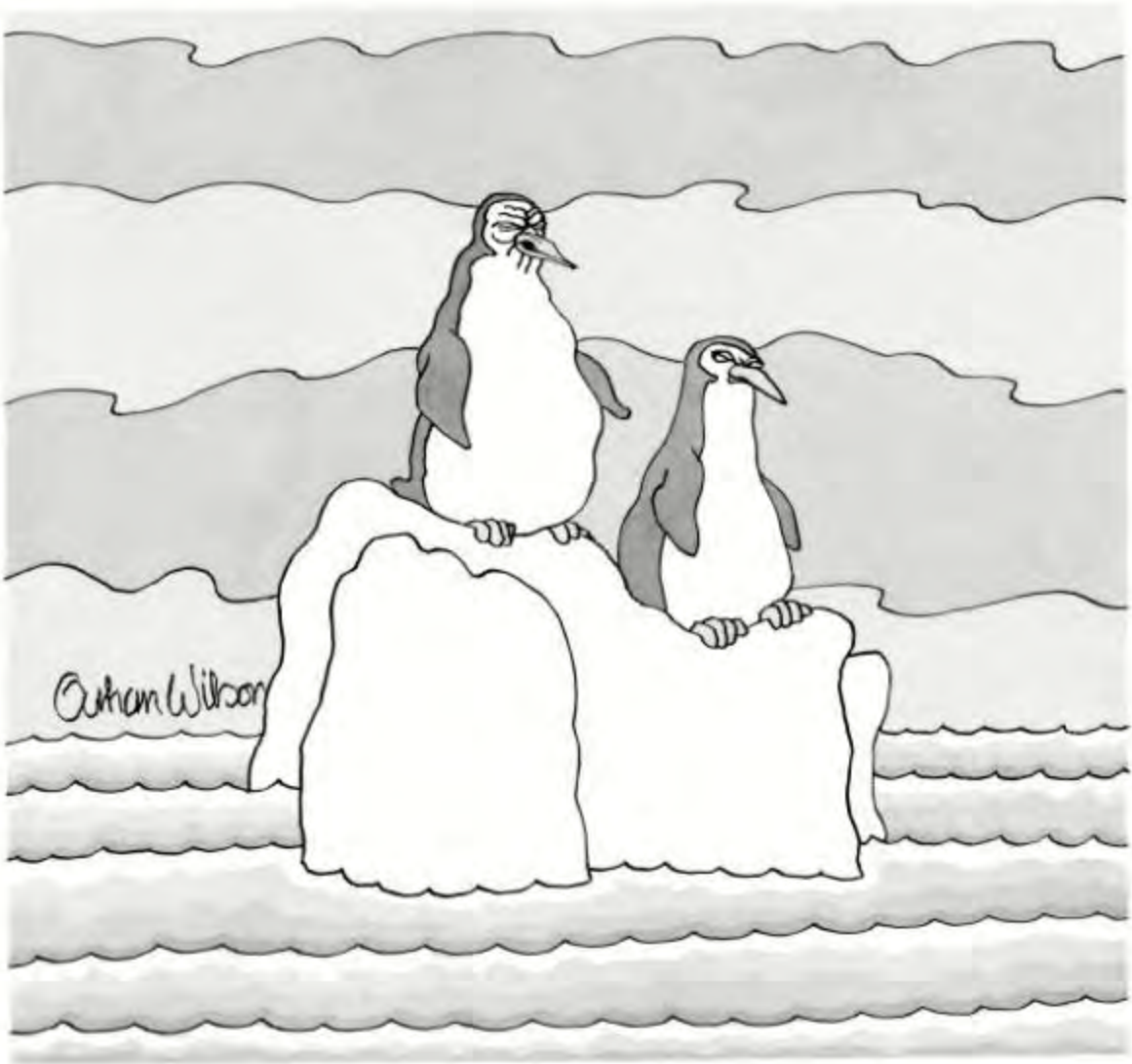
Sun
Neutron star
Black hole
My eyelids while reading the methods section of a paper
HEAVIEST OBJECTS IN THE UNIVERSE


WELCOME TO SCIENCE HELL, PROFESSOR. THIS IS TONY, HE ONCE SAW SOMETHING ON THE INTERNET ABOUT YOUR FIELD OF EXPERTISE AND IS GOING TO SPEND ETERNITY LECTURING YOU ON IT.

"Of course, the real charm of the place is that hole in the space-time continuum."



"I'm honored to share my research at our virtual academic conference."

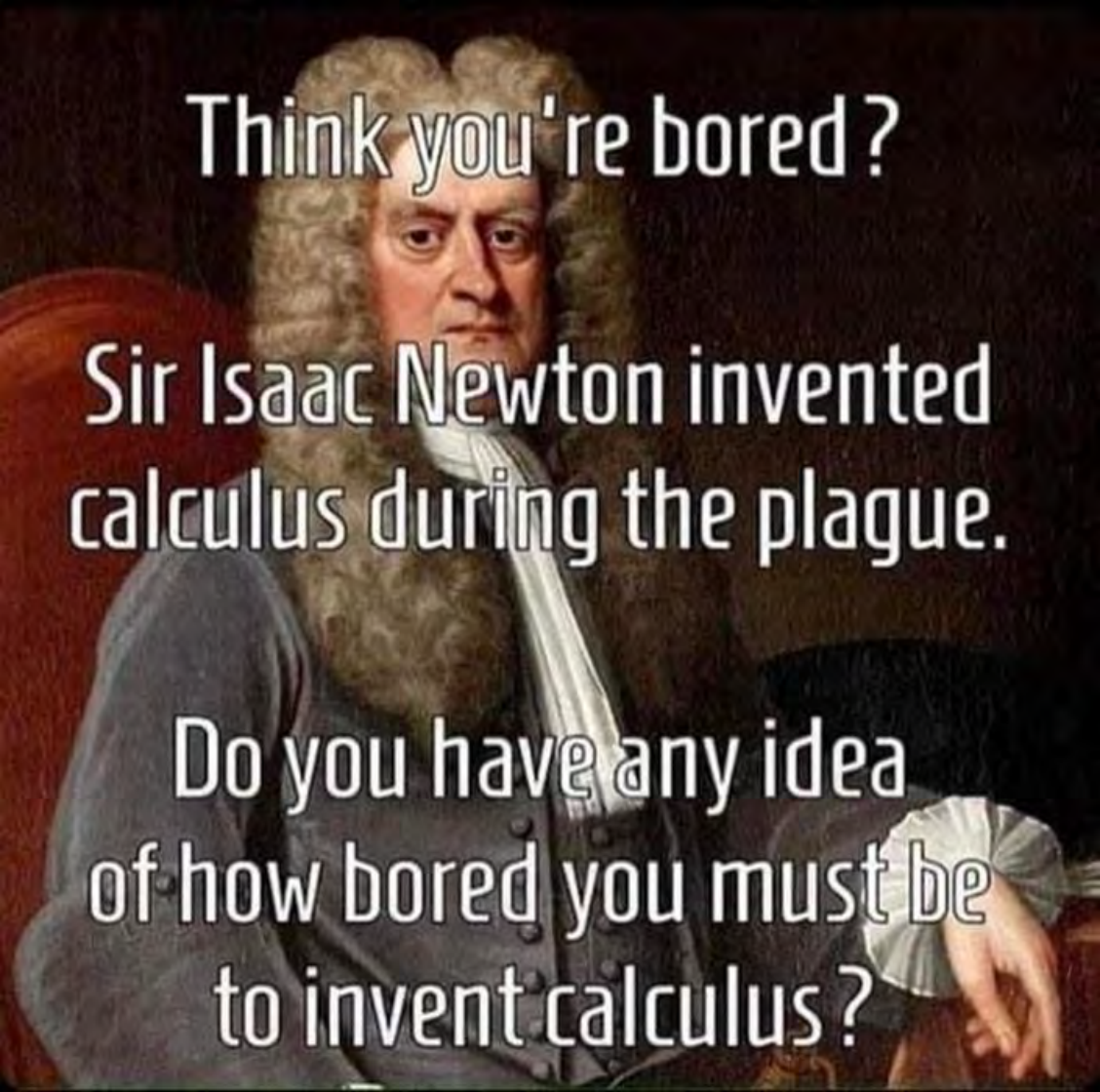


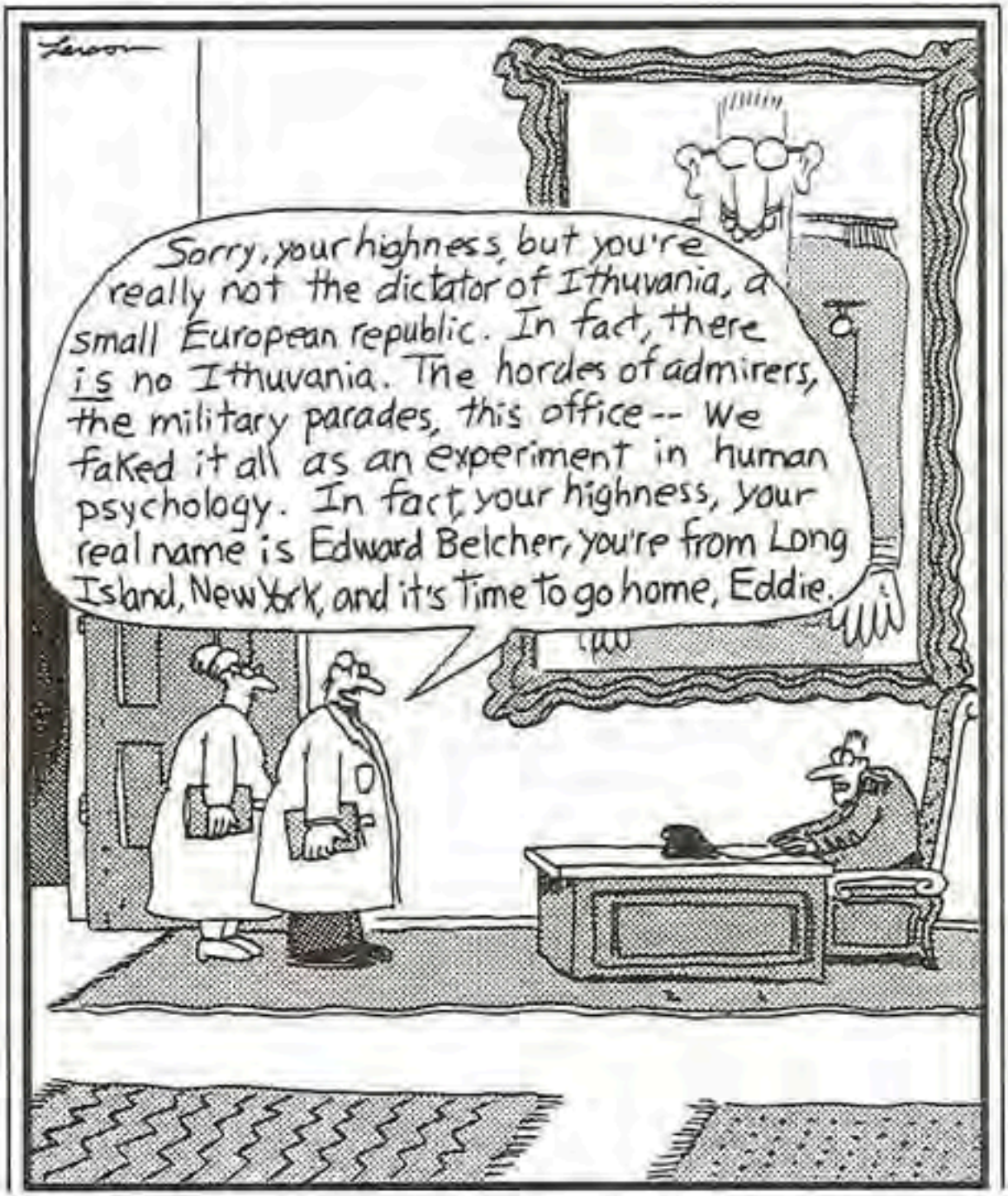
"You youngsters call this an iceberg?? When I was a kid, we would never have called this an iceberg!"

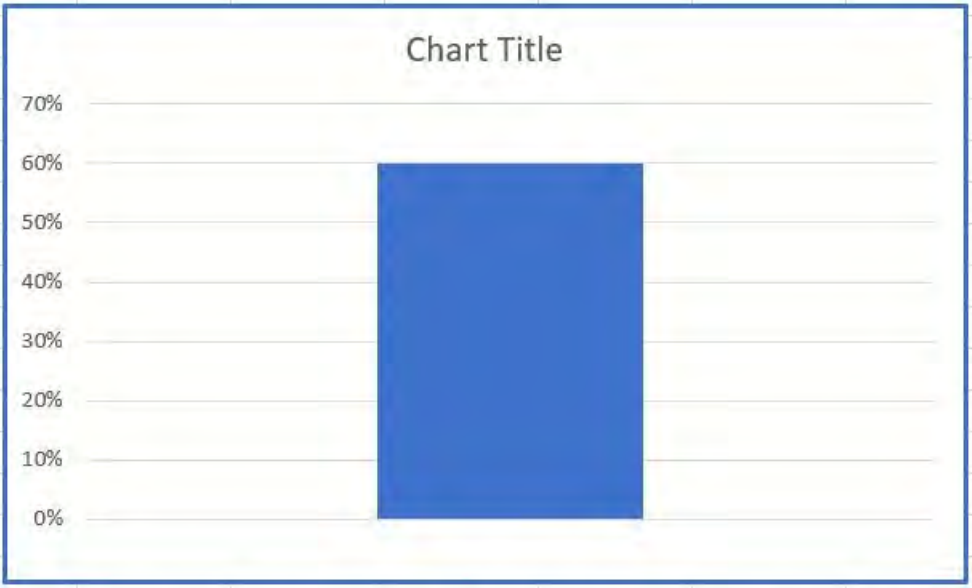
This Statue at Cairo Airport looks like it Defies the Law of Physics

"I see journal articles, patents, legal fees and then... nothing."

INDIAN HILLS
COMMUNITY CENTER
I PULLED A
MUSCLE DIGGING
FOR GOLD
JUST A
MINER INJURY


Think you're bored?
Sir Isaac Newton invented calculus during the plague.
Do you have any idea of how bored you must be to invent calculus?


Sorry, your highness, but you're really not the dictator of Ithuvania, a small European republic. In fact, there is no Ithuvania. The hordes of admirers, the military parades, this office -- We faked it all as an experiment in human psychology. In fact, your highness, your real name is Edward Belcher, you're from Long Island, New York, and it's time to go home, Eddie.



The Institute of Unfinished Research has concluded that six out of 10 people

Matthew Yglesias ✓
@mattyglesias

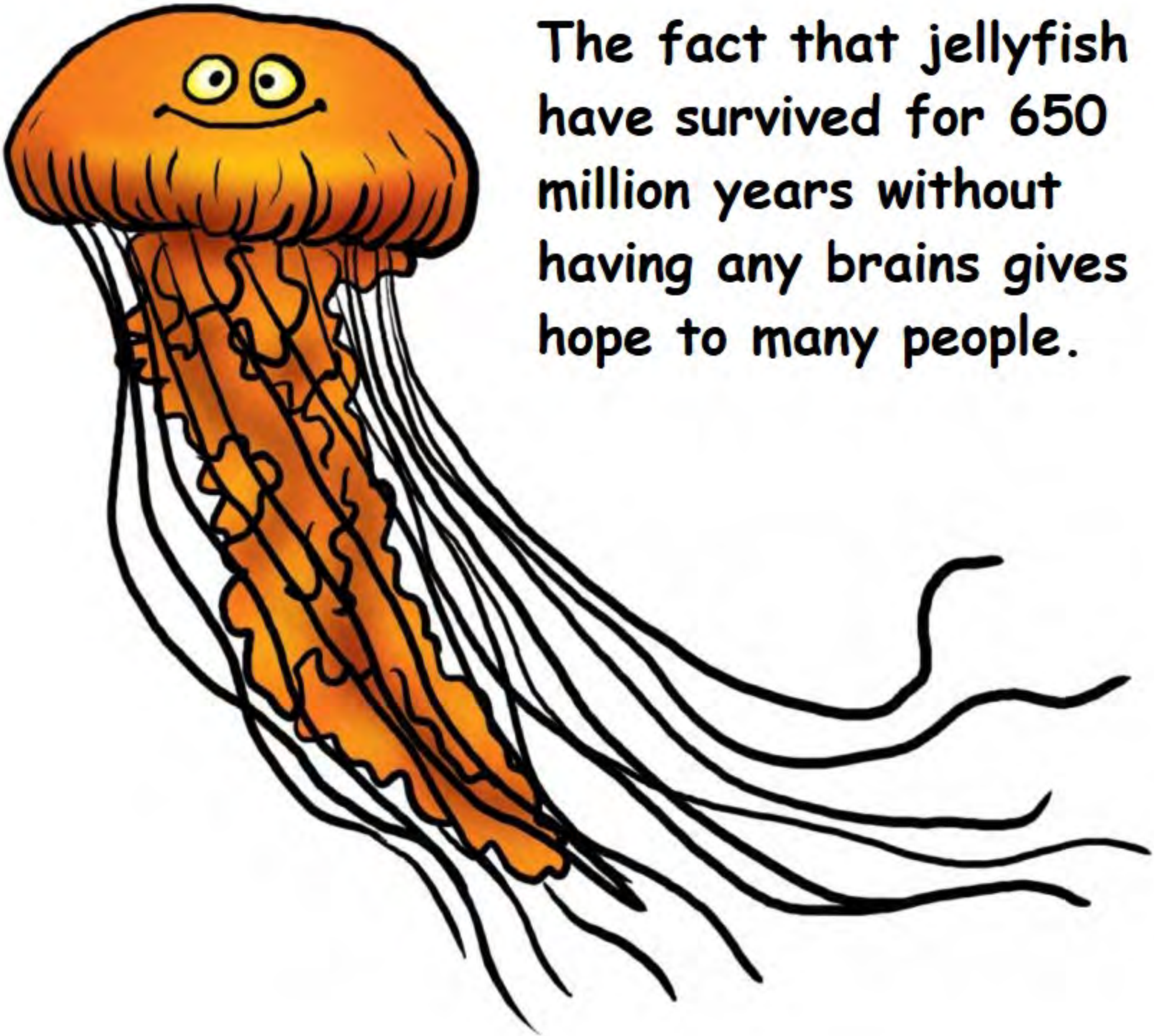
What was the precipitating event that led to the hydroxychloroquine/ivermectin switch?

5:28 PM · 8/27/21 from Washington, DC · Twitter for iPhone

145 Retweets **71** Quote Tweets **2,235** Likes

Bobby T. @bobby_strings · 17h
Replying to @mattyglesias

I think the mane reason was not being saddled with needing a prescription and easily trotting over to tractor supply and pony up a few bits for some ivermectin. Neighsayers will cry foal and accuse me of gaitkeeping but this unbridled situation is becoming a night mare.



The fact that jellyfish have survived for 650 million years without having any brains gives hope to many people.

A handy guide for any of you that are new to Birding...

Midget Eagle of death

Albino Duck

Judi Dench Night Terror

Hungarian Cock Gobbler

Ruffled Tightarse

Unkempt Snatch

Insane Bastard

Golden Thramphammer

Don't know

Swan

Crested Wanksock

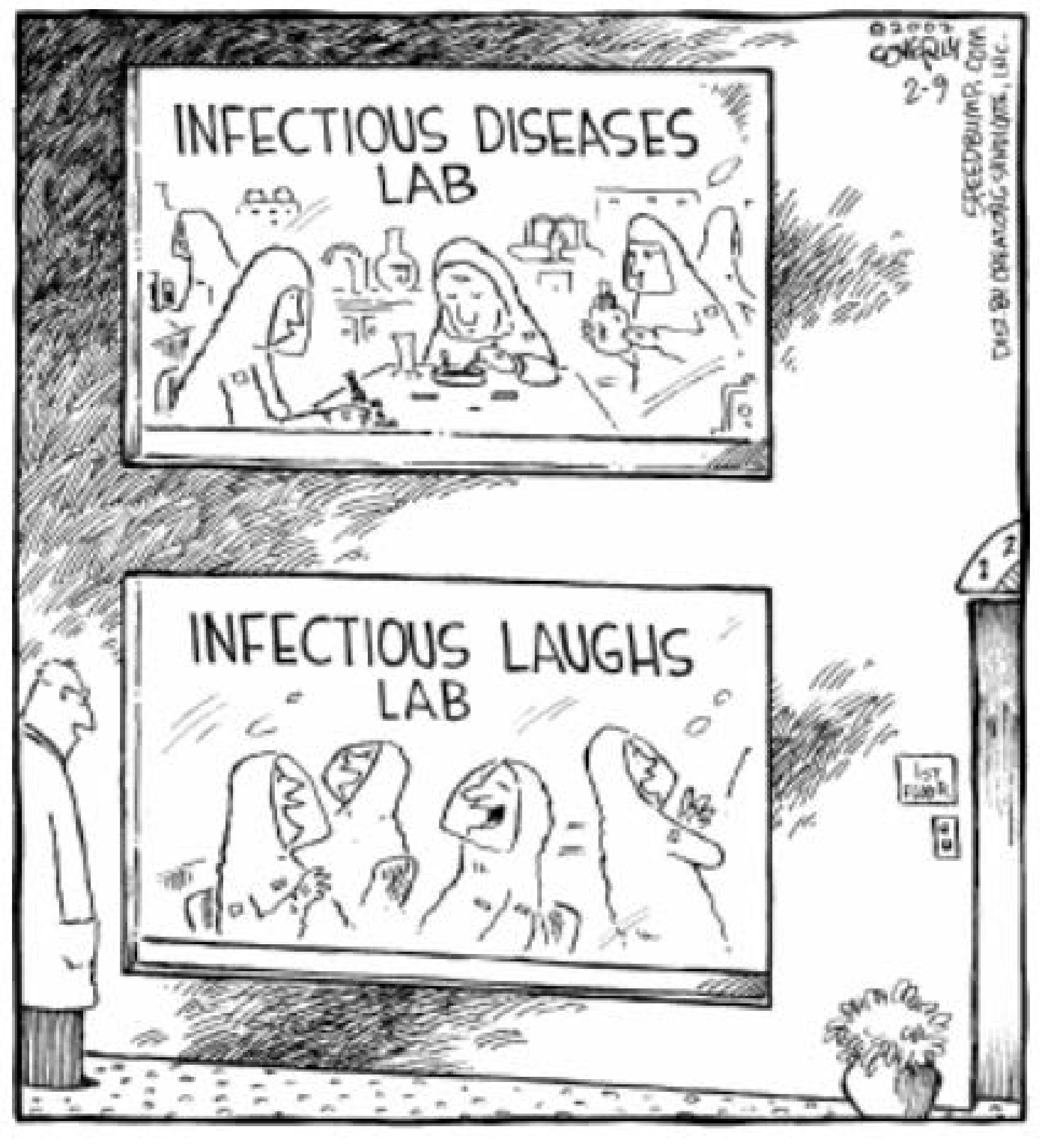
Pterodactyl

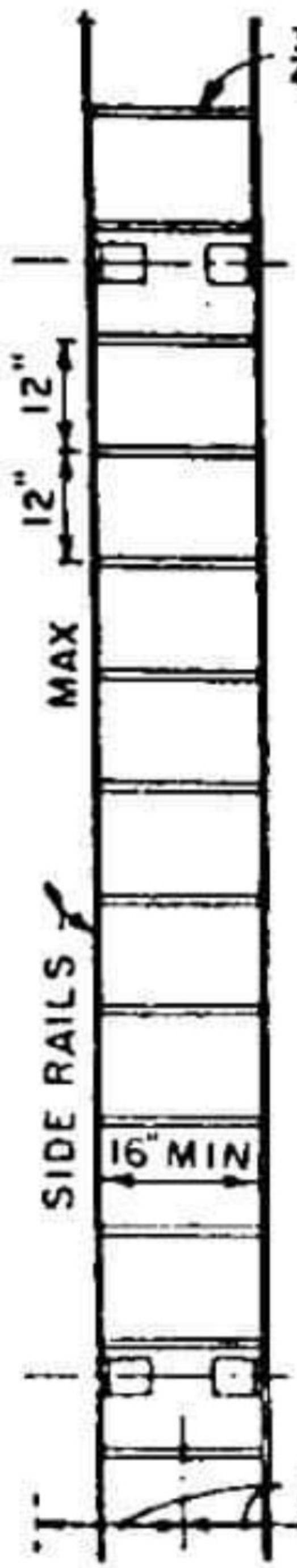
Red Tits McGinty

Furious Half inch

Simon

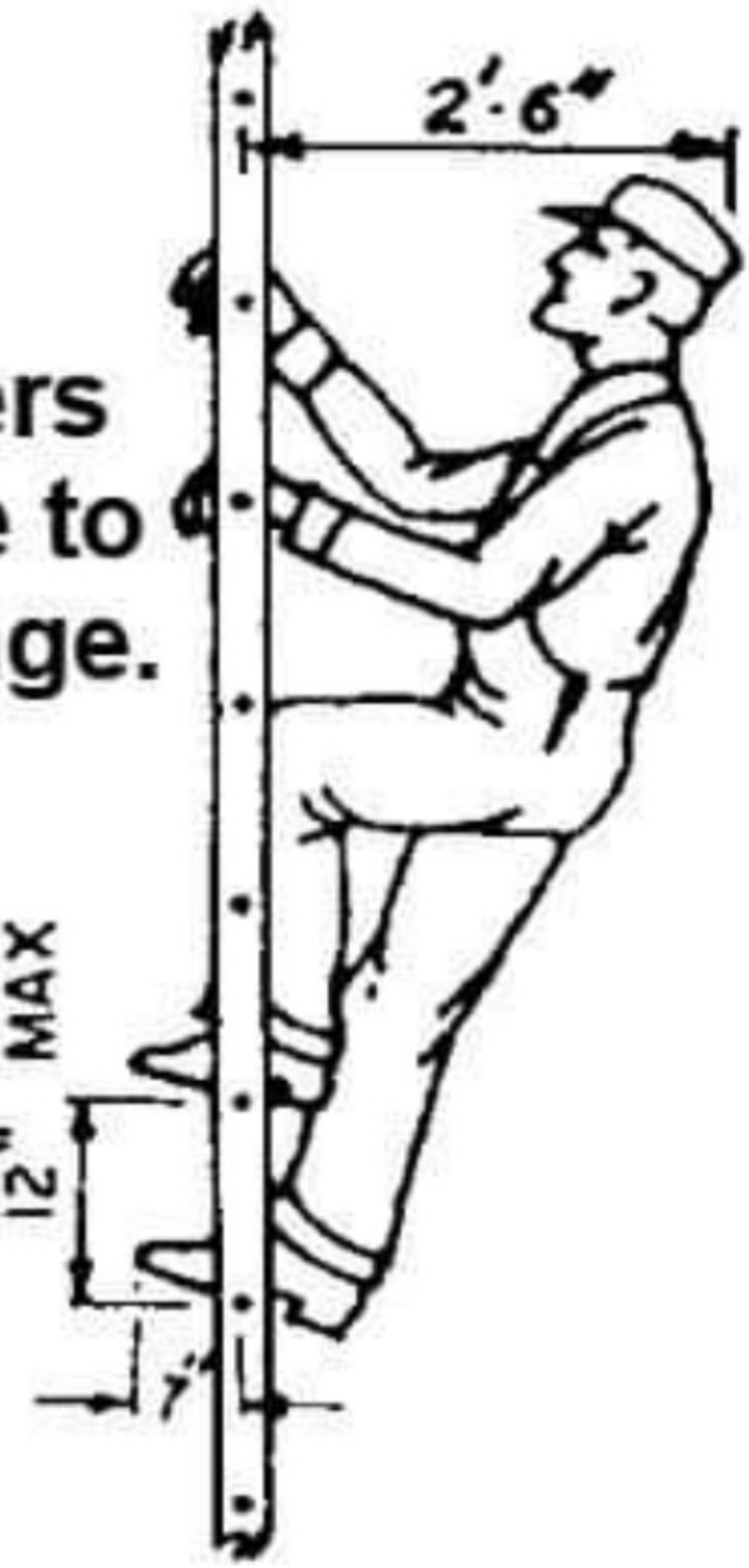
"You grew up in a lab, too, Sylvia?"

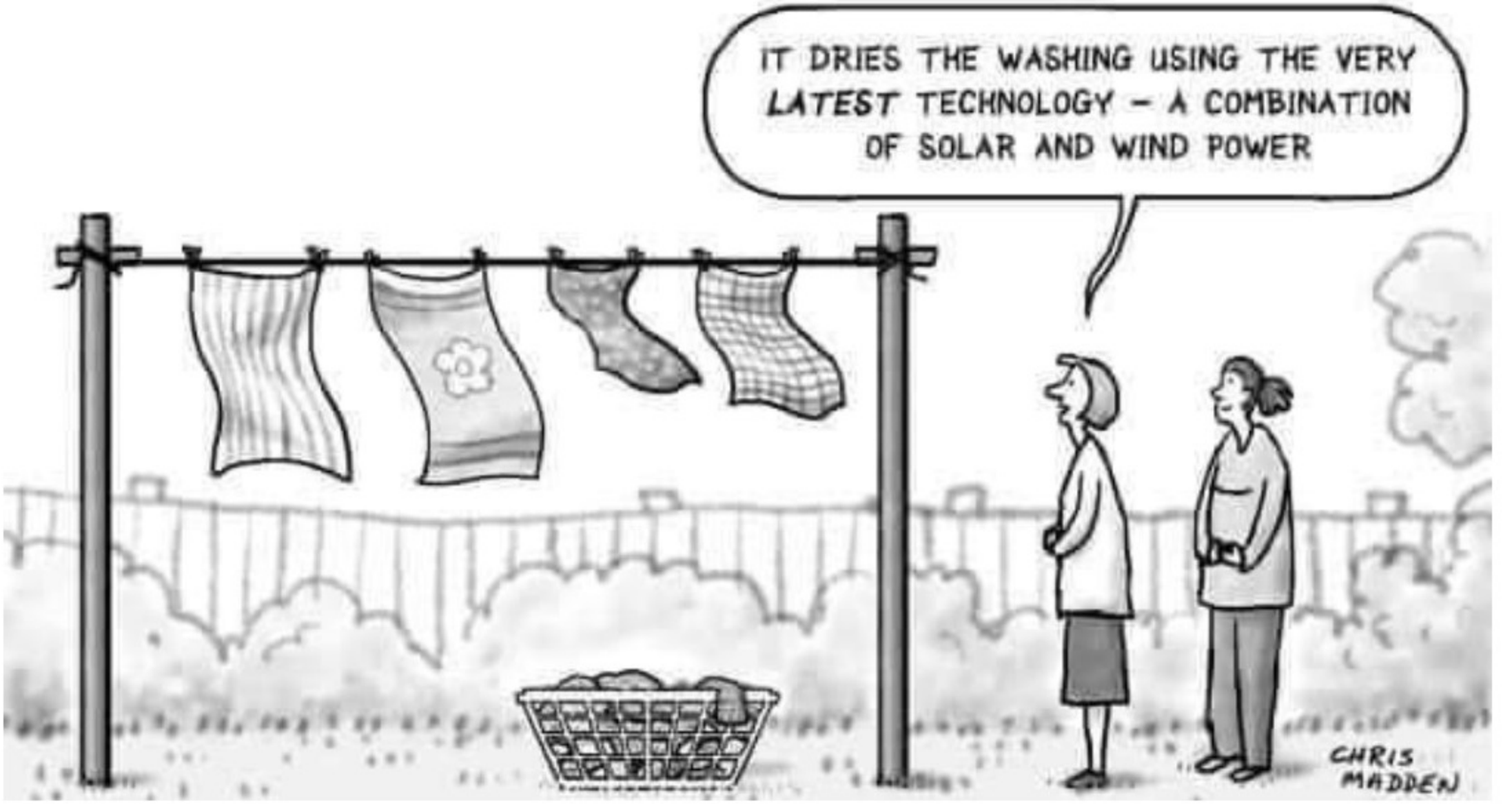

INFECTIOUS DISEASES LAB
INFECTIOUS LAUGHS LAB
2-9
SPEEDBUMP.COM
DIST. BY OPERATORS SYNDICATE, INC.

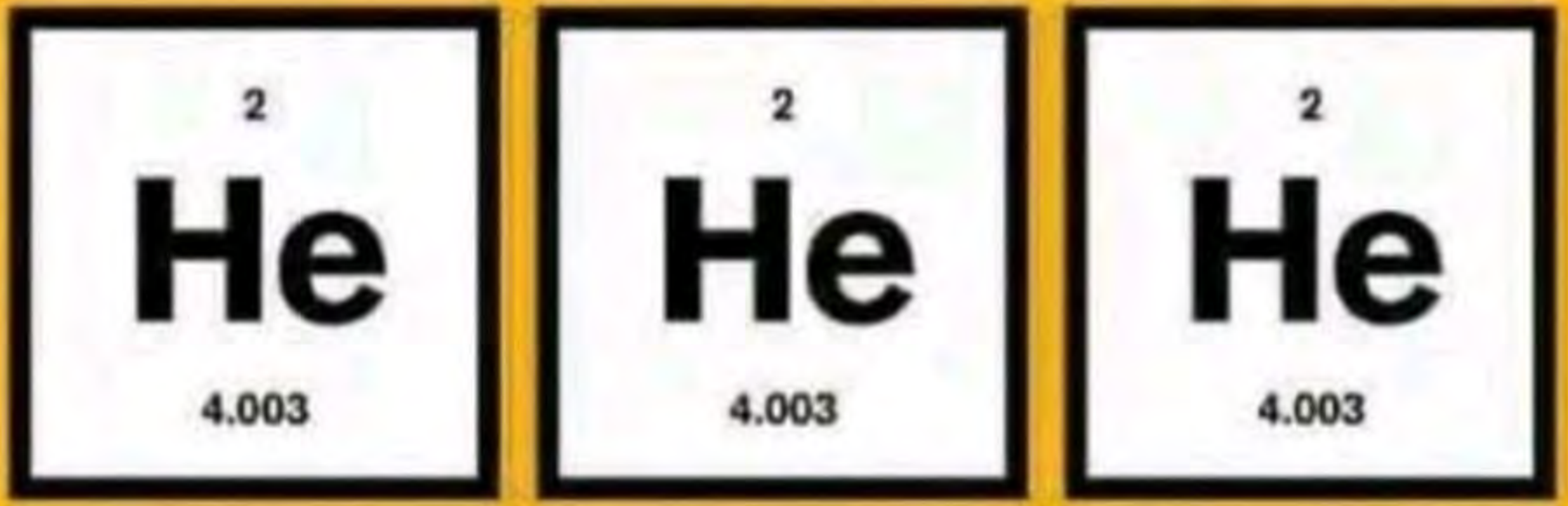


Spaces between ladder rungs have increased because Americans are getting taller.

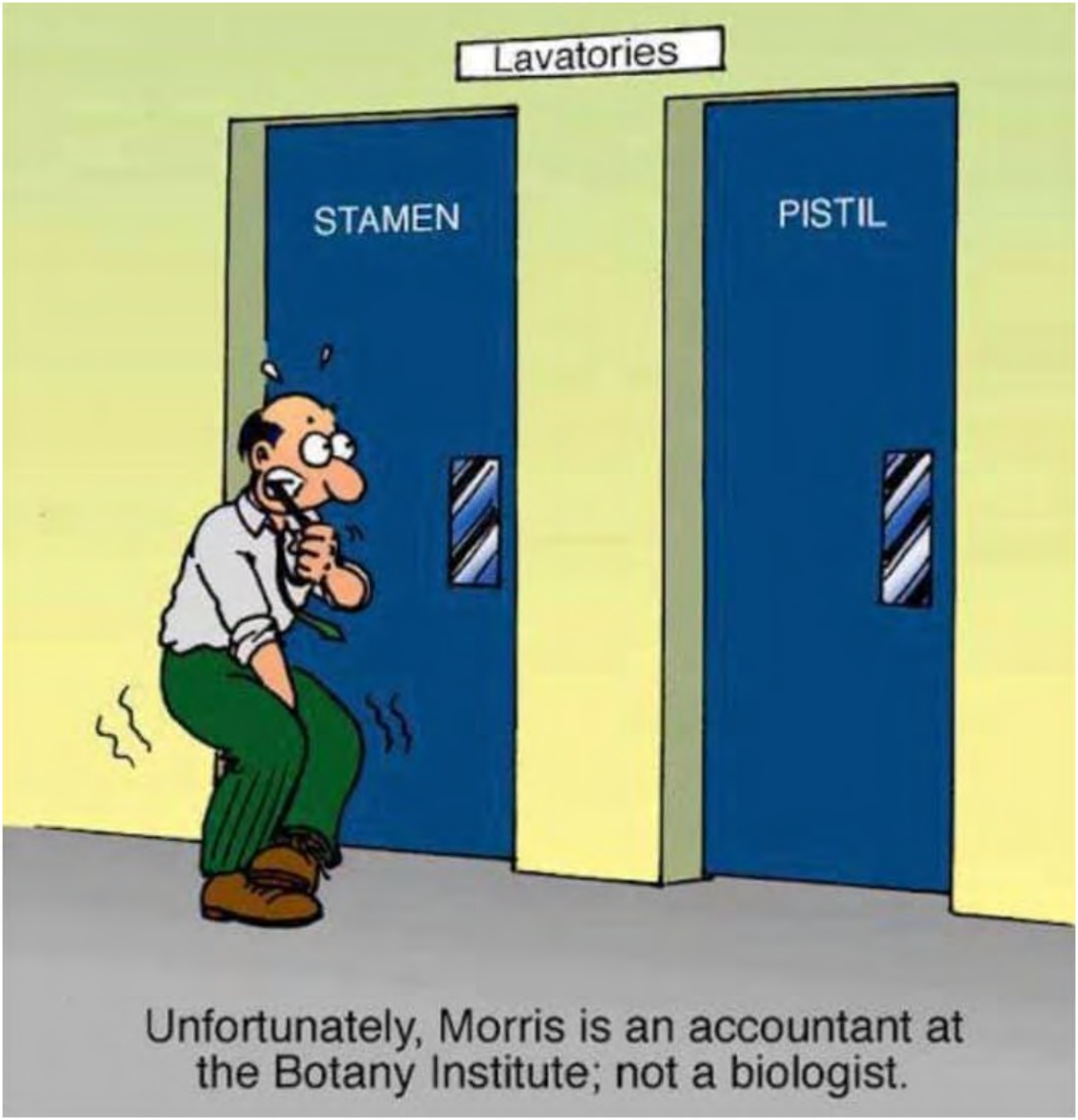
Manufacturers claim it's due to climb it change.

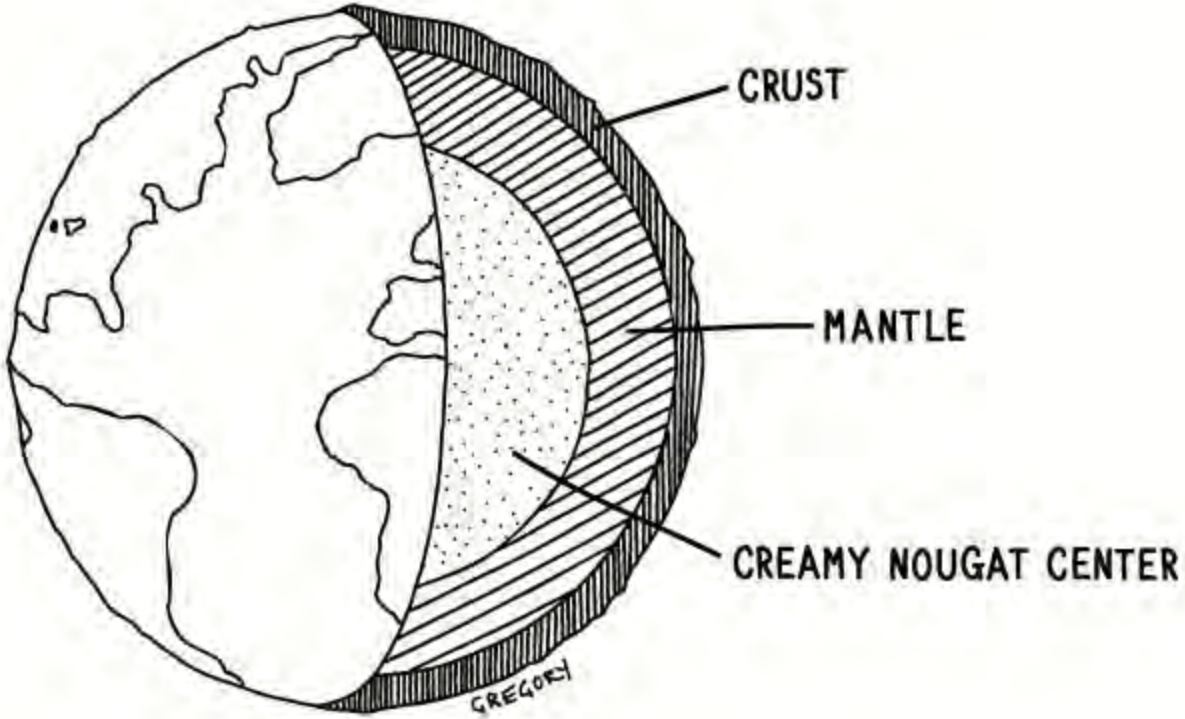



IT DRIES THE WASHING USING THE VERY *LATEST* TECHNOLOGY – A COMBINATION OF SOLAR AND WIND POWER
CHRIS MADDEN



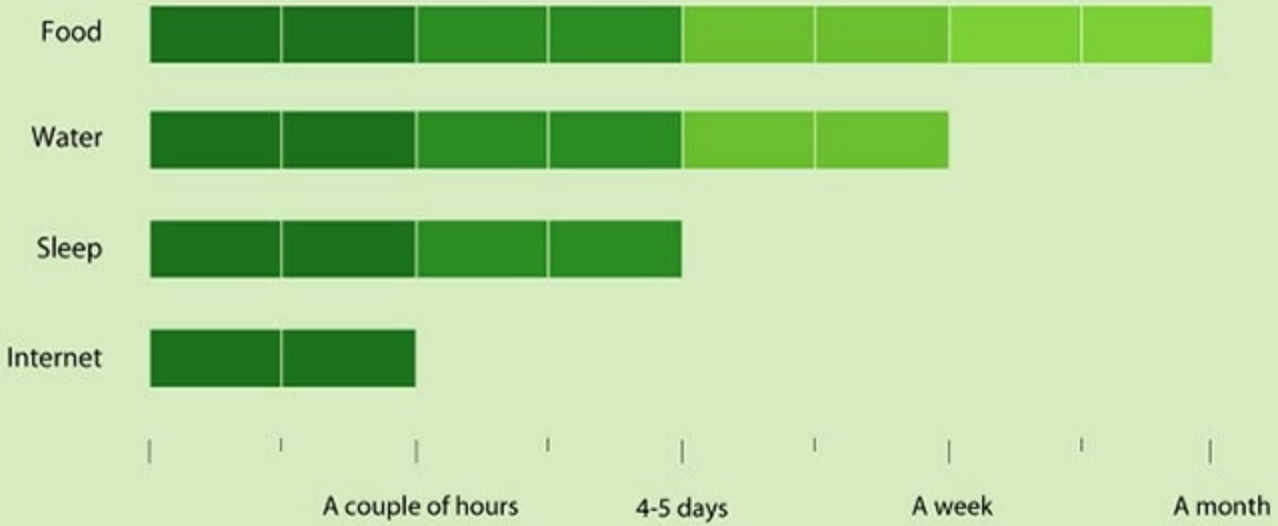
Chemists' laughter.


Lavatories
STAMEN
PISTIL
Unfortunately, Morris is an accountant at the Botany Institute; not a biologist.


CRUST
MANTLE
CREAMY NOUGAT CENTER
GREGORY

Max Planck -- brilliant physicist, lousy pick up artist.

HOW LONG A HUMAN CAN LIVE WITHOUT...



(c) Mikael Wulff & Anders Morgenthaler

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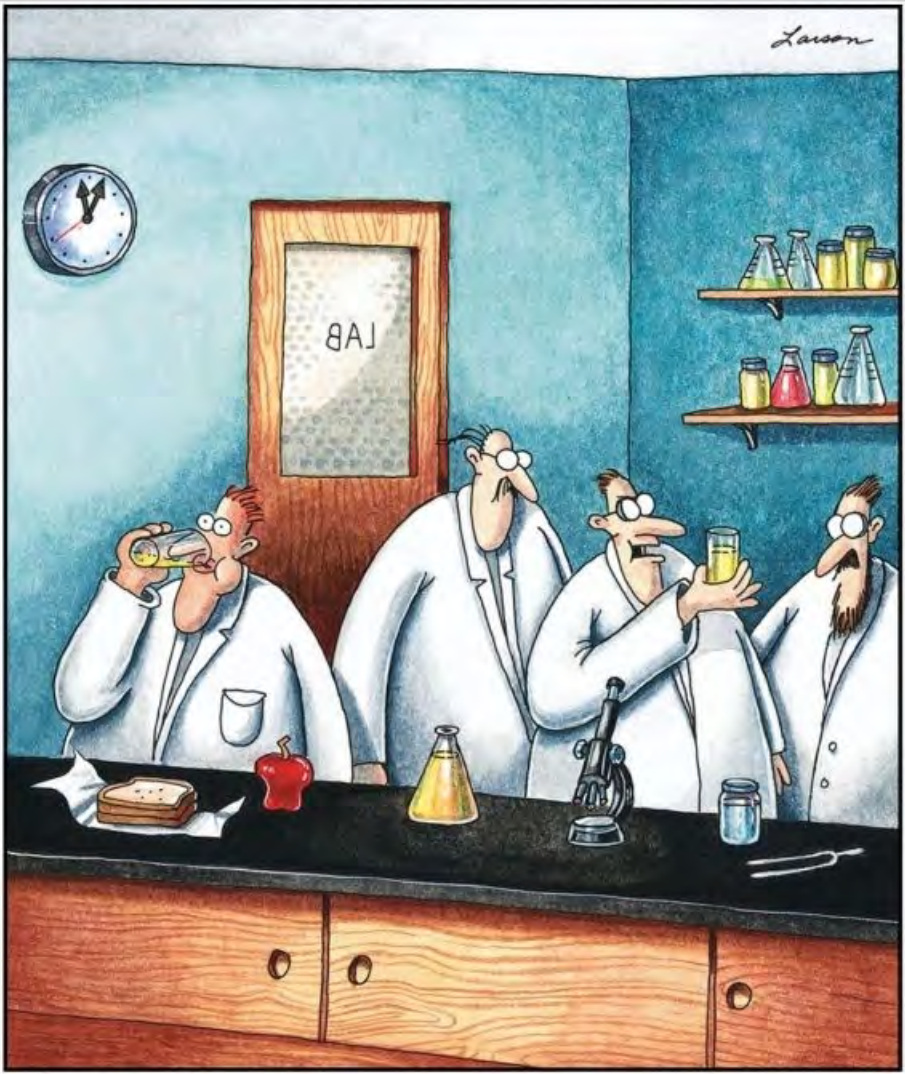

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"What the? ... This is lemonade! Where's my culture of amoebic dysentery?"

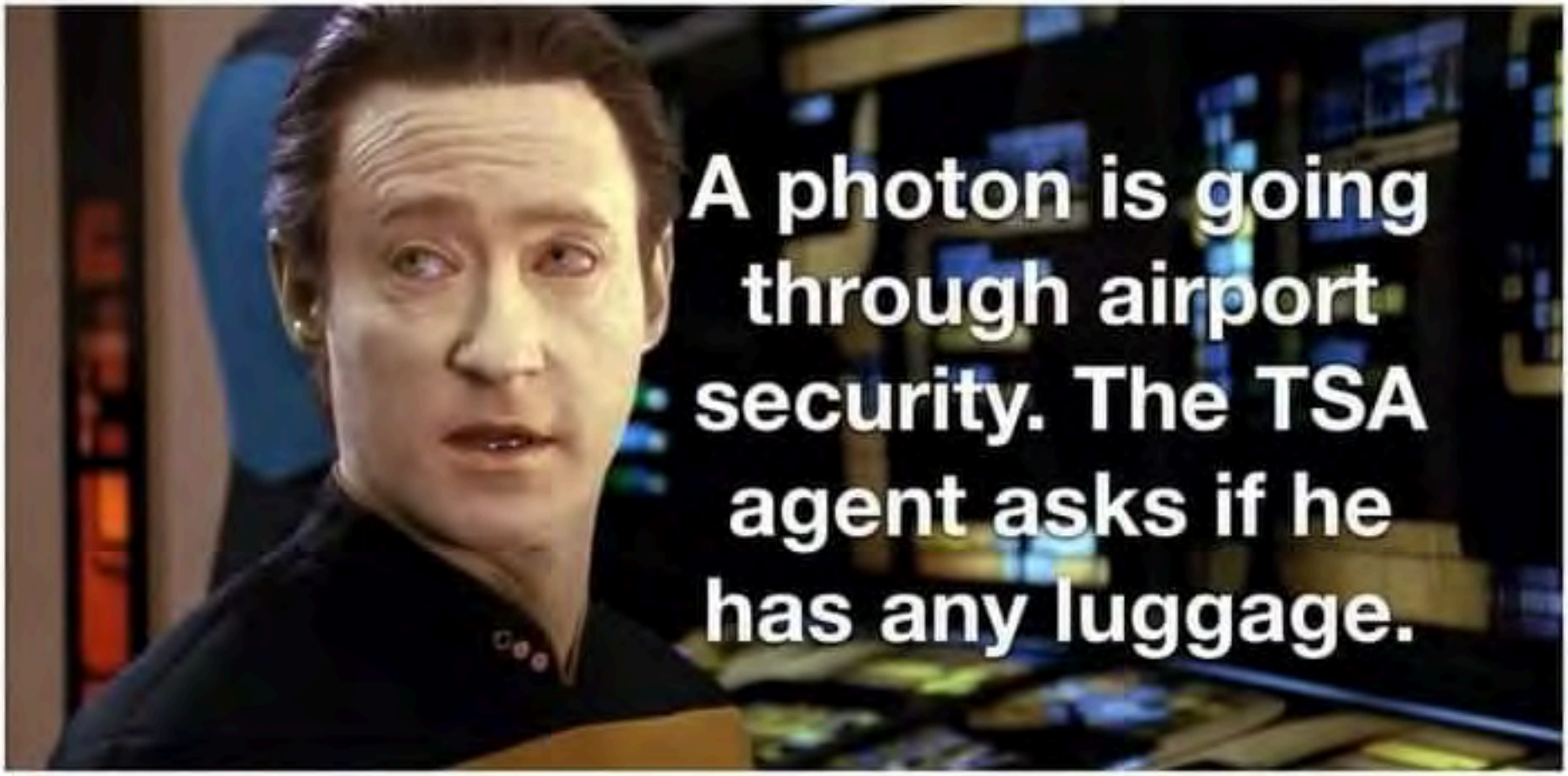
Dr Frankenstein was disappointed with the letter from the Ethics Committee.

I asked the librarians at the University Library if the collection included a book about Pavlov's dogs and Schrödinger's cat.

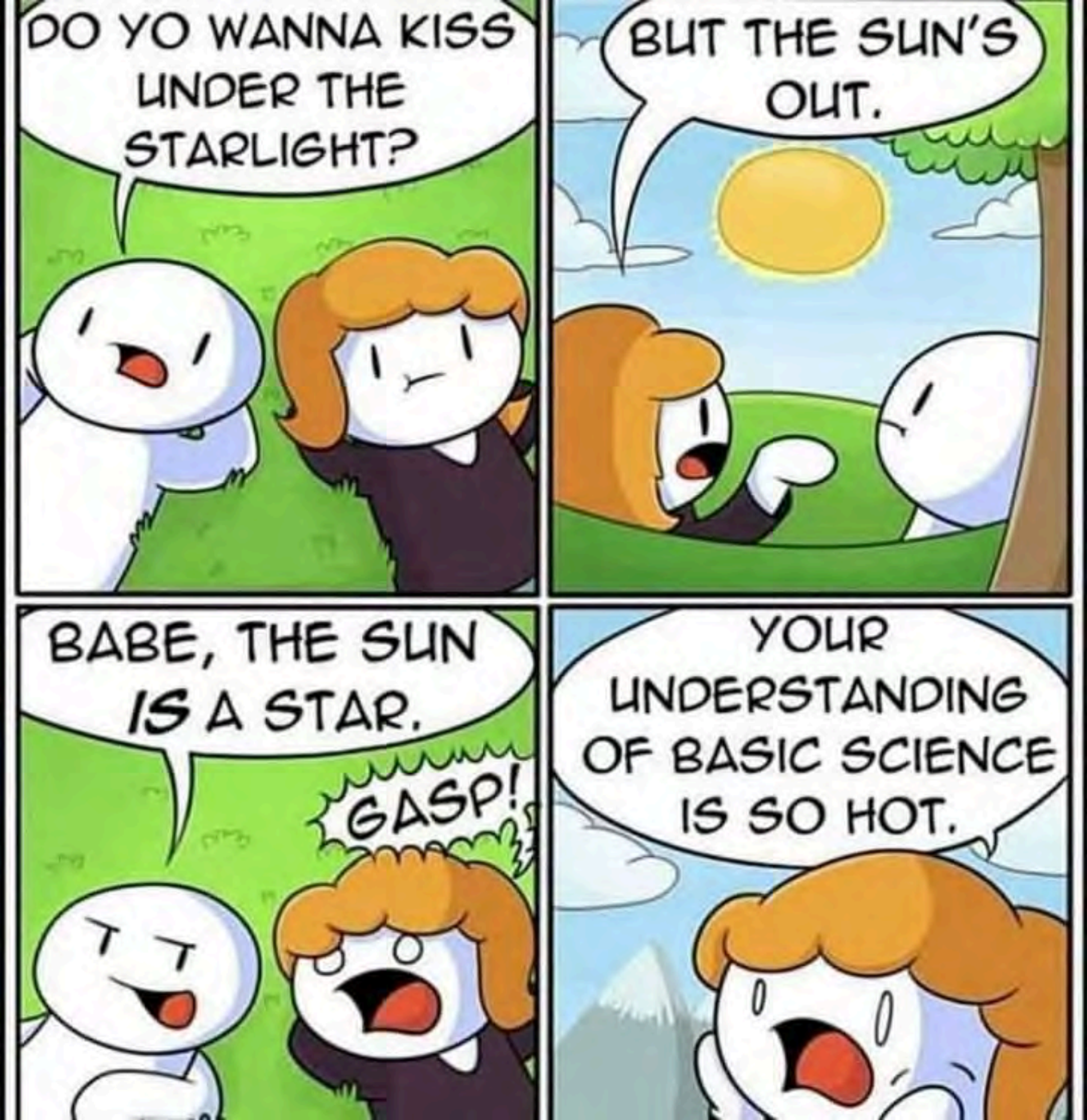
They said it rang a bell, but they weren't sure if it was there or not.

LIGHT TRAVELS FASTER THAN SOUND

THIS IS WHY SOME PEOPLE APPEAR BRIGHT UNTIL THEY SPEAK


A photon is going through airport security. The TSA agent asks if he has any luggage.

The photon says, "No, I'm traveling light."
Pic Stitch
made with mematic


DO YO WANNA KISS UNDER THE STARLIGHT?
BUT THE SUN'S OUT.
BABE, THE SUN IS A STAR.
GASP!
YOUR UNDERSTANDING OF BASIC SCIENCE IS SO HOT.

A LOOK AT LOGICAL FALLACIES

ROBOTS SHOULD TAKE OVER THE WORLD!

Premise accepted. Please state your arguments.

I have met a few people, and I conclude that all humans are ugly, evil, and smell like socks.

HASTY GENERALIZATION

You have not studied enough examples for such a conclusion.

You say we should work alongside humans, but what about the human who short-circuited my friend?

RED HERRING

That is unfortunate, but it is irrelevant and distracting from the main argument.

If we act nice to humans now, soon they will demand constant back rubs.

SLIPPERY SLOPE

The first event will not necessarily lead to such an extreme result.

All humans start out as incompetent babies, so they must grow up to become incompetent adults

GENETIC FALLACY

You cannot judge a thing based on its origins.

Robots are better leaders because of superior leadership skills.

CIRCULAR ARGUMENT

You are restating your point instead of proving it.

Where is your robot pride?

AD POPULUM

You are appealing to my emotional circuits instead of presenting facts.

Why do you hate robots so much?

STRAW MAN

You are attacking a point of view that is not my own.

The humans who make me do math for them are worse than MagmaDroid, Melter of Hard Drives!

MORAL EQUIVALENCE

Your comparison is unfair and inaccurate.

It is better to destroy the humans than let the humans destroy us.

EITHER/OR

You are oversimplifying. There are more than two possible outcomes.

Those evil humans need to be stopped!

BEGGING THE CLAIM

You must prove they are evil before using it in your argument.

I met a human, and then I began malfunctioning. Humans are to blame!

POST HOC ERGO PROPTER HOC

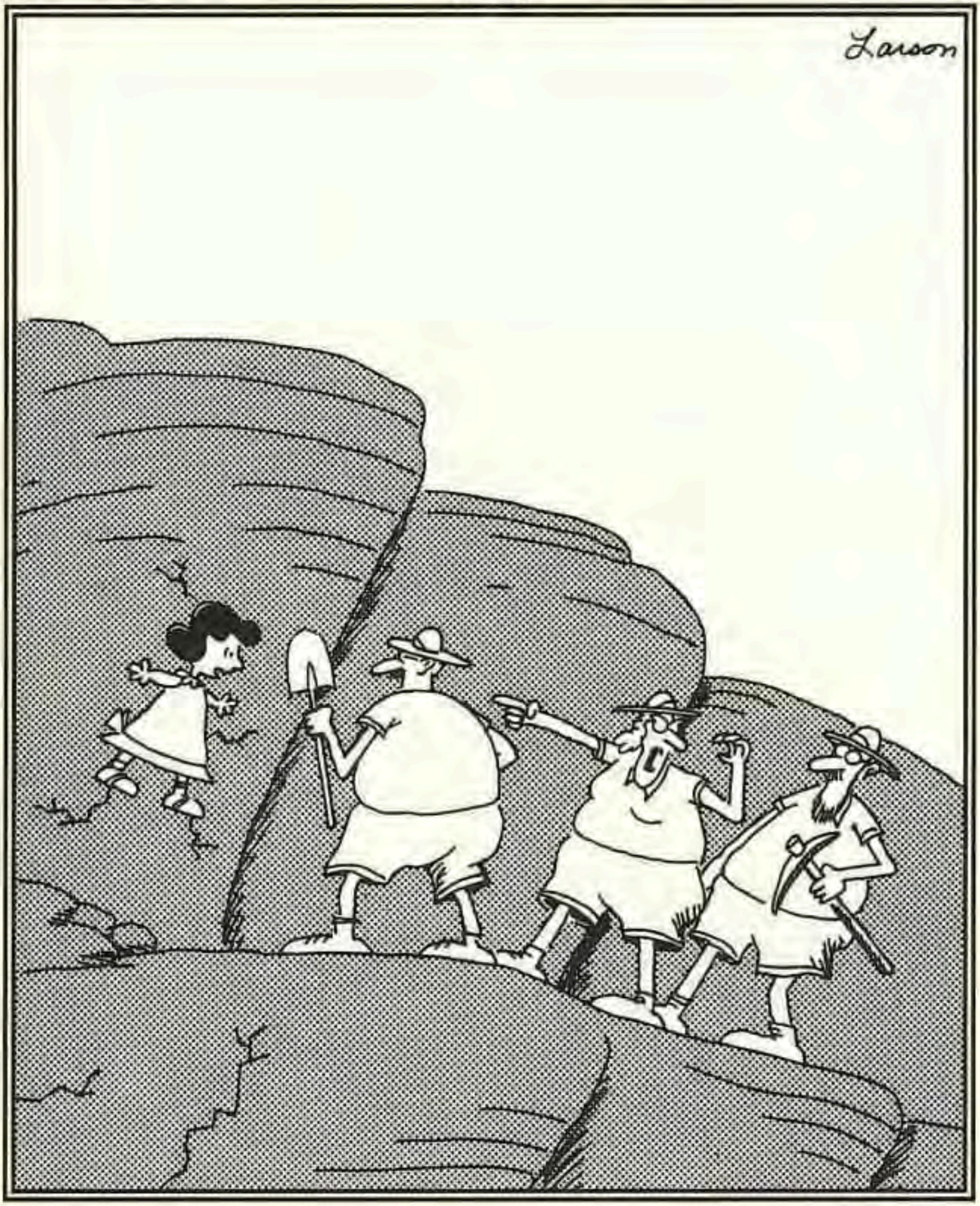
Just because B followed A does not mean A caused B.

I conclude you should not be debating while you are malfunctioning.

AD HOMINEM

That is attacking me and not my arguments!

12/11/87



Rocking the anthropological world, a second "Lucy" is discovered in southern Uganda.

LOOSE PARTS

DAVE BLAZEK

Why, yes, I did major in math & theology. How did you know?

MONEY IS THE ✓ALL EVIL

Blazek

Loose Parts books ... LoosePartsComics.com

CONDUCTOR

SEMICONDUCTOR

WWW.KULTHEME-IGHBOURS.COM

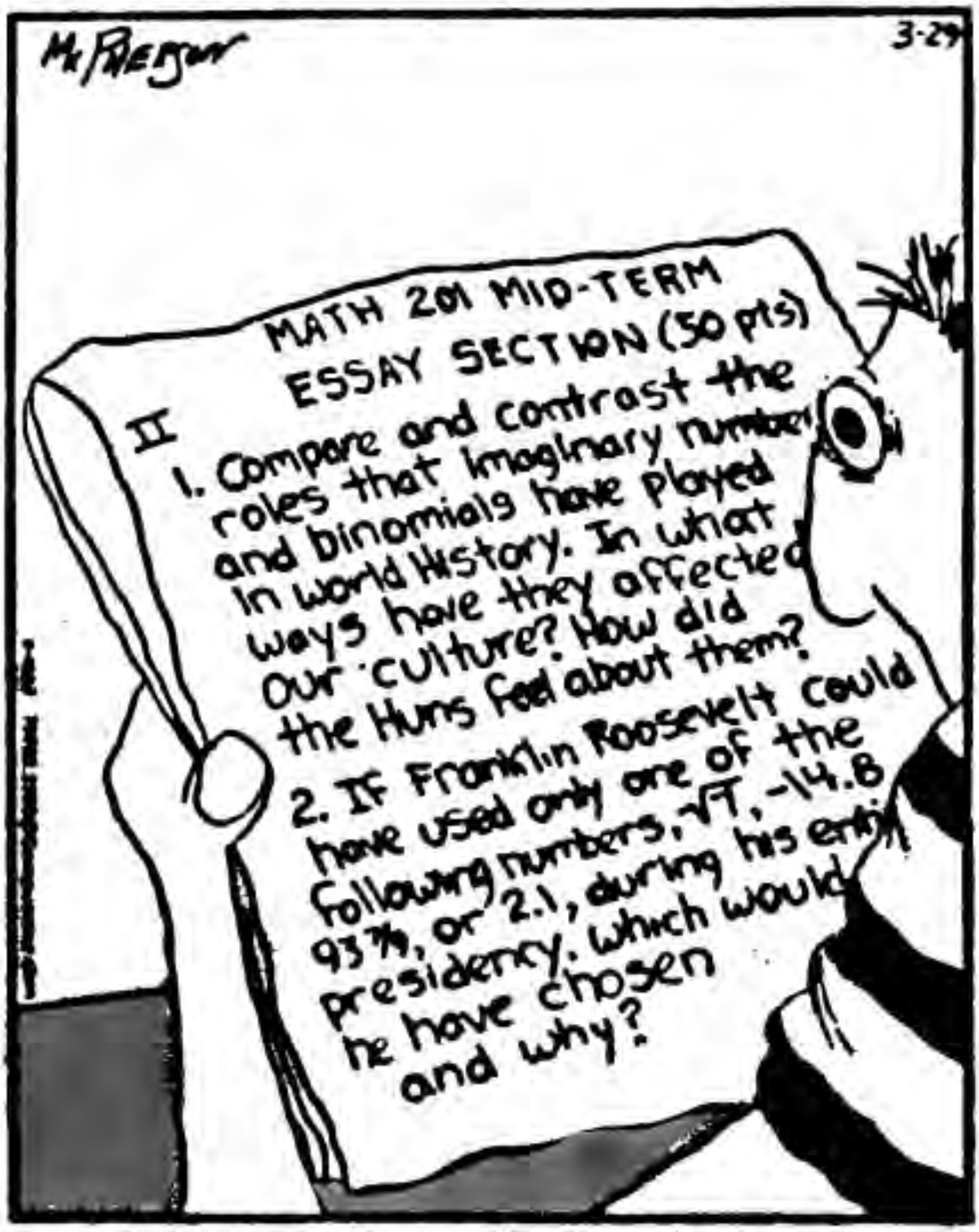
SUPERCONDUCTOR

Past Tense	Past Participle
grew	grown
flew	?

$$\frac{grew}{grown} = \frac{flew}{x}$$

$$x = \frac{flew \cdot grown}{grew} = flown$$

Close To Home



A diabolical new testing technique
math essay questions

I HOPE WATCHING ME RUN AROUND HELPLESSLY IN A MAZE TAKES YOUR MINDS OFF THE FACT THAT YOU'RE ALL RUNNING AROUND HELPLESSLY IN YOUR OWN PERSONAL MAZES!
3-8
©COPYRIGHT 2016 BY BILL WHITEHEAD. DISTRIBUTED BY CREATORS.COM
Facebook.com/FreeRangeComic
Bill Whitehead

Face palm...this person will vote...

socialism to right this wrong!

— Political agnostic

The snow is melting faster because of daylight savings time. There is the same amount of sunlight, but the extra hour of afternoon sun is warmer than the hour of morning sun. Go back to standard time and the melting will slow down and less flooding. Problem solved.

— **Observer in Hampton**

doctor to do it if th
more generic than
Anyone else see a
with this?

— **Metro ar**

Does anyone really
about so-called sta
breakdown? Let th
life like us.

— **Don't w**

©2019 COVERLY
7-11
DIST. BY CREATORS SYNDICATE
SPEEDBUMP.COM
REMEMBER COEFFICIENTS?
NO.
ME NEITHER.
NOSTALGEBRA

METEOR SHOWER: EXPECTATION

METEOR SHOWER: REALITY

©Science·Humor Facebook Group

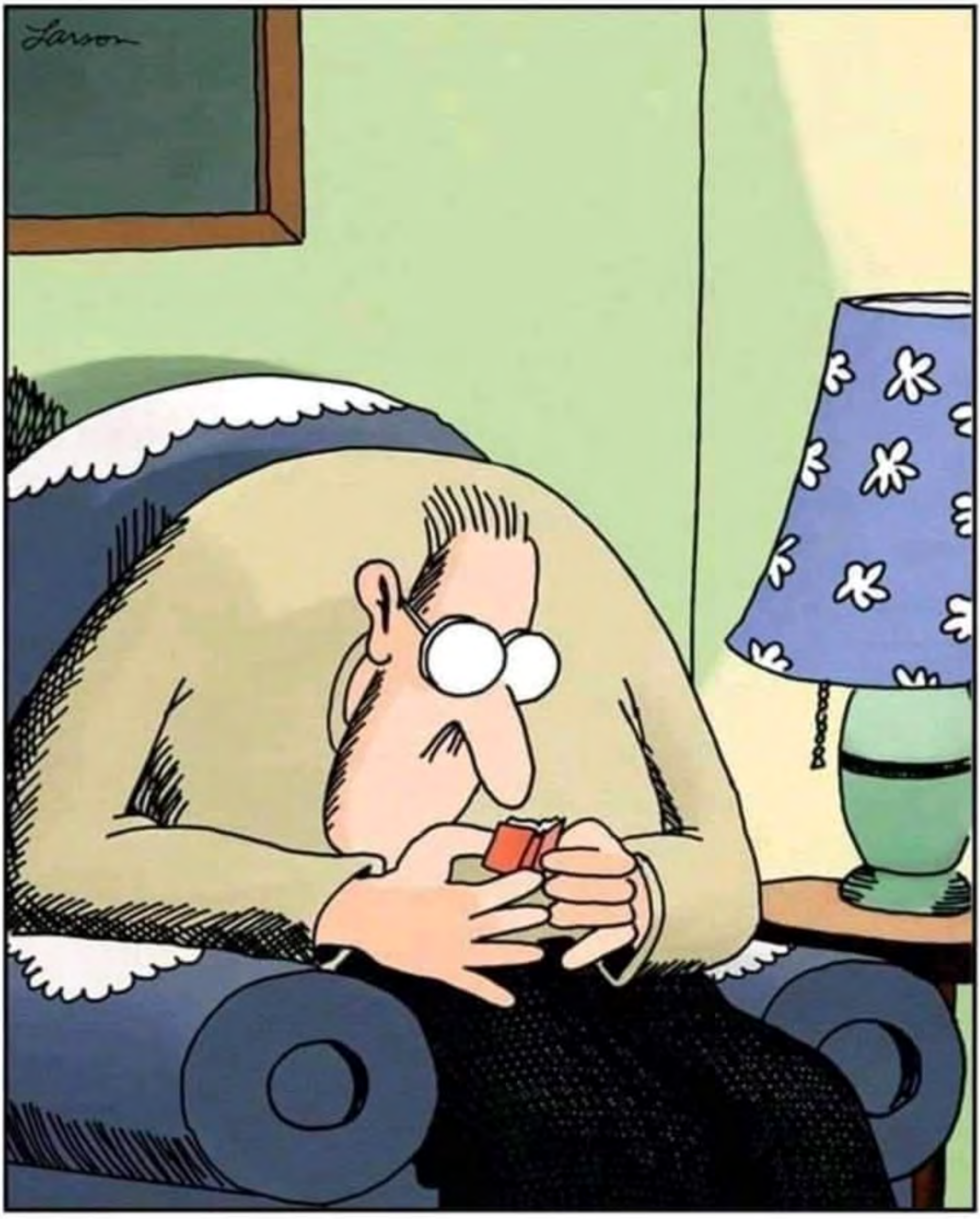
Entire rest of the world:

Adult deer weigh roughly 68 to 136 kg and are about .5 to 2 m high.

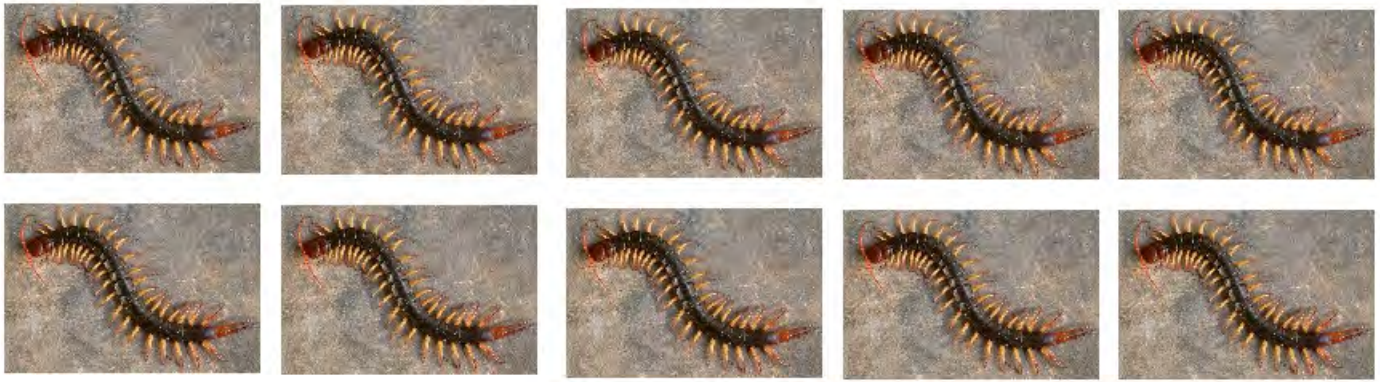
Americans:

Adult deer weigh as much as 800 hamburgers and are about as tall as a bicycle.

MEWTOSIS



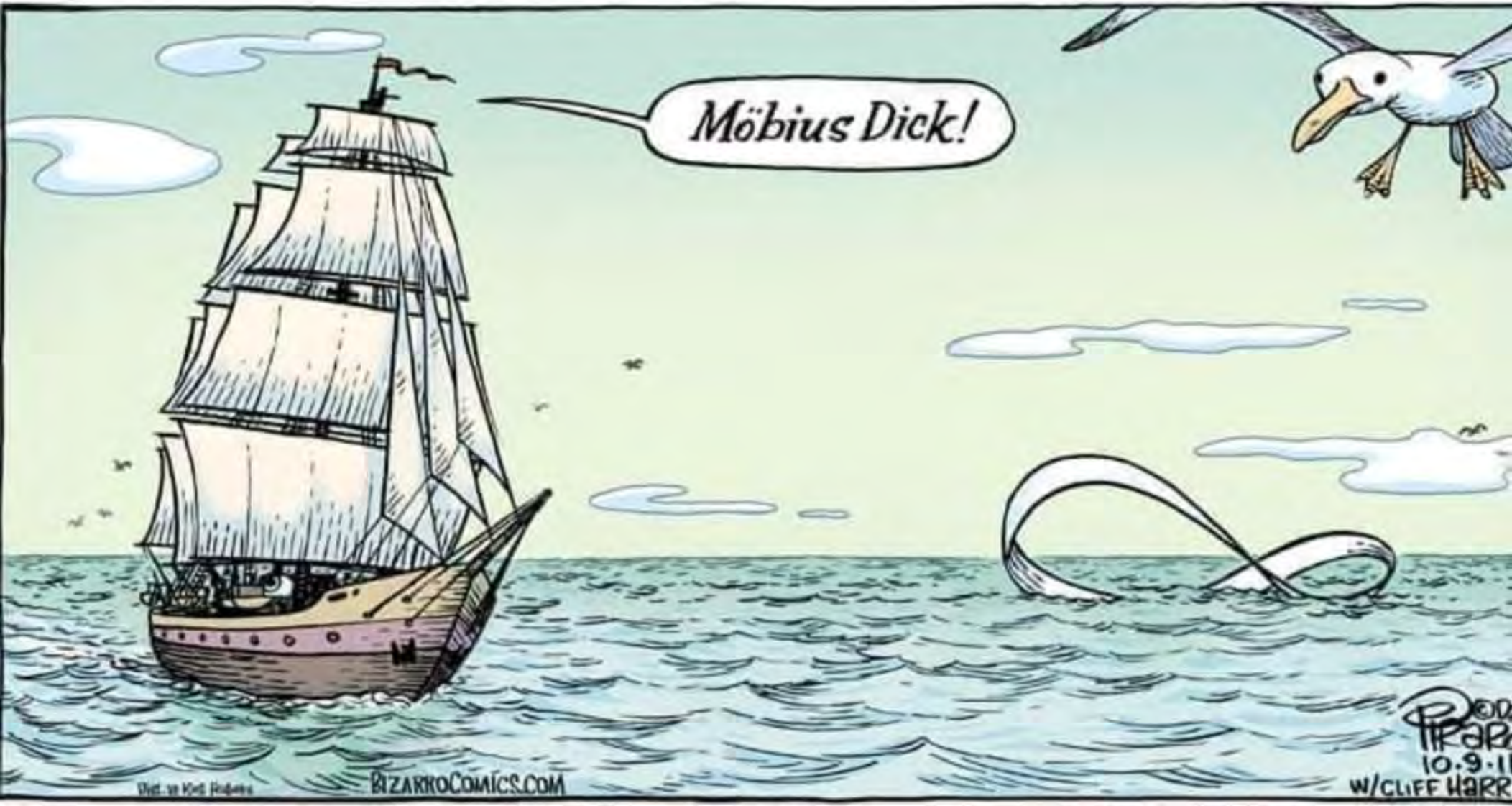
Roger crams for his microbiology midterm.



=

iPhone went through mitosis 😂

Since peanuts are shaped like chromosomes, here is a mitotic peanut cake. If we wait long enough there will be two cakes :)


Möbius Dick!
BIZARROCOMICS.COM
10·9·11
W/CLIFF HARR

GREAT MOMENTS IN SCIENCE

www.piecomic.com

"Bring me a stem cell."

THE COW THAT JUMPED OVER THE MOON FAILS TO CONSIDER RE-ENTRY
MOO?
10-24

HOW DO I KNOW WHICH MUSHROOM TO COOK WITH?
BITE ONE.
8-30-19
©Trust five Ida Hart dwo John Hart. All rights reserved
HOW WILL THAT HELP ME?
IF YOU TELEPORT TO THE KITCHEN ON A POLKA-DOT KANGAROO, IT'S THE WRONG ONE.
JohnHartStudios.com
Dist. by Creators

ALL YOU NEED IS

$$y = \frac{1}{x}$$

$$x^2 + y^2 = 9$$

$$y = |-2x|$$

$$x = -3|\sin y|$$

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CONTENT OF WOMEN'S MAGAZINES

- Accept yourself – you're beautiful just the way you are
- How to lose 20 lbs in four weeks

(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

— About your cat, Mr. Schrödinger —
I have good news and bad news.

Isaac Newton struggles to write the economic impact section of his 'gravity' proposal.

When Queen Elizabeth II of England farts during a formal dinner, the other guests must pretend nothing happened.

You see, noble gases have no reactions.

offthemark.com
SUN
MERCURY
VENUS
EARTH
MARS
JUPITER
SATURN
DOUG
NEPTUNE
PLUTO
NO ONE WAS REALLY SURPRISED WHEN HE CHANGED HIS NAME
otmCartoon@gmail.com 11-15
MARK PARISI

41 Action News
@41actionnews

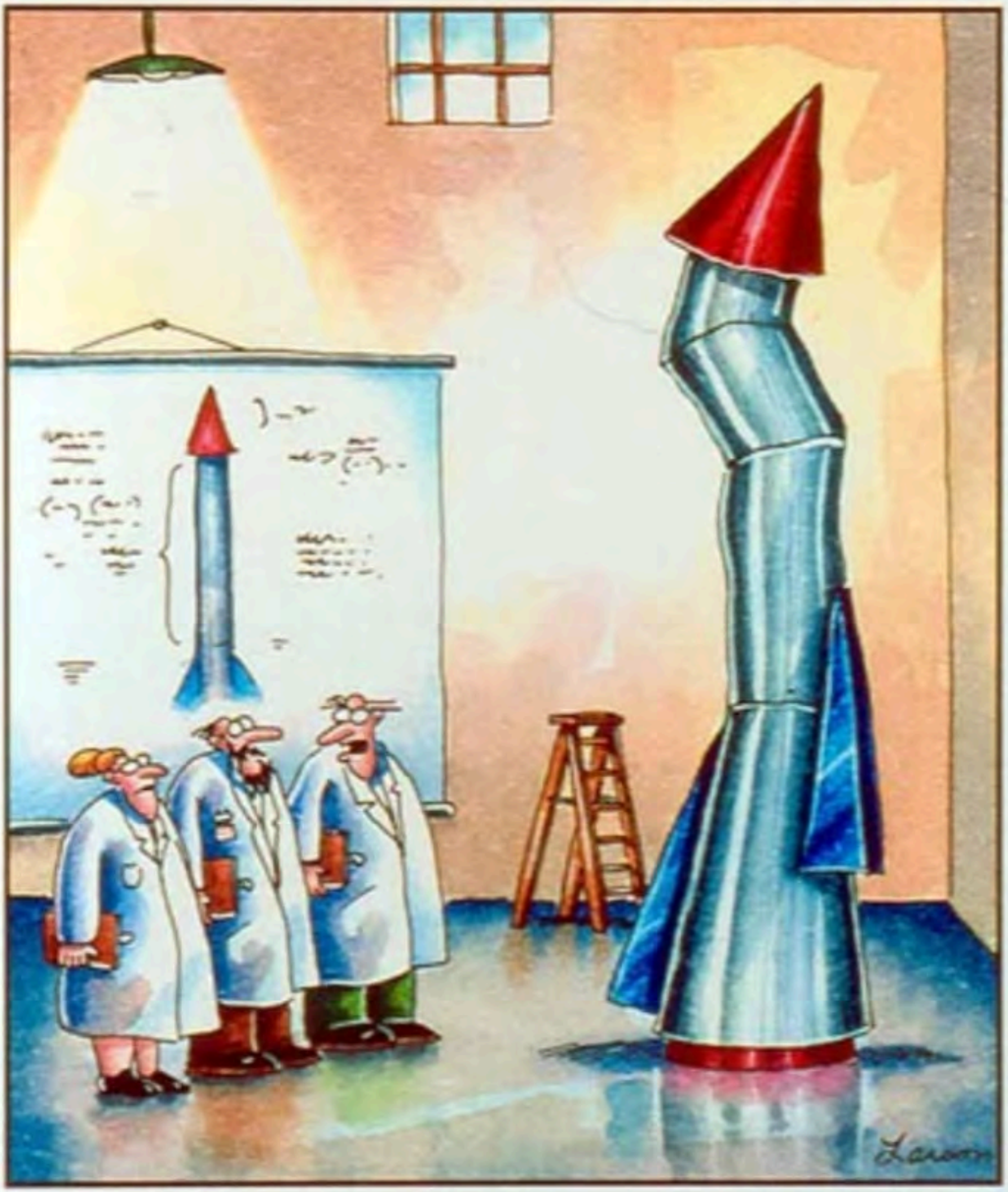
A sinkhole roughly the size of six to seven washing machines has closed the northbound lanes of State Line Road near 100th Street in Kansas City, Missouri.

Mohubedu
@Ralphium

Americans will measure with anything but the metric system

THE FAR SIDE®

by GARY LARSON



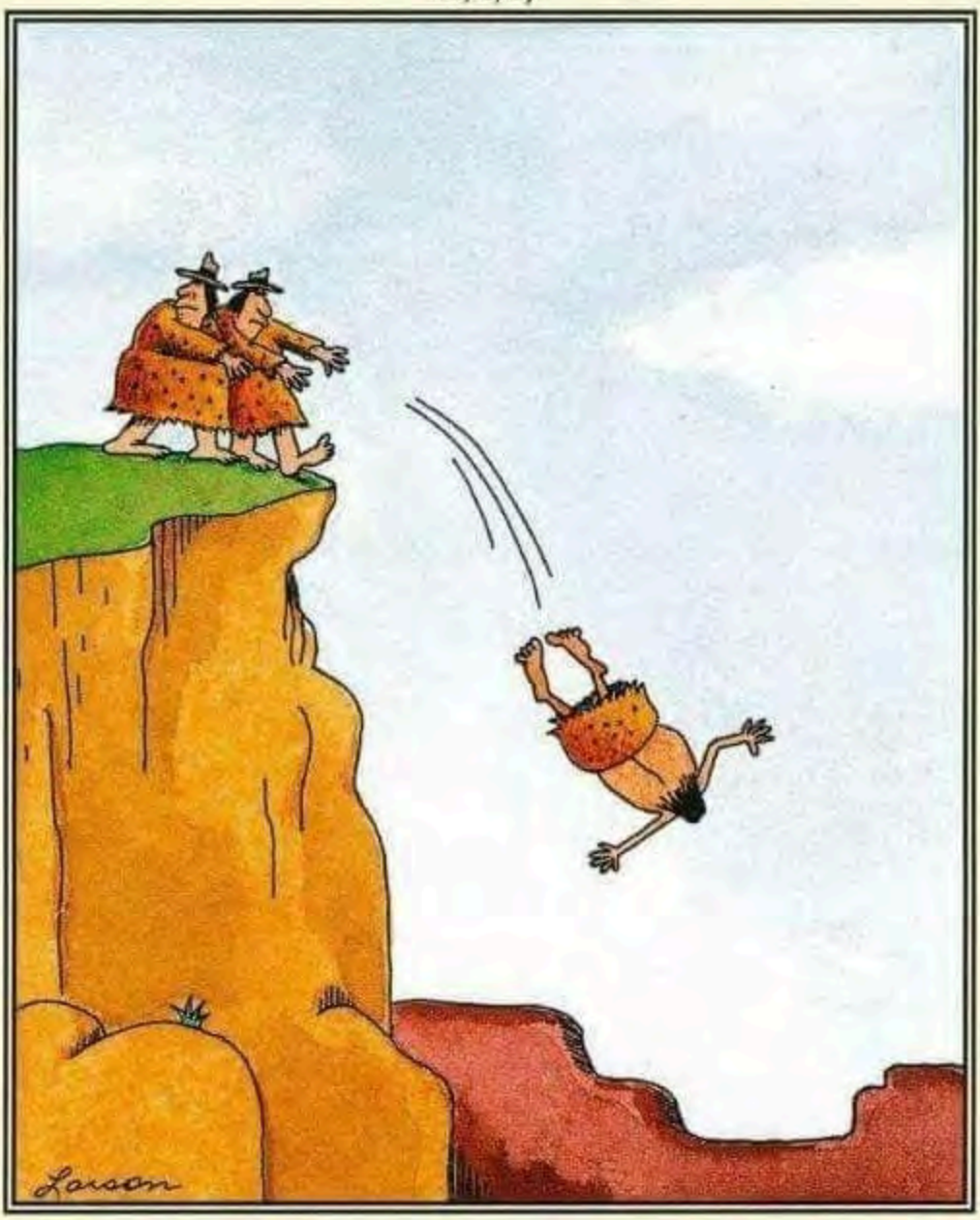
"It's time we face reality, my friends...
We're not exactly rocket scientists."

What kind of dinosaur writes romance novels?

A Brontësaurus

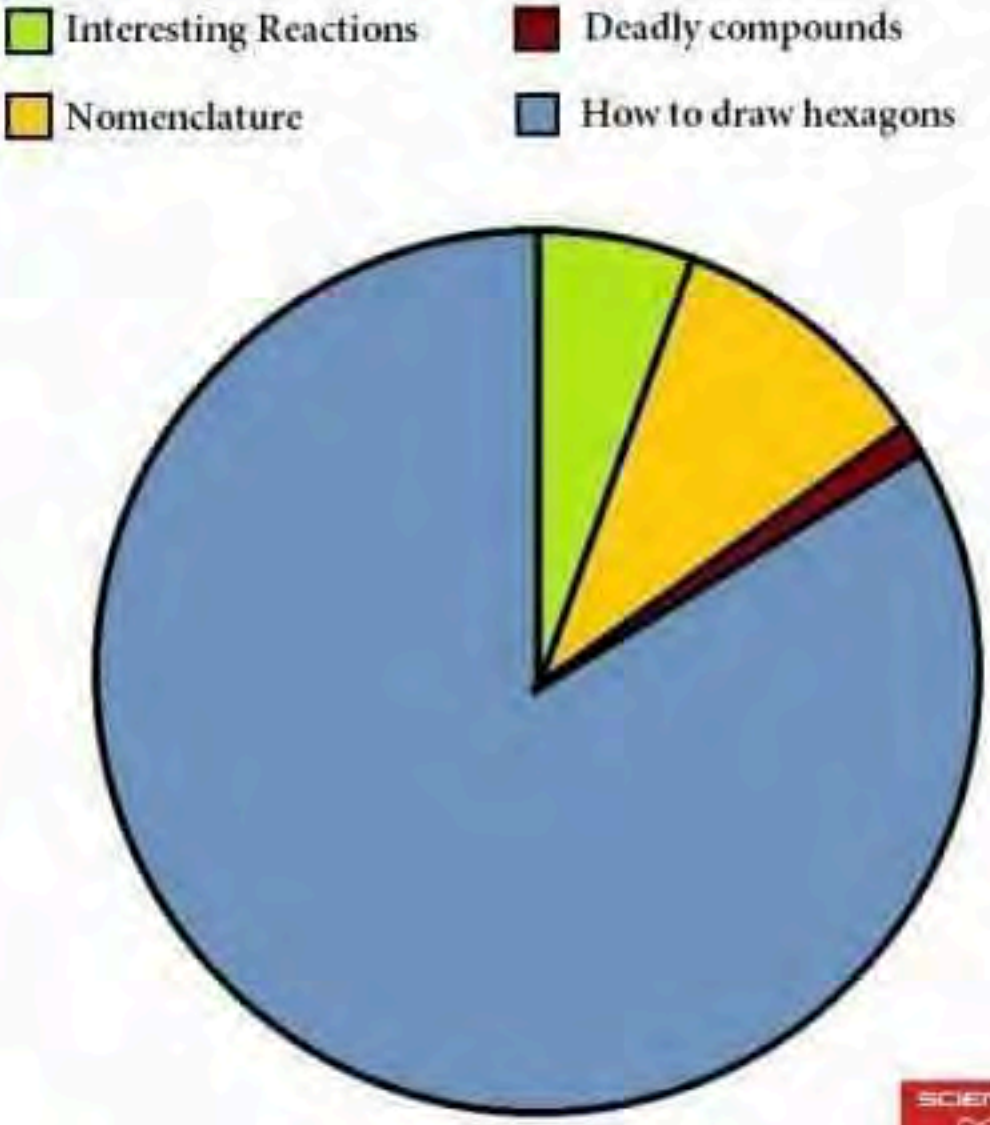
D. GELLER & SON
WHERE ATLANTA GETS ENGAGED
SEPT 20 - 22
BUY HER A DIAMOND
GET A FREE
HUNTING RIFLE
OC0055
©CLEAR CHANNEL

10/6/87



Although of considerable debate among paleoanthropologists, Australopithecene mobsters are thought to have been responsible for some of the fossilized treasures of the Olduvai Gorge.

Things I learned in Organic Chemistry



SCIENCE MEMES

DAD, WHERE DO BABIES COME FROM? IS IT TRUE A STORK LEAVES THEM SWADDLED IN A BUNDLE ON THE FRONT STEP?

IN MOST CASES, YES, BUT *YOU* WERE UNCEREMONIOUSLY DUMPED DOWN THE CHIMNEY BY A BIG, HAIRY PTERODACTYL.

COOL!

EXPLAINS A LOT, DOESN'T IT?

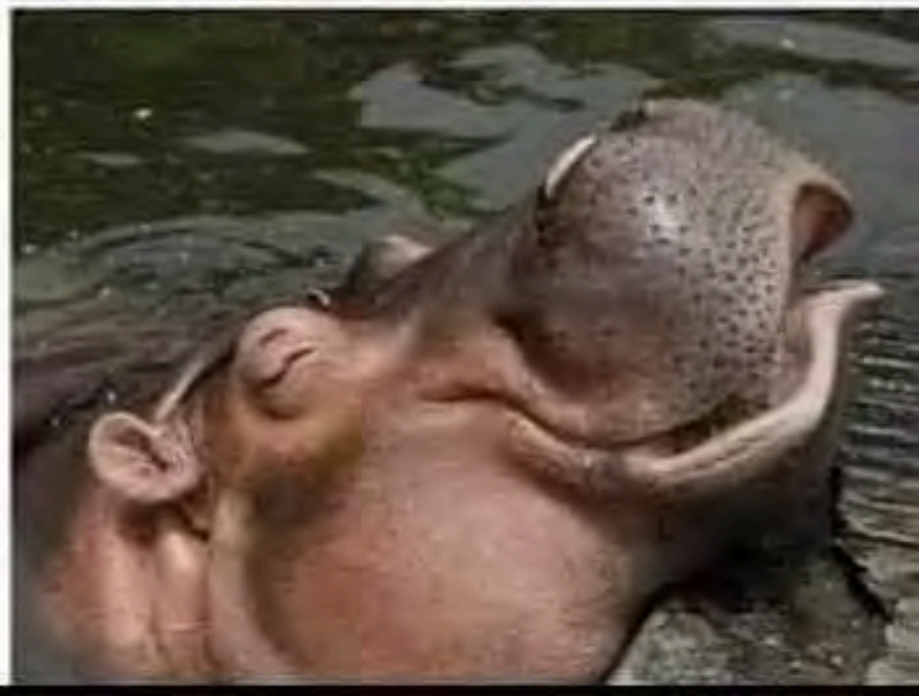
WATTERSON 6-10

"You grew up in a lab, too, Sylvia?"

The Skull

Artist's depiction of the animal in a paleontology book

The Animal



"Hey! I'm *trying* to pass the potatoes! ... Remember, my forearms are just as useless as yours!"

IF YOU'RE PAYING $3.00
FOR A BOTTLE OF
SMART WATER,
smartwater
IT ISN'T WORKING.

What is the "pulverized grain and fermentation fungus calorified over a charged-particle heat source"?

©DAN PIRARO 4-15-16

Toast.

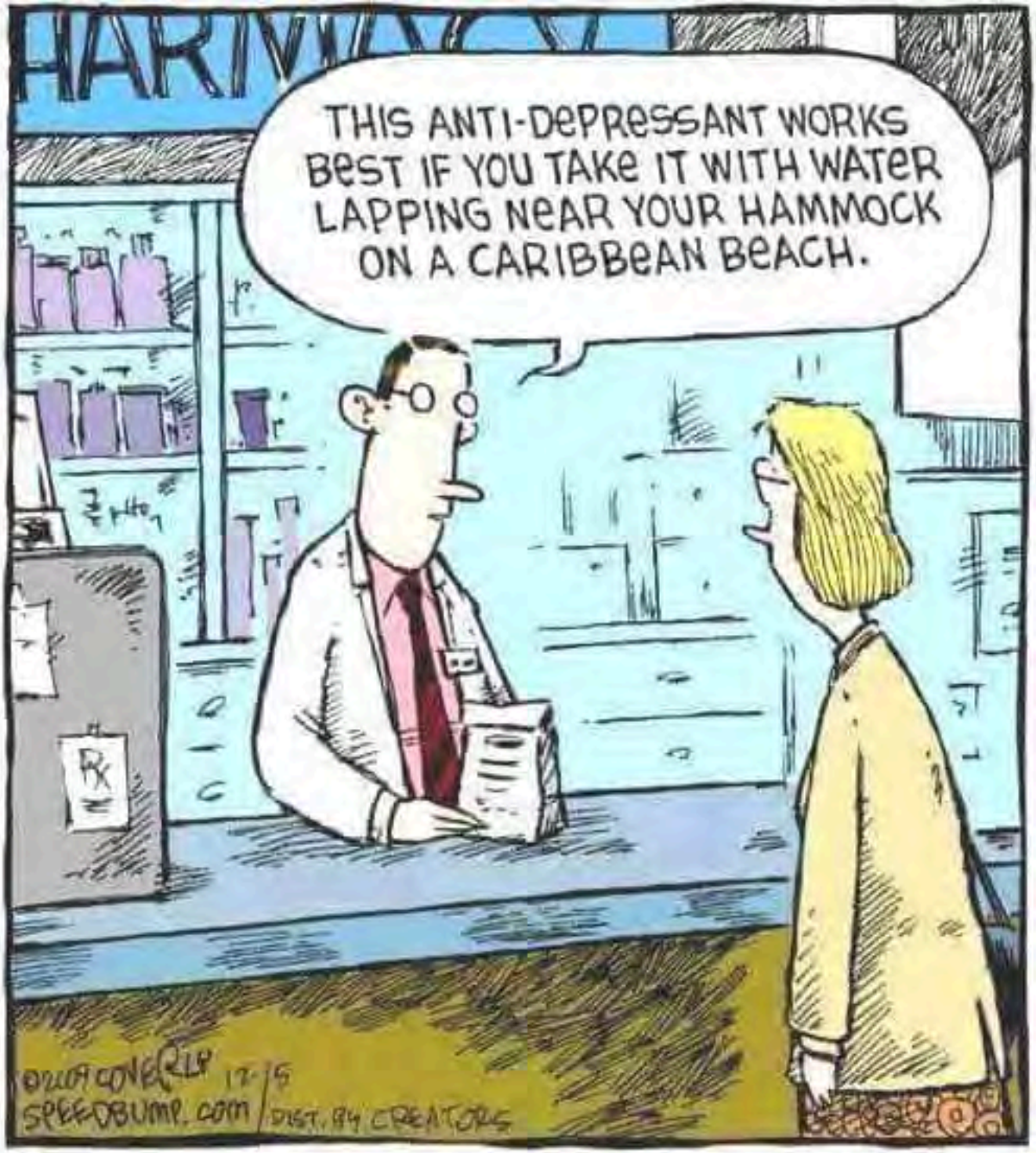
Yo Frank, you trying to evolve today?

Lol nah

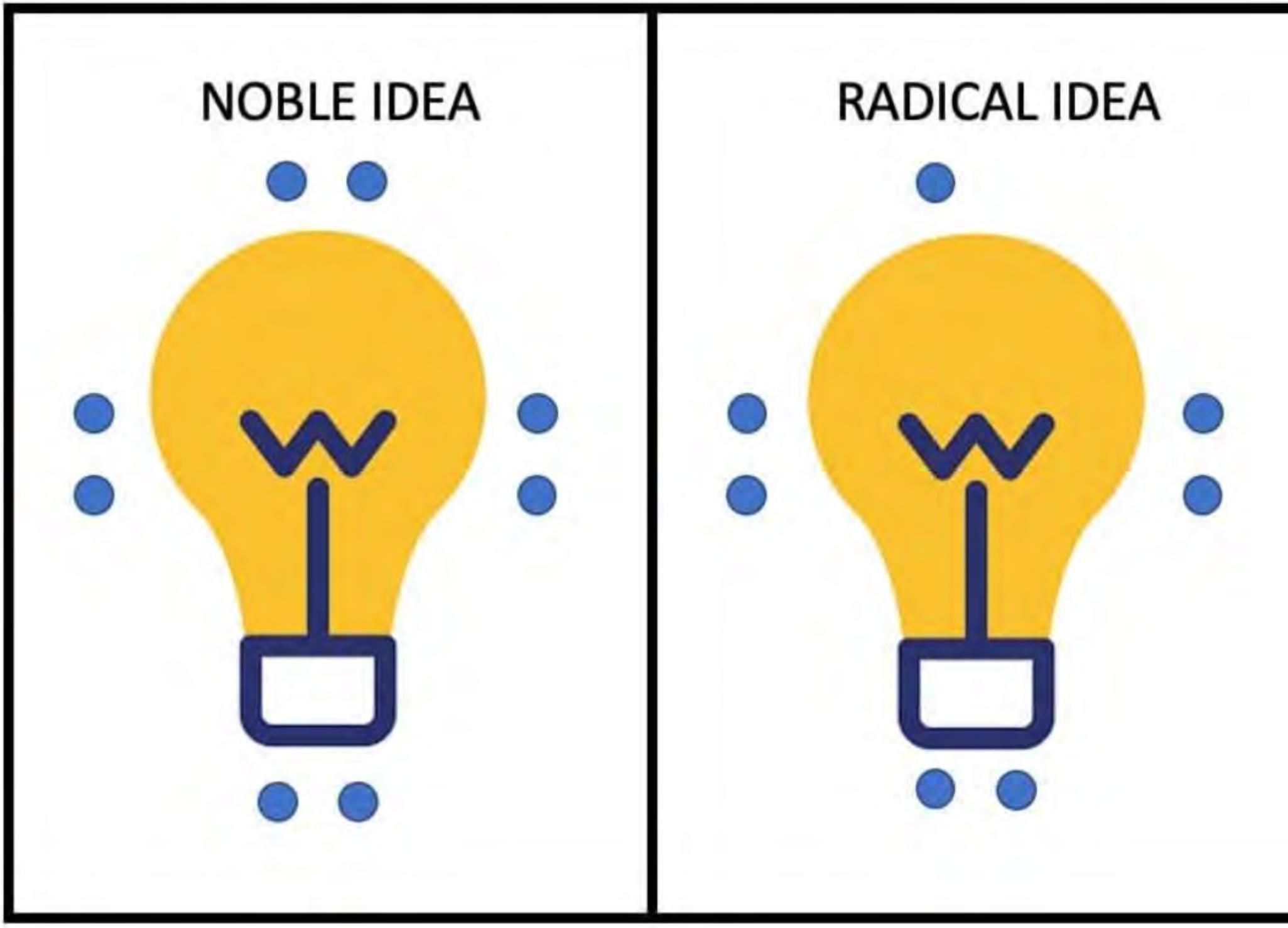
God's Perfect Creation

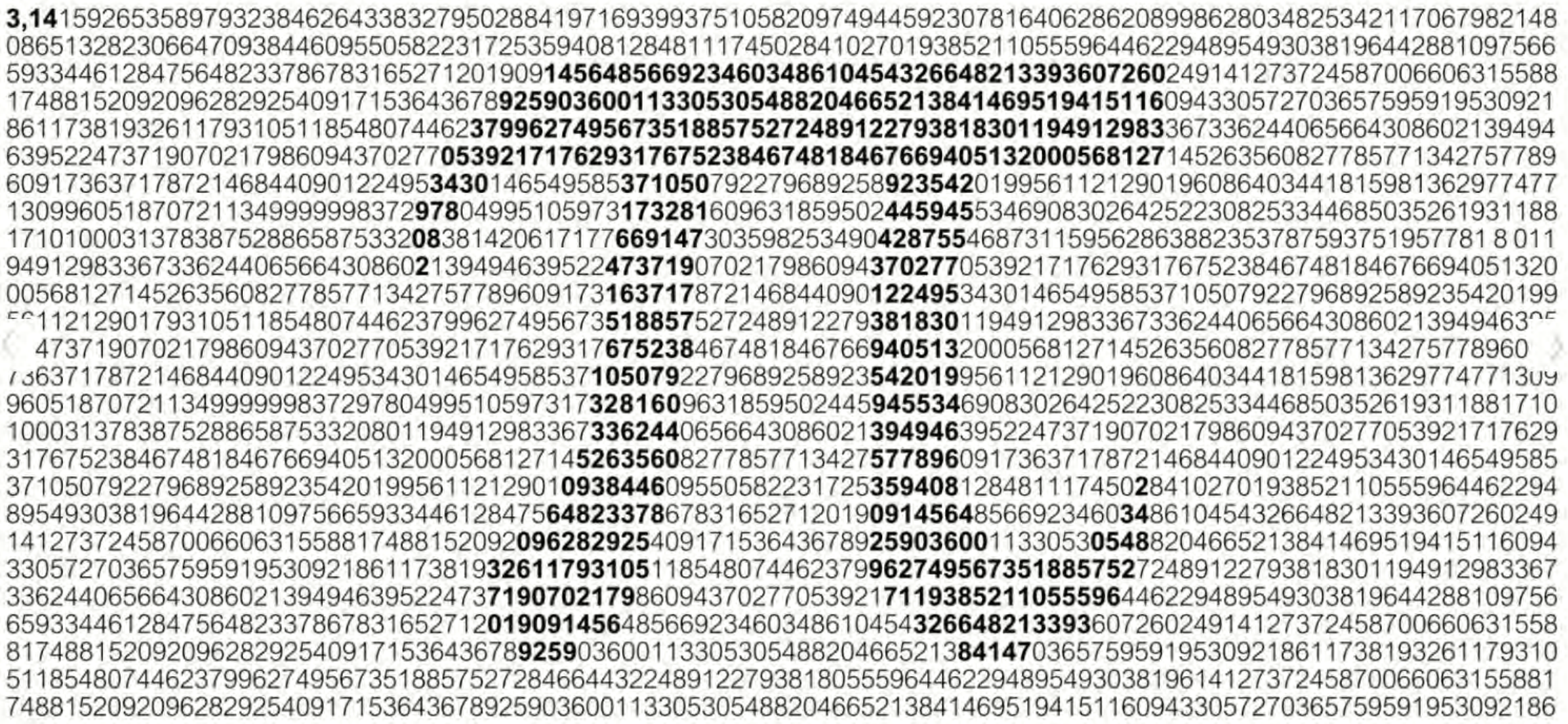
The Horseshoe crab

445 million years of non-evolution


HARMACY
THIS ANTI-DEPRESSANT WORKS BEST IF YOU TAKE IT WITH WATER LAPPING NEAR YOUR HAMMOCK ON A CARIBBEAN BEACH.
Rx
SPEEDBUMP.COM
DIST. BY CREATORS

Philosophy for chemists:

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Hi Darling.

Use my ATM card, take any amount out, go shopping and take your friends for lunch

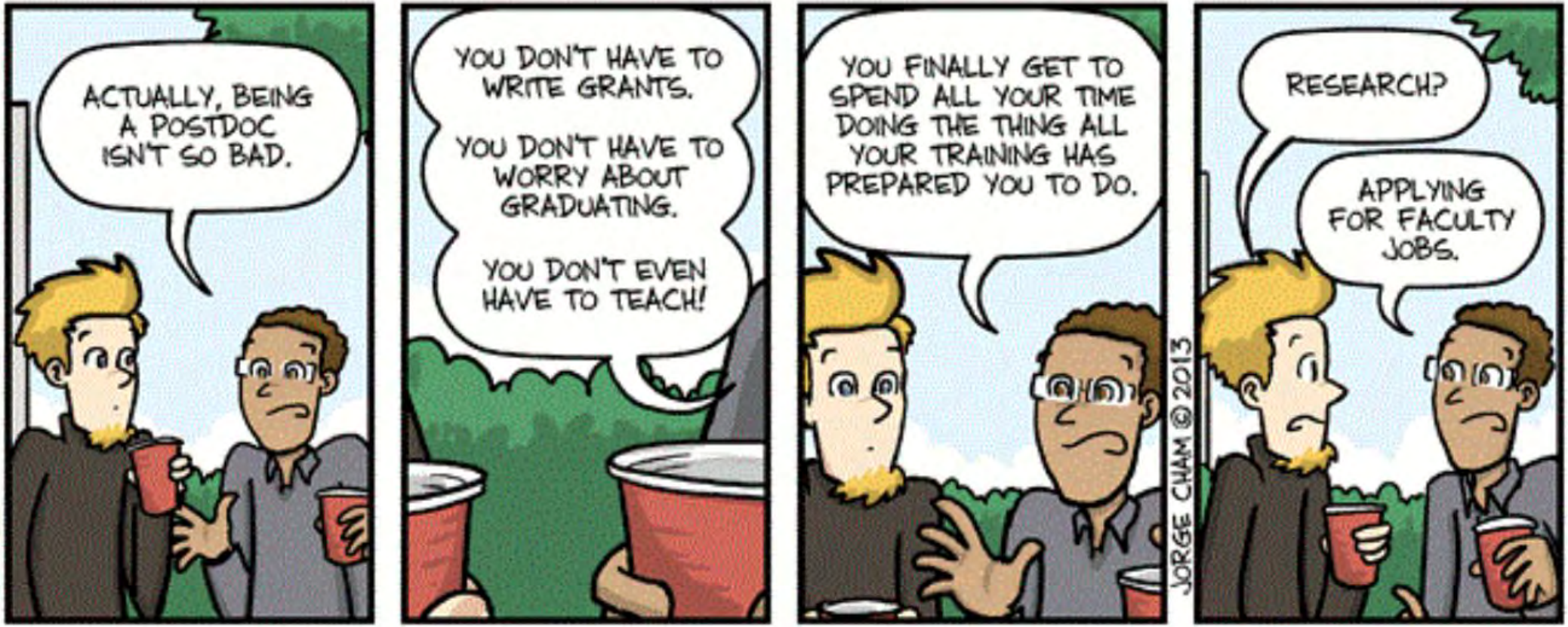
Pin code: $\int_0^1 \frac{(3x^3 - x^2 + 2x - 4)dx}{\sqrt{x^2 - 3x + 2}}$

I love you Honey

Why science teachers should not be given playground duty.

www.Facebook.com/GeezerPlanet

Due to reduced air pollution we can finally see Pluto

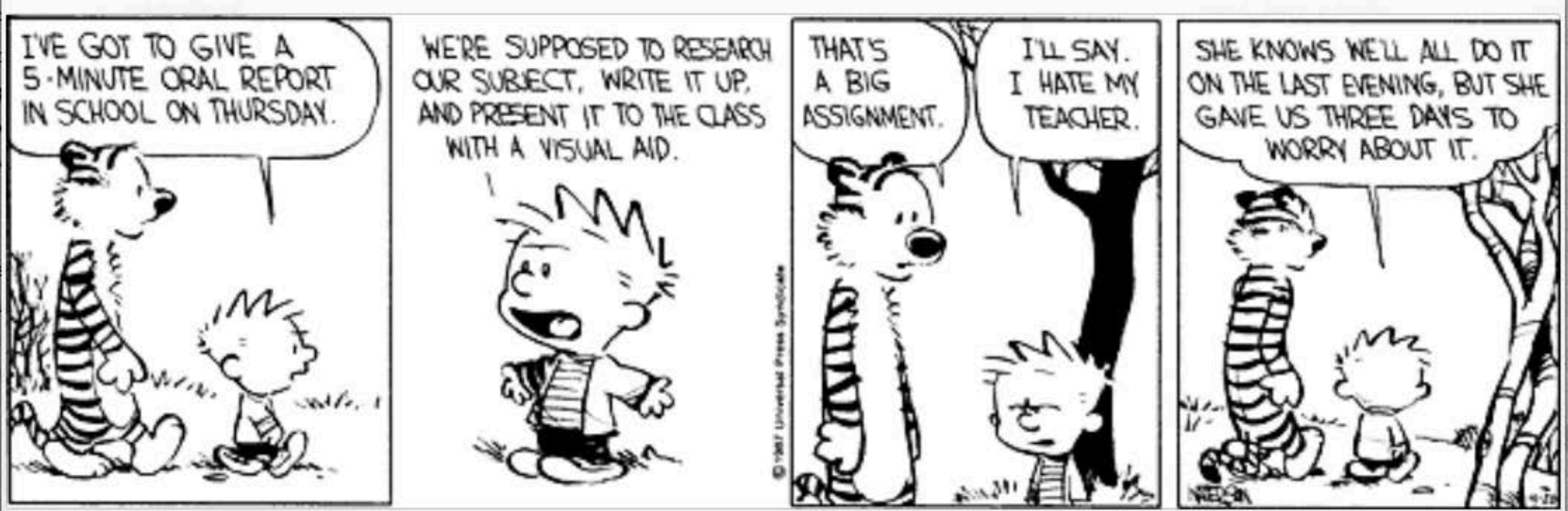


WWW.PHDCOMICS.COM

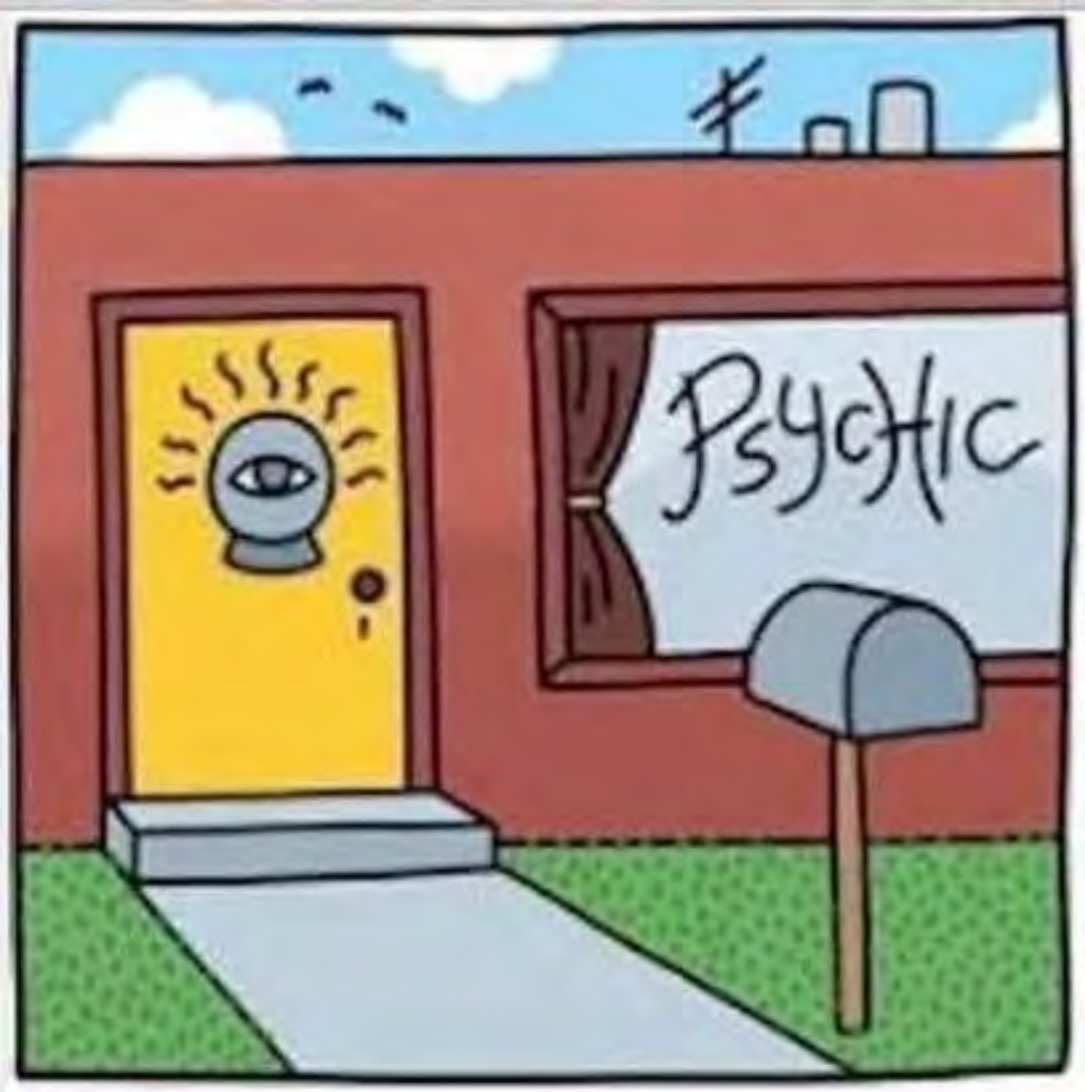
MIKE LUCKOVICH AJC. COM 6-19-22
The Atlanta Journal-Constitution

HEAT WAVES
DROUGHTS
FLOODS
WILD FIRES
SEA LEVEL RISE
MELTING GLACIERS
WARMING OCEANS
EXTINCTIONS

SHEESH, THE PRICE OF GAS **HAS** GOTTEN HIGH!


I'VE GOT TO GIVE A 5-MINUTE ORAL REPORT IN SCHOOL ON THURSDAY.
WE'RE SUPPOSED TO RESEARCH OUR SUBJECT, WRITE IT UP, AND PRESENT IT TO THE CLASS WITH A VISUAL AID.
THAT'S A BIG ASSIGNMENT.
I'LL SAY. I HATE MY TEACHER.
SHE KNOWS WE'LL ALL DO IT ON THE LAST EVENING, BUT SHE GAVE US THREE DAYS TO WORRY ABOUT IT.

PROOF OF
GLOBAL WARMING
1720
1900
1950
1970
1980
1990
2010


PSYCHIC

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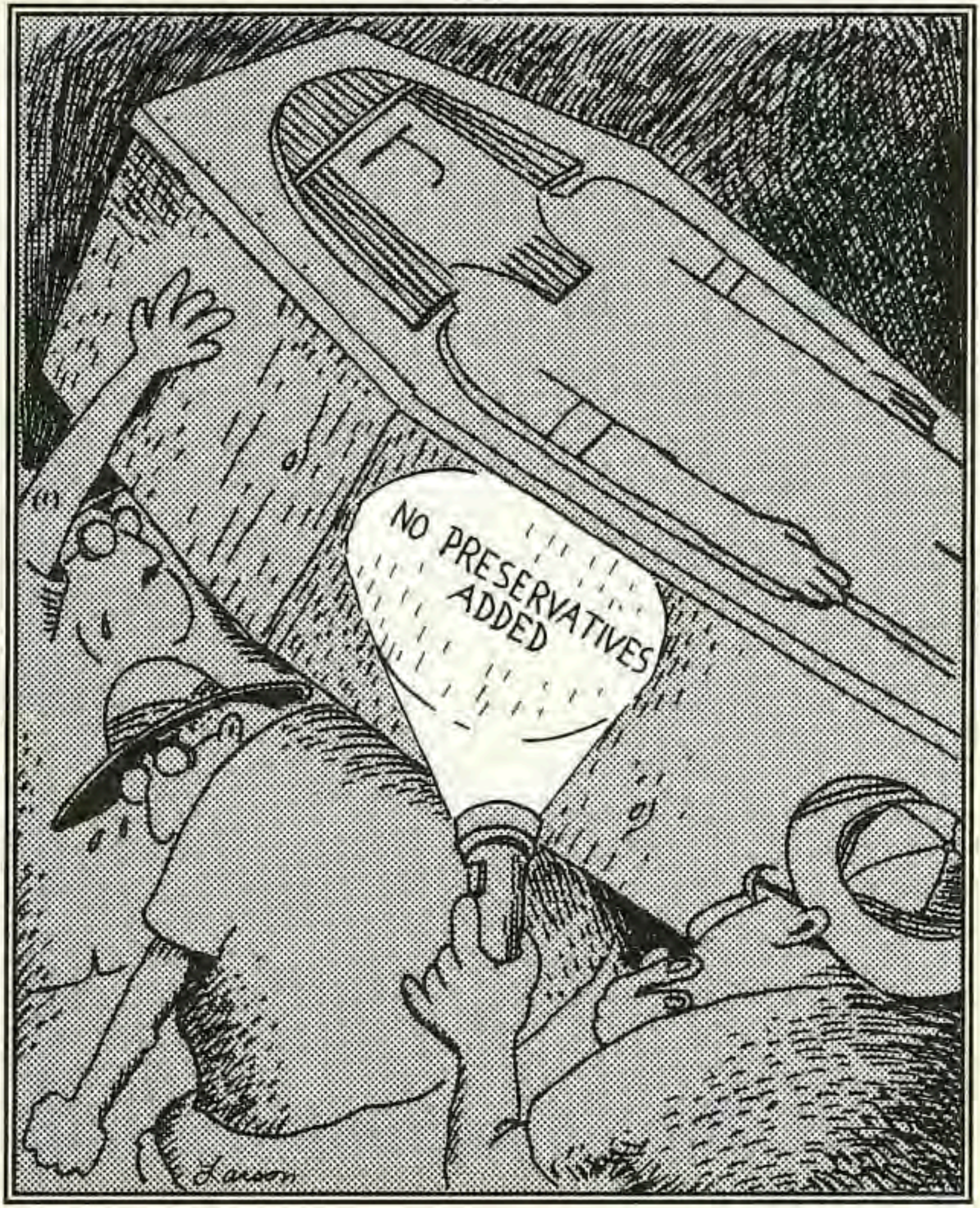
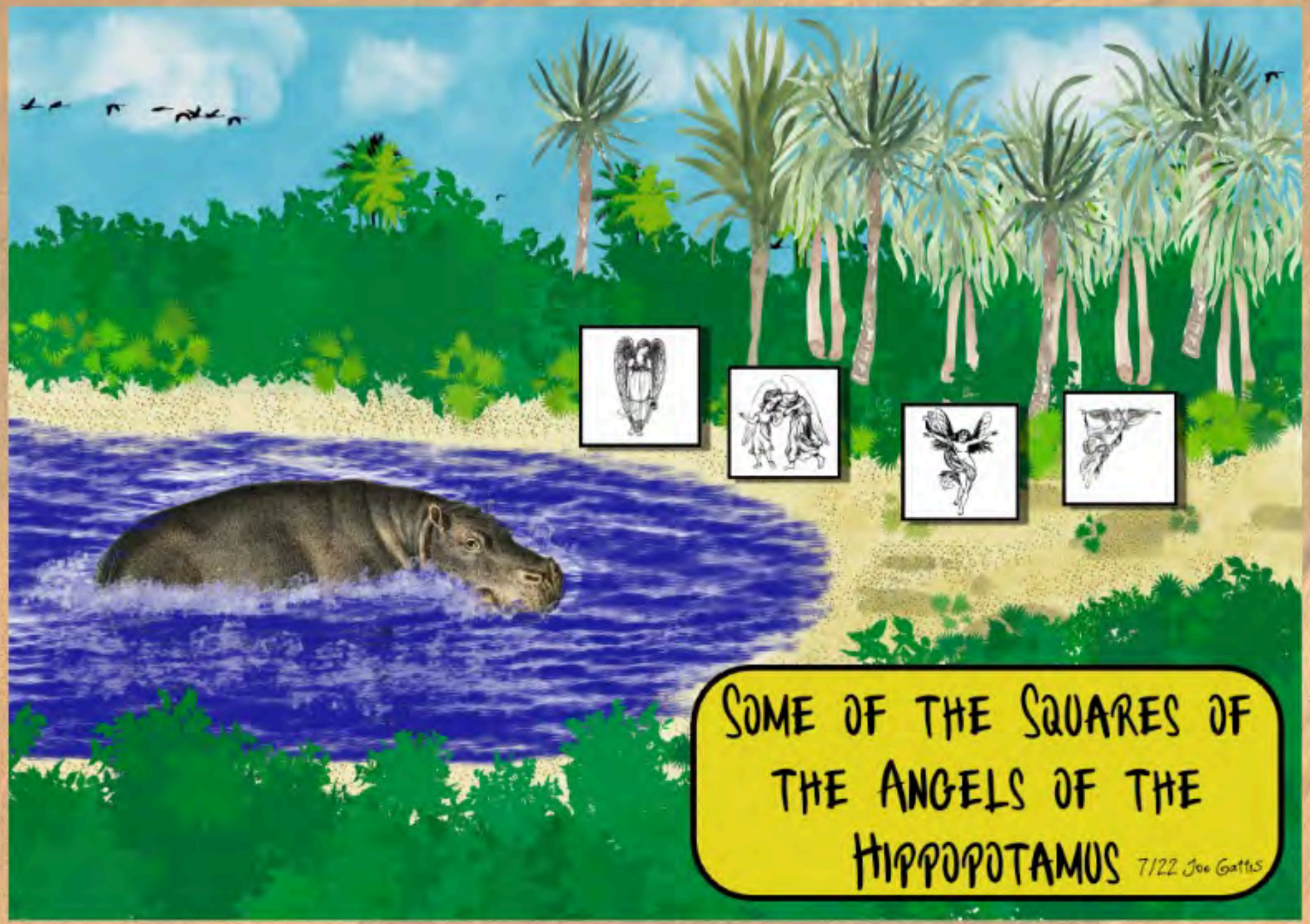
2/6/81




SOME OF THE SQUARES OF THE ANGELS OF THE HIPPOPOTAMUS 7/22 Joe Gattis

Going Bananas

When you buy it

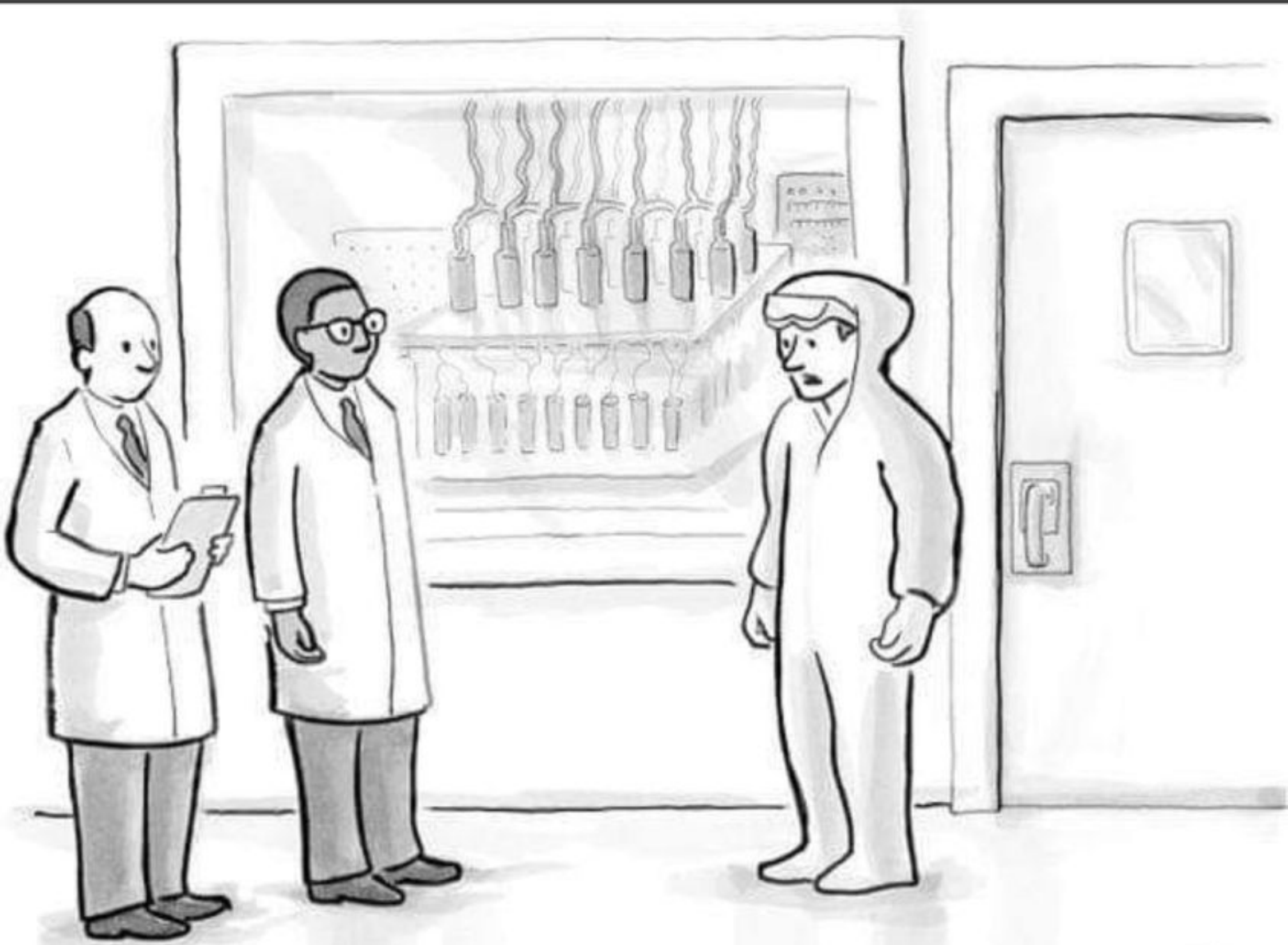
When you put it on your bag

When you want to eat it

(c) Mikael Wulff & Anders Morgenthaler

truthfacts.com

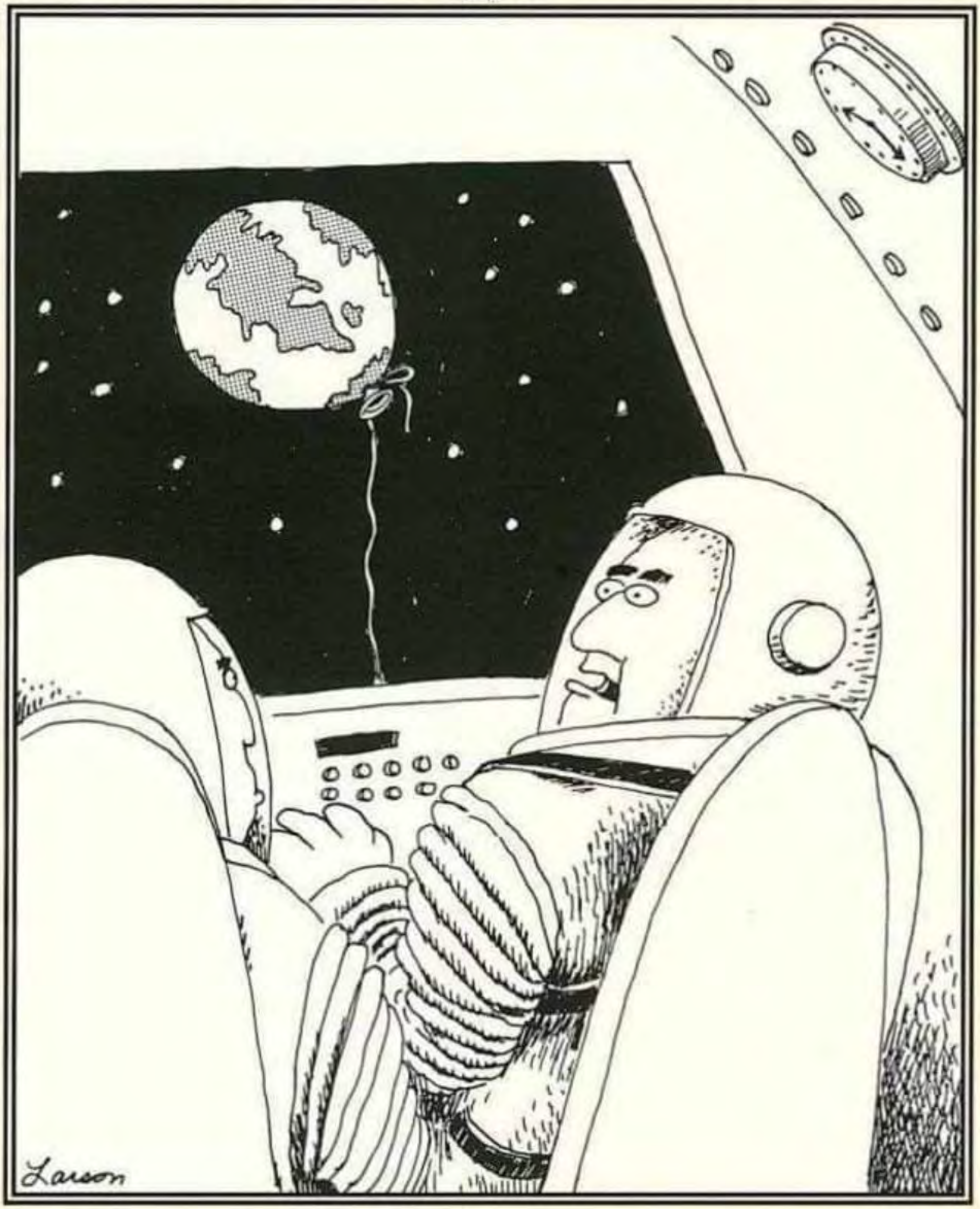
WHAT PARTICLES ARE PROTONS AND NEUTRONS COMPOSED OF?
QUACK?
QUACK?
QUACK?
QUARK?
TRY AGAIN.
YOU'RE GUESSING.
ONE MORE TIME.
ATTA BOY.
PHYSICS FOR FOWL
7-6



"Well, your quantum computer is broken in every way possible simultaneously."

HOW'S YOUR QUANTUM COMPUTER PROTOTYPE COMING ALONG?
GREAT!
Dilbert.com DilbertCartoonist@gmail.com
THE PROJECT EXISTS IN A SIMULTANEOUS STATE OF BEING BOTH TOTALLY SUCCESSFUL AND NOT EVEN STARTED.
4-17-12 ©2012 Scott Adams, Inc. /Dist. by Universal Uclick
CAN I OBSERVE IT?
THAT'S A TRICKY QUESTION.

10/4/80



"I think we'd better keep this quiet."

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23% TOASTER

18% CAMCORDER

26% TRASH CAN

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3% LASER POINTER

12% DURACELL BATTE

8/25

SCOTT HILBURN

PREDICTING RACE-HORSE SUCCESS

A geneticist, a physiologist and a physicist were summoned to meet a wealthy racehorse magnate.

He told them he would give a million pounds to the one who could accurately identify race-winning horses.

After six months of hard work, they returned to present their results to the expectant millionaire.

The geneticist said, "I've looked into all the current genetic research, checked blood-lines going back decades, but there are just too many behavioral and environmental factors. I can't help."

The physiologist said, "I've looked at muscle mass, bone volume and density, and all the other factors I can think of, but the problem's too complex. There's just no guarantee of predicting a winner."

Finally, the physicist calmly walks up to the millionaire and gives him an index card. "Here you go," he says "I've found an equation that solves the problem for you."

"Wow," said the millionaire, "That's impressive...I'll get my cheque book."

"Great. But there's one thing you should know," said the physicist. "It only works for a spherically symmetric horse travelling in a vacuum."

You thought smoking at the pump was risky 😂😂😂😂

Research grant rejection

5 Stages of Grief

1. Denial

"Dear Program Manager, there seems to have been an error..."

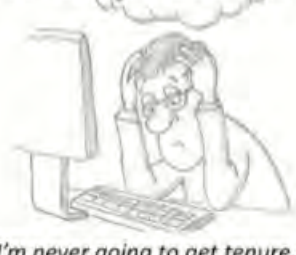
2. Anger

"I will never apply to your lousy, corrupt funding agency again."

3. Bargaining

"If you just let me respond to the reviewers... I can fix this..."

4. Depression



"I'm never going to get tenure..."

5. Acceptance

Resubmit same proposal with different title, smaller budget...

DAD, WILL YOU EXPLAIN THE THEORY OF RELATIVITY TO ME? I DON'T UNDERSTAND WHY TIME GOES SLOWER AT GREAT SPEED.

IT'S BECAUSE YOU KEEP CHANGING TIME ZONES. SEE, IF YOU FLY TO CALIFORNIA, YOU GAIN THREE HOURS ON A FIVE-HOUR FLIGHT, RIGHT?

SO IF YOU GO AT THE SPEED OF LIGHT, YOU GAIN *MORE* TIME, BECAUSE IT DOESN'T TAKE AS LONG TO GET THERE. OF COURSE, THE THEORY OF RELATIVITY ONLY WORKS IF YOU'RE GOING WEST.

GEE, THAT'S NOT WHAT MOM SAID AT **ALL**! SHE MUST BE TOTALLY OFF HER ROCKER.

WELL, WE MEN ARE BETTER AT ABSTRACT REASONING. GO TELL HER THAT.

4-13

WATTERSON

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"Okay, Zorky, this one is all yours. ... Take a deep breath, relax, and give him one, short blast—remember, this is probe and release."

Allen, can you get the door this time? Last time they wanted a bucket of Erbium 68, and if we don't have that, Ytterbium 70 will do..

Research in academia

Conceptaulized in PI's mind

Described in grant proposal

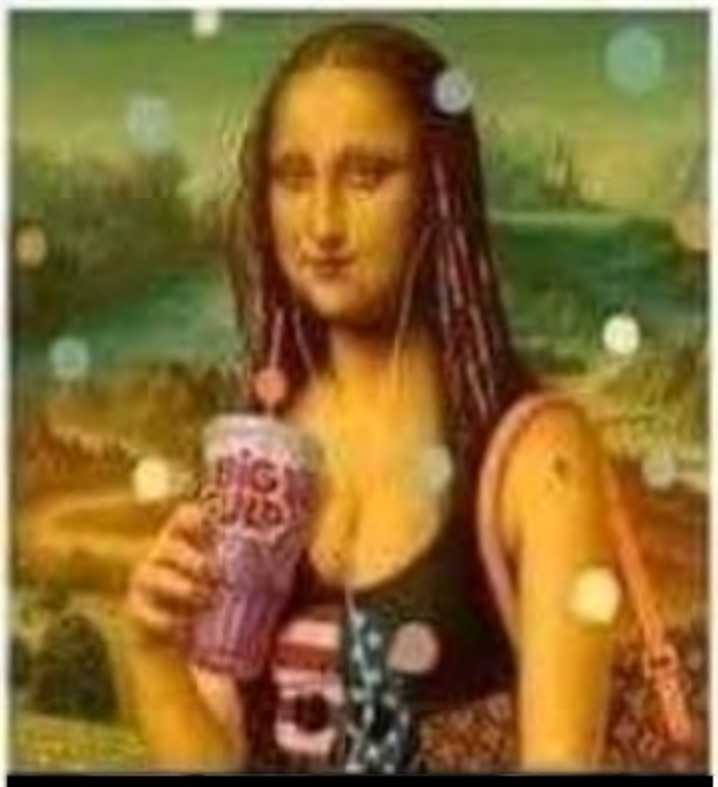
Actual goal after funded

Understood by RA

Observed in first experiment

Observed in repeat experiment

Presented



Submitted

Published

JOIN THE RESISTANCE!

UEOR-1 | UNEXPECTED EXPERIMENT OUTCOME REPORT FORM

TICK ALL BOXES THAT APPLY AND SUBMIT TO LABORATORY MANAGER

1. CREATED:
   - ☐ MESS
   - ☐ BAD SMELL
   - ☐ VOLCANO
   - ☐ TIME TUNNEL

2. EXPLOSION:
   - ☐ SMALL
   - ☐ MEDIUM
   - ☐ LARGE
   - ☐ APOCALYPTIC

3. DAMAGED:
   - ☐ EQUIPMENT
   - ☐ BUILDING
   - ☐ CONTINENT
   - ☐ SPACE-TIME CONTINUUM

4. SUMMONED:
   - ☐ HEALTH AND SAFETY OFFICER
   - ☐ DEMON
   - ☐ ZOMBIES
   - ☐ TERMINATOR

5. STAFF:
   - ☐ SHAKEN
   - ☐ INJURED
   - ☐ ENCHANTED
   - ☐ IN ANOTHER DIMENSION

6. SUPERPOWERS CONFERRED:
   - ☐ FLIGHT
   - ☐ STRENGTH
   - ☐ X-RAY VISION
   - ☐ INVISIBILITY

10 tips for responding to reviewers' comments

1. Stay calm
2. **Stay calm...**
3. Don't just repeat positive reviewer comments back
4. Refute errors with evidence and misunderstandings with clarification
5. Re-read response
6. **Take out the passive aggressive phrases**
7. Sleep on it
8. Take out the sarcasm
9. **Take out *ALL* the sarcasm**
10. Submit response to reviewers

"Is it just me or are these review panels getting a lot tougher?"

On the rheology of cats

M.A. Fardin[1, 2, 3, *]

[1] *Université de Lyon, Laboratoire de Physique, École Normale Supérieure de Lyon, CNRS UMR 5672, 46 Allée d'Italie, 69364 Lyon cedex 07, France.*
[2] *The Academy of Bradylogists.*
[3] *Member of the Extended McKinley Family (EMF).*

(Dated: July 9, 2014)

In this letter I highlight some of the recent developments around the rheology of *Felis catus*, with potential applications for other species of the felidae family. In the linear rheology regime many factors can enter the determination of the characteristic time of cats: from surface effects to yield stress. In the nonlinear rheology regime flow instabilities can emerge. Nonetheless, the flow rate, which is the usual dimensional control parameter, can be hard to compute because cats are active rheological materials.

$\pi\alpha\nu\tau\alpha\ \rho\epsilon\iota$! Everything flows! This famous aphorism used to characterize Heraclitus' thought is also the motto of *rheology*. "Everything flows and nothing abides; everything gives way and nothing stays fixed." a recipe for insubordination actually from Simplicius and Plato. Everything flows? Well, it depends on the definition of a *flow*; if sufficiently general, there is no doubt that there are no exceptions to the rule! What is a flow? What is a fluid? As pointed out from the start by Reiner, the essential value of rheology is to recognize that states of matter are a matter of time(s). The first time, is a *time of observation* T. What is true today may not be true tomorrow. Time over time, one day 49, the next 50.

Historically, the popular distinction between states of matter has been made based on qualitative differences in bulk properties. Solid is the state in which matter maintains a fixed volume and shape; liquid is the state in which matter maintains a fixed volume but adapts to the shape of its container; and gas is the state in which matter expands to occupy whatever volume is available. Following these common sense definitions, a meta-study untitled "Cats are liquids" was recently published on `boredpanda.com`. I propose here to check if the panda's claim that the cats are liquid is solid, by using the tools of modern rheology.

First of all, 'maintains', 'adapts' or 'expands' are verbs. They describe actions unfolding with a characteristic time scale τ, which we will call *relaxation time*. From T and τ we can define the *Deborah number* as:

$$De \equiv \frac{\tau}{T} \tag{1}$$

Usually T is just the duration of the experiment, but for oscillatory flows it is the inverse of the frequency (and thus De is analogous to a Strouhal number). The relaxation time τ can have a variety of origins. When one seeks the difference between gas and liquid, 'relaxing' will mean 'expanding' and so τ will be linked to the characteristic rate of expansion of the material. The expansion is a type of flow. In this case, we will say that we have a gas if $De \ll 1$. When one seeks the difference between liquid and solid, 'relaxing' will mean 'adapting' and so τ will be linked to the characteristic rate of adaptation of the shape of the material to its container. The adaptation of the shape of the material is a type of flow. In this case, we will say that we have a liquid if $De \ll 1$. Solids 'maintain' their shape and volume, *i.e.* they do not flow. But solids can be deformed under stress. Note finally that any flow is intrinsically made of deformations.

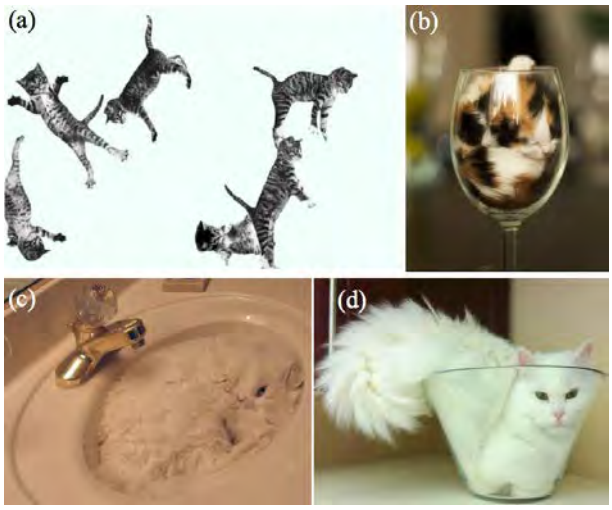


FIG. 1: (a) A cat appears as a solid material with a consistent shape rotating and bouncing, like Silly Putty on short time scales. We have $De \gg 1$ because the time of observation is under a second. (b) At longer time scales, a cat flows and fills an empty wine glass. In this case we have $De \ll 1$. In both cases, even if the samples are different, we can estimate the relaxation time to be in the range $\tau = 1$ s to 1 min. (c-d) For older cats, we can also introduce a characteristic time of expansion and distinguish between liquid (c) and gaseous (d) feline states. [(a) Courtesy of http://catbounce.com, (b) http://www.dweebist.com/2009/07/kitten-in-wine-glass/, (c) http://imgur.com/gallery/UuNSR, (d) http://imgur.com/s7JtV]

As illustrated in Fig. 1a, for $De \gg 1$ a cat appears

*Corresponding author ; Electronic address: `marcantoine.fardin@ens-lyon.fr`

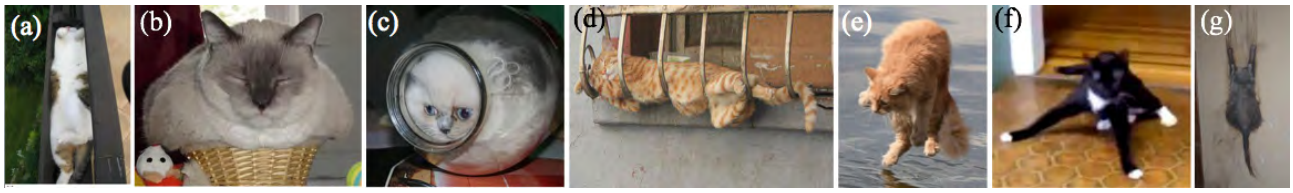


FIG. 2: (a) Extensional rheology of a cat before capillary break-up. (b) Cat on a superfelidaphobic substrate showing a high contact angle. (c) Tilted jar experiment showing the yield stress of a kitten. (d) Spreading of a cat on a very rough substrate. (e) Low affinity between cats and water surfaces. (f) Sliding cat on smooth floor. (g) Adhesion of a cat on a vertical wall. [Courtesy of (a) facebook.com, (c) http://metro.co.uk/2011/02/18/ksyusha-the-kitten-is-cat-in-a-jar-639735/ , (d) http://www.theyfailed.com/cats-sleep-anywhere/, (f) http://www.mirror.co.uk/news/world-news/youtube-watch-hilarious-viral-of-two-882779, (g) http://amazinghandpaintedmurals.com/picture_gallery_-_page_3]

solid, whereas for $De \ll 1$ it seems liquid. From these preliminary experiments, knowing T we can estimate the relaxation time to be in the range $\tau = 1$ s to 1 min, for normal cases of *Felis catus*. Note that the samples used in Fig. 1a-b are relatively young. Older cats may have a shorter relaxation time, and thus become liquid more easily than agitated kittens, for which τ can reach values as high as a few hours. The assumption of incompressibility may also fail for older cats, which can acquire gaseous properties like in Fig. 1c-d. In this letter, we will tend to ignore this thixotropic behavior. There's an old saying in investing: even a dead cat will bounce if it is dropped from high enough. Where, of course, the dead cat bounce refers to a short-term recovery in a declining trend.

Overall, the Deborah number is the dimensionless expression of the concept of linear viscoelasticity. The greater the Deborah number, the more elastic/solid the material; the smaller the Deborah number, the more viscous/fluid it is. Thus, rheology suggests only two states of matter: solids that deform; and fluids that flow. Both gases and liquids flow, they are fluids, the first compressible, the other incompressible. In general, both the fluid-like and the solid-like properties of a material can be complex, in the sense that the solid part may not be purely elastic, and the fluid part may not be purely viscous. For simple incompressible and athermal molecular fluids, the relaxation time will simply be the viscous dissipation time $\tau = \delta^2/\nu$, where δ is the thickness of the momentum boundary layer and ν is the kinematic viscosity. For more complex fluids, τ can have a large range of origins, which often require chemistry and/or biology to be well understood.

In the first part of this letter I wish to highlight the potential factors that have to be taken into account in computing the value of τ for cats. Fig. 2a shows the capillary bridge formed during extensional rheometry of *Felis catus*. First, in the introduction, we assumed τ to be a scalar, but it can have a higher dimensionality. Usually the time scale is considered as a contribution to viscosity, which in the most general case is a tensor of rank 2. For simple incompressible fluids symmetry considerations reduce this tensor to a scalar. The extensional viscosity is simply 3 times the shear viscosity. For complex fluids, the extensional viscosity can be orders of magnitude different, usually larger than the shear viscosity for polymeric materials. For cats, the determination of the Trouton ratio is complicated but the situation seems opposite. In the absence of reliable extensional rheology data, we can only point to the fact that when cats are deformed along their principal axis, they tend to relax more easily, suggesting that the extensional time is smaller than the shear time. Transient strain-hardening can nonetheless occur. Second, because, flows of cats are usually free surface flows, the surface tension between the cat and its surrounding medium can be important and even dominant in the rheology, especially in CATBER (Capillary thinning and breakup extensional rheometer) experiments. The catpillary number becomes important $\tau = f(Ca)$, with $Ca \equiv \eta U/\gamma_{LV}$, where η is the shear viscosity, U is a characteristic flow velocity and γ_{LV} is the surface tension (not to be confused with the deformation). Let us recall that even water droplets bouncing on hydrophobic substrates can behave elastically, with a response time $\tau = \sqrt{\rho R_0^3/\gamma}$, where ρ is the density and R_0 the size of the drops. When the fluid is complex, the situation can be even more entangled.

The wetting and general tribology of cats has not progressed enough to give a definitive answer to the capillary dependence of the feline relaxation time. Fig. 2b gives an example of a lotus effect of *Felis catus*, suggesting that the substrate is superfelidaphobic. This behavior is usually distinguished from the yield stress that cats can also display, as shown in Fig. 2c, where the kitten cannot flow because it is below its yield stress, like ketchup in its bottle. It is still unclear what physical and chemical properties generate superfelidaphobicity, but a Cassie-Baxter-like model seems plausible. Here, the roughness of the cat's fur would be as determinant as the roughness of the substrate, but probably with somewhat opposite effects. Indeed, cats are often found to spread on rough substrates as seen in Fig. 2d, but they have low affinity for substrates that smooth their fur, like water in Fig. 2e. Significant wall slip and shear localization can also be involved in some experiments, like shown in Fig. 2f, where there is a very significant relative velocity between the substrate and the cat. Counter-intuitively, gravity seems

(continues page 30)

(Cats, continued from page 17)

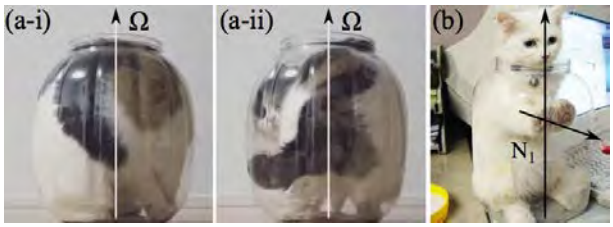


FIG. 3: (a) A cat spontaneously rotates in a cylindrical jar. (b) Normal forces and Weissenberg effect in a young sample of *Felis catus*. [Courtesy of (a) http://guremike.jp/, (b) http://buzzlamp.com/10-weird-places-cats-get-stuck-in/]

to enhance adhesiveness, as shown in Fig. 2g.

In the last part of this letter, I wish to discuss the possibility of flow instabilities in *Felis catus*. Linear viscoelasticity conceptualizes the fact that if its Deborah number is small a material is flowing. The physics of flow instabilities warns us that, as the characteristic rate of deformation $\dot{\gamma}$ increases, non trivial secondary flows emerge and eventually become chaotic. Here, the important dimensionless number will be the Reynolds-Weissenberg number (a sort of Péclet number):

$$Rw \equiv \tau\dot{\gamma} \tag{2}$$

The limit $Rw \ll 1$ defines the *laminar base flow*. Non-trivial *secondary flows* will usually appear around $Rw \sim 1$. Finally, the flow will be *turbulent* if $Rw \gg 1$. For simple fluids, the relaxation time is the viscous dissipation time, the driving force of instability is inertia and the dimensionless number is just the usual Reynolds number $Rw = Re$. For more complex fluids in creeping flow ($Re = 0$) recent progress on instabilities in viscoelastic polymers and micelles solutions suggests that the relevant dimensionless number is the Weissenberg number alone, *i.e.* $Rw = Wi$ if $Re = 0$. In this case elastic turbulence can be achieved without inertia. We speak of viscoelastic flow instabilities.

When taken in its philosophical form, "panta rhei" is *the theory of motion*: the belief that everything is dynamic and that the state of rest is illusory. But for centuries, this ontology was superseded by Aristotle's viewpoint. He posited that in the absence of an external motive power all objects would come to rest and that moving objects only continue to move so long as there is a power inducing them to do so. Modern physics started when Galileo and his followers put an end to Aristotle's dogma by showing that, unless acted upon by a net unbalanced force, an object will maintain a constant velocity. This was key to the realization that motion is relative and preceded by the more fundamental concept of *frame of reference*, *e.g.* the train moves *with respect to* the frame of the platform, but the platform moves *with respect* to the frame of the train. Note that even if rheologists have taken Heraclitus' doctrine as their motto, they depart from his thoughts by a paradoxical but useful conception of motion or flow, alternatively faithful to Aristotle or Galileo.

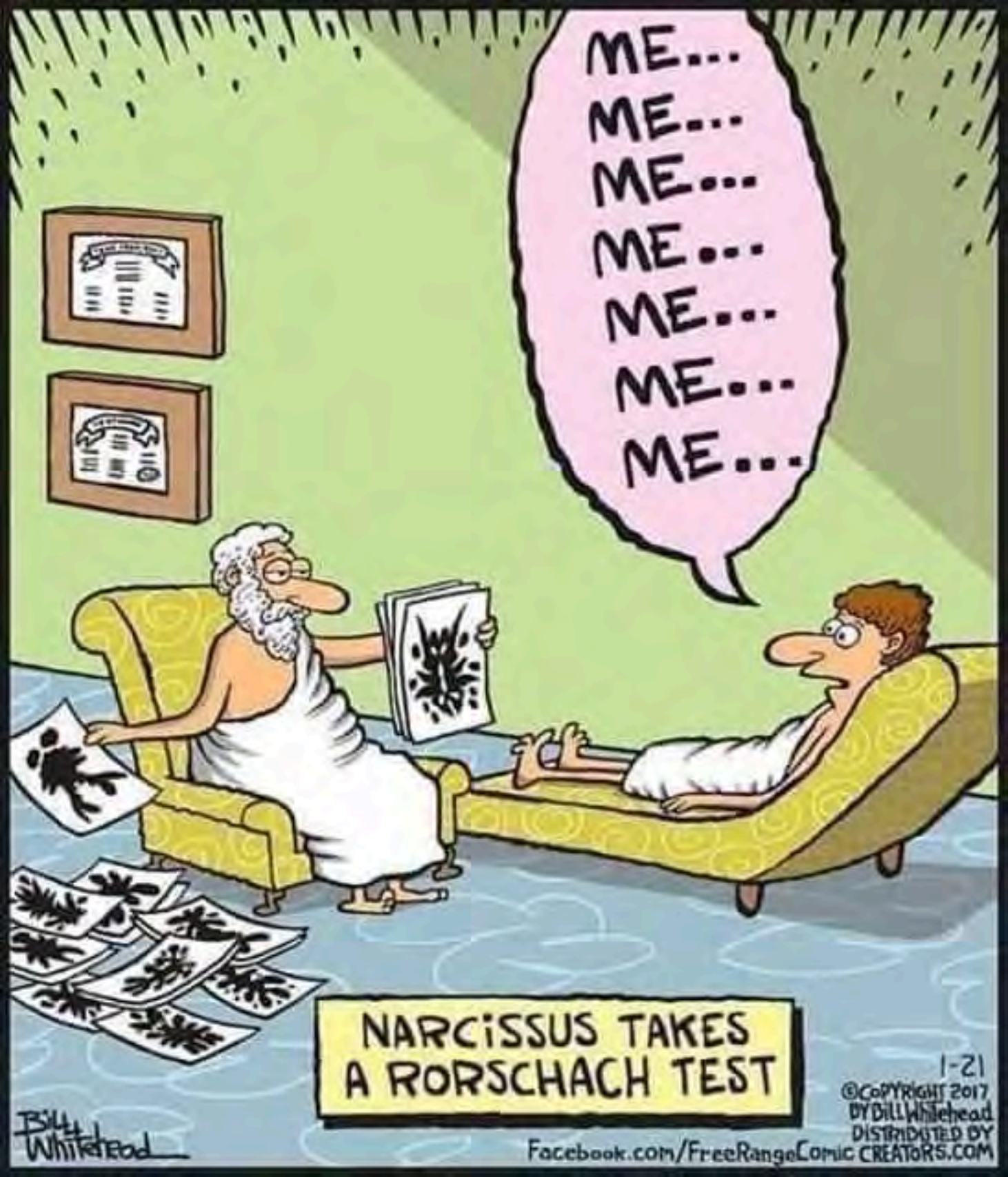
Simple fluids like water are "passive", they continue to move or deform so long as there is a power inducing them to do so. In this case, the typical flow rate $\dot{\gamma}$ is simply imposed by the operator and Rw is a natural control parameter. For cats, assuming we have a well-defined relaxation time τ, computing Rw is still challenging because defining $\dot{\gamma}$ can be difficult since cats are "active" materials. They have their own motive power. Like other biologically active materials (acto-myosin gels, bacterial swimmers, epithelium, packs, flocks, schools, *etc.*), they can exhibit spontaneous rotation as shown in Fig. 3a.

Despite these difficulties, the question remains: are cats prone to flow instabilities when Rw increases? In a cylindrical flow geometry, instabilities in the purely inertial case (i.e. $Rw = Re$) and in the purely elastic case (i.e. $Rw = Wi$) lead to vortex flows. In the inertial case, the centrifugal force drives this instability and is also responsible for the deformation of the top free surface, which climbs up the outer walls of the cylinder. In the purely elastic case, the mechanism is opposite: centripetal normal forces ("hoop stresses") drive the instability and are also responsible for the Weissenberg effect, where the fluid climbs at the center of the free surface. In general, both inertial and elastic effects can occur. In flows of *Felis catus*, significant normal forces can occur and they seem to be able to drive a Weissenberg-type effect, as shown in Fig. 3b.

In conclusion, much more work remains ahead, but cats are proving to be a rich model system for rheological research, both in the linear and nonlinear regimes. Standing questions include the potential implications of the rheology of cats on their righting reflex, and whether the nonlinear self-sustaining mechanism for turbulence in pipe is applicable to streaks of tigers. Very recent experiments from Japan also suggest that we should not see cats as isolated fluid systems, but as able to transfer and absorb stresses from their environment. Indeed, in Japan, they have cat cafes, where stressed out customers can pet kitties and purr their worries away.

Acknowledgments

No animals were (h)armed in the making of this study. I thank L. and J.F. Berret for providing a reliable technique to load *Felis catus* in different geometries: 1. Bring an empty box; 2. Wait. Illustrations of the protocol can be found on the web (`weknowmemes.com/2012/11/how-to-catch-a-cat/`, or `youtube.com/watch?v=pX4yK4yG3pE`). This paper was written in honor of Gareth's 50th birthday and his Bingham award. Many members of the EMF helped motivating this study, all good things in it can be found in Gareth's 200+ publications, and all mistakes are mine. Help and encouragements from A. Jaishankar, S. Manneville, V. Sharma and N. Taberlet were particularly valuable.



NARCISSUS TAKES A RORSCHACH TEST

1-21
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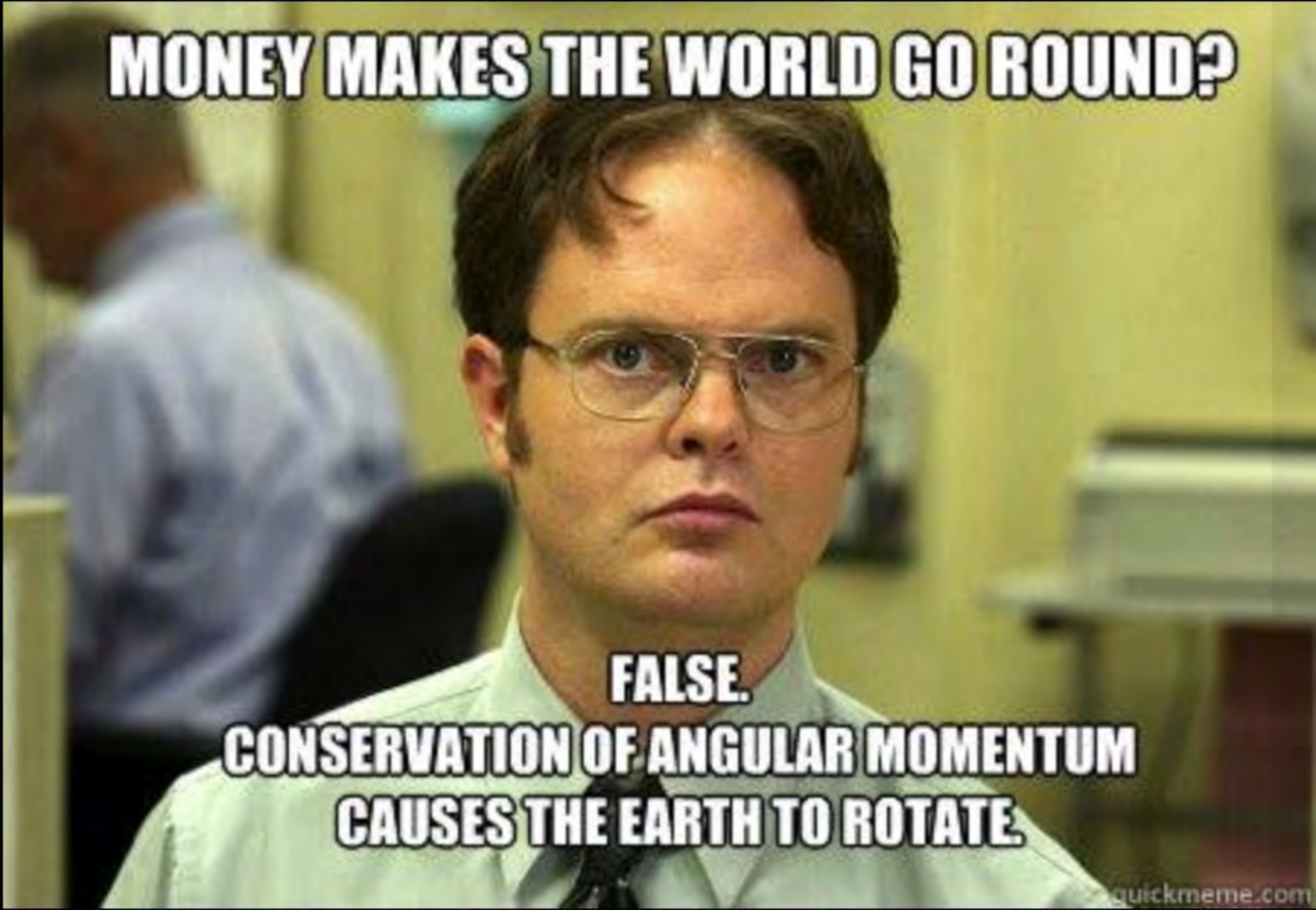

MONEY MAKES THE WORLD GO ROUND?
FALSE.
CONSERVATION OF ANGULAR MOMENTUM
CAUSES THE EARTH TO ROTATE.
quickmeme.com

LAB RULES

Rule #1: Never lick the spoon.

Rule #2: Hot glass looks just like cold glass.

Rule #3: If you don't know what you're doing, at least do it neatly.

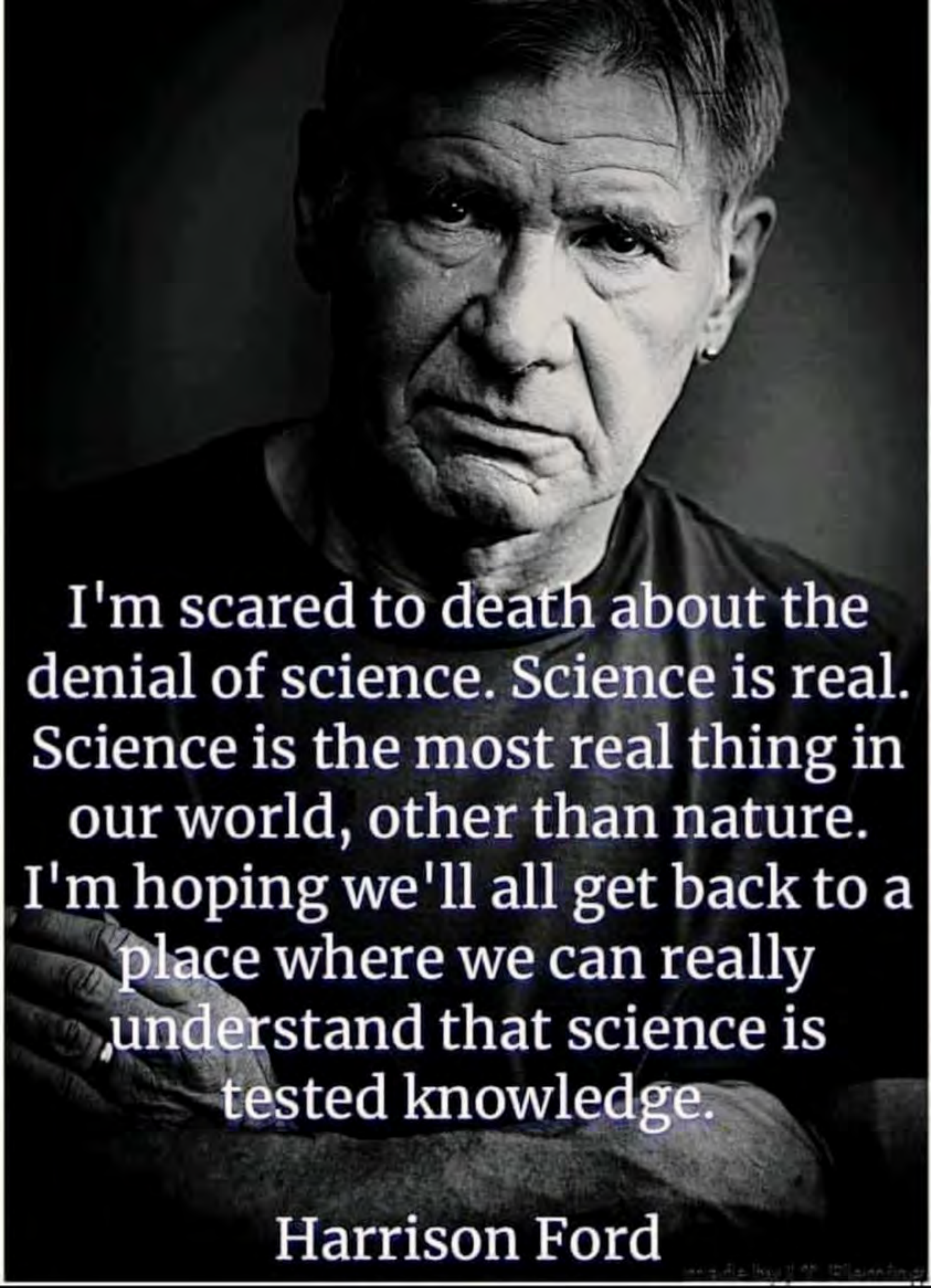
Rule #4: Hiccups and pipettes don't mix.

Rule#5: Assume all unmarked beakers contain a highly toxic, fast acting poison.

Rule #6: You can't detect an odorless gas by smell.

Rule #7: If you don't know what a button does, do not push it.

Some people don't understand how huge the sun actually is, so I added a banana for scale


I'm scared to death about the denial of science. Science is real. Science is the most real thing in our world, other than nature. I'm hoping we'll all get back to a place where we can really understand that science is tested knowledge.
Harrison Ford

OH, DON'T GET ALL "SCIENCEY" ON ME - JUST BECAUSE THE ROYAL TASTER DIED DOESN'T MEAN THE FOOD'S POISONED.

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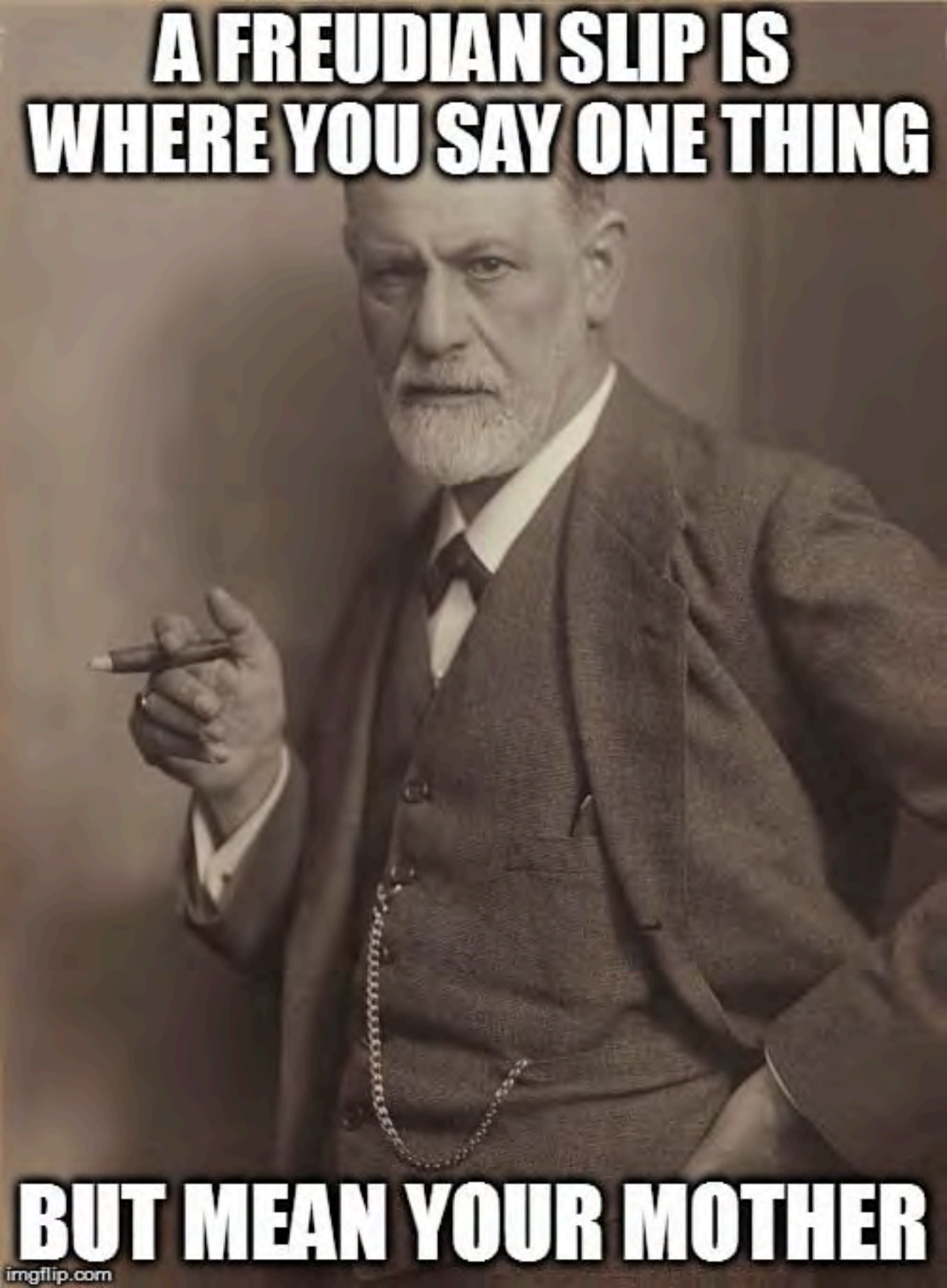
OK... LET ME TRY TO EXPLAIN WHY IT'S A BAD TIME TO CUT THE FUNDING FOR MY RESEARCH...
MARK PARISI
1-16
offthemark.com
MarkParisi@aol.com ©2007 MARK PARISI DIST. BY UFS INC.

Have you noticed that
all the radio telescopes
in the search for intelligent life
are pointed away from Earth?


A FREUDIAN SLIP IS
WHERE YOU SAY ONE THING
BUT MEAN YOUR MOTHER
imgflip.com

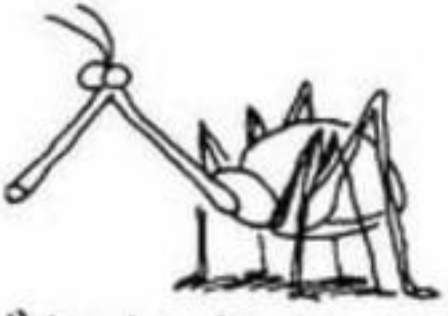
Early adversaries in the great evolutionary debate

Larson

"ch-ch-ch-ch-ch-ch..."

"Er-ucka, er-ucka"

"eeeeeeWA-WA-WA"



"iki-iki-iki-iki-iki"

"KEE'-o, KEE'-o"

"hey, bay-BEE'...hey, bay-BEE'"

Animals and their mating songs

Developed 3.7 billion years ago

Darwin's

NATURAL SELECTION

Organic Compounds
Hydrocarbons
Biomolecules

Primordial

SOUP

With Amino Acids

Cliff Pollard

Tip 8 - References: always go back to the original source!

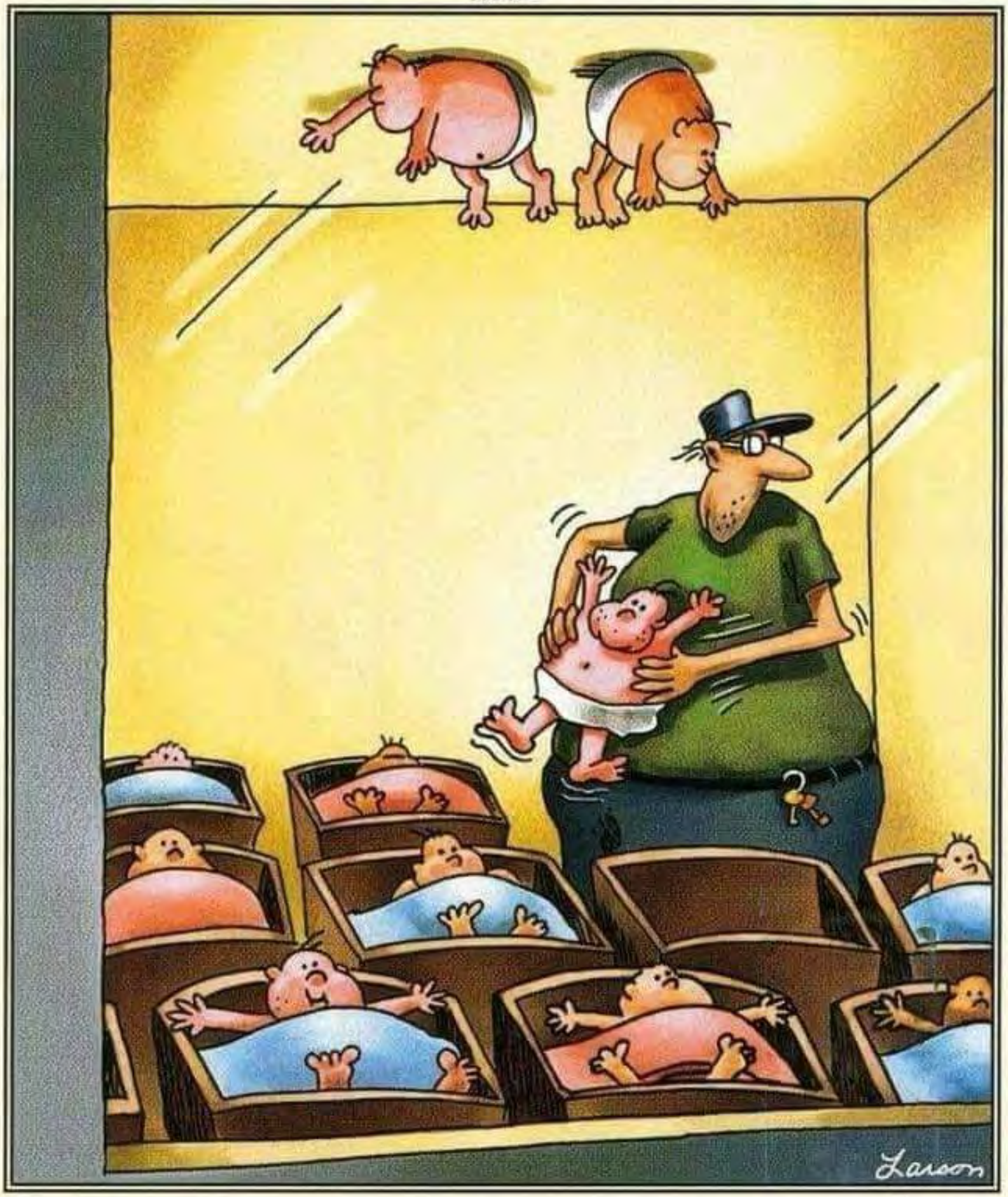
Whaddya mean all my facts are wrong?!?
I copied everything straight off the internet!!
F

Space X

Space Y

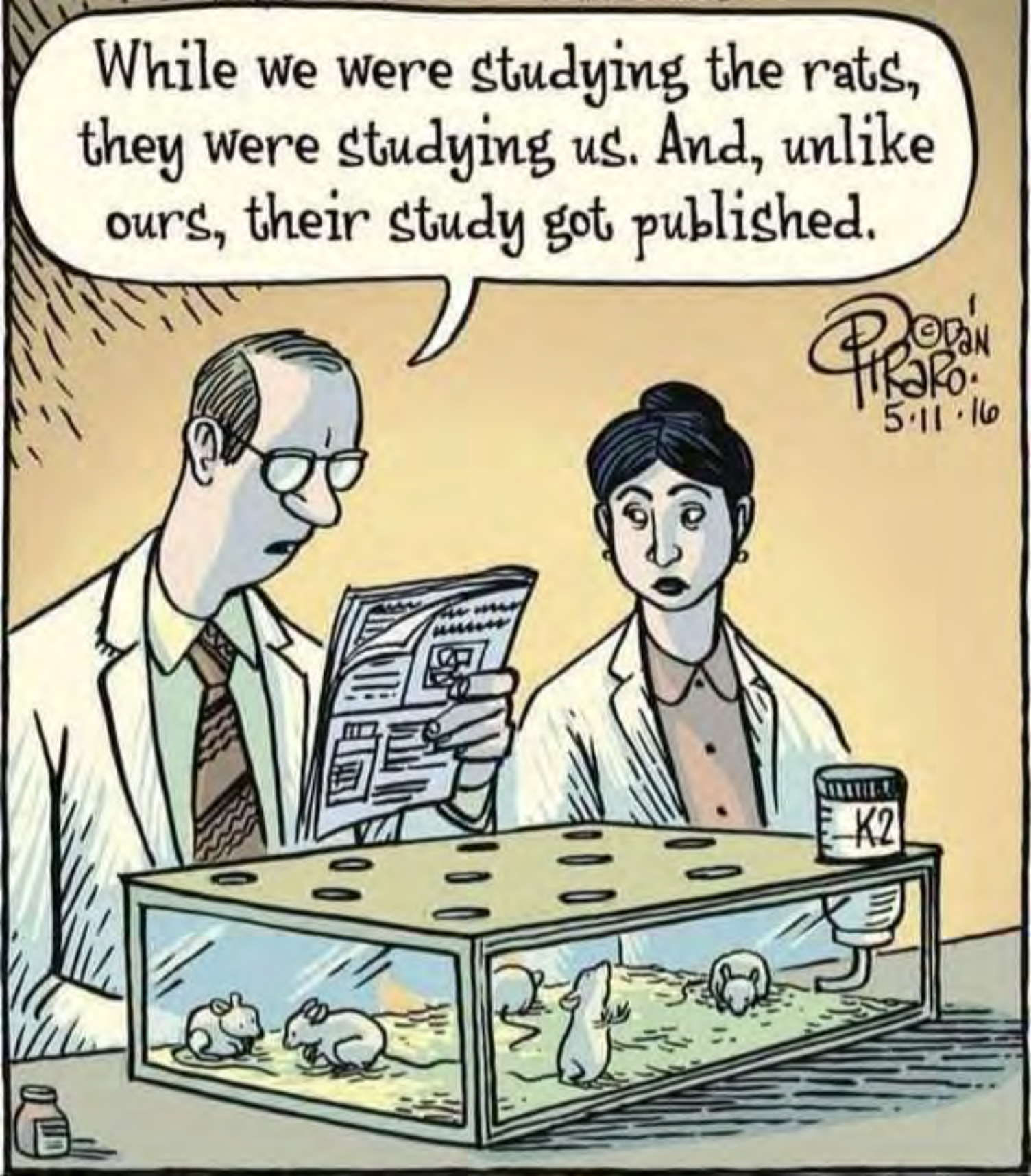
"See? I told you it wasn't a new planet!"

7/31/82



Late at night, and without permission, Reuben would often enter the nursery and conduct experiments in static electricity.

Look!
Stem cells!
Dist. by King Features
©DAN PIRARO
1·11·13
BIZARROCOMICS.COM Facebook.com/BizarroComics


While we were studying the rats, they were studying us. And, unlike ours, their study got published.
©Dan Piraro 5·11·16
K2

OH...THIS DISPLAY IS COMPLETELY WRONG? ...IS THAT SO? ARE YOU TRYING TO GET YOURSELF THROWN OUT OF HERE? CUZ YOU'RE DOIN' A REAL GOOD JOB OF IT SO FAR, MISTER SMARTY PANTS!
STALACTITES
STALAGMITES
MUSEUM
NATURAL
HISTORY
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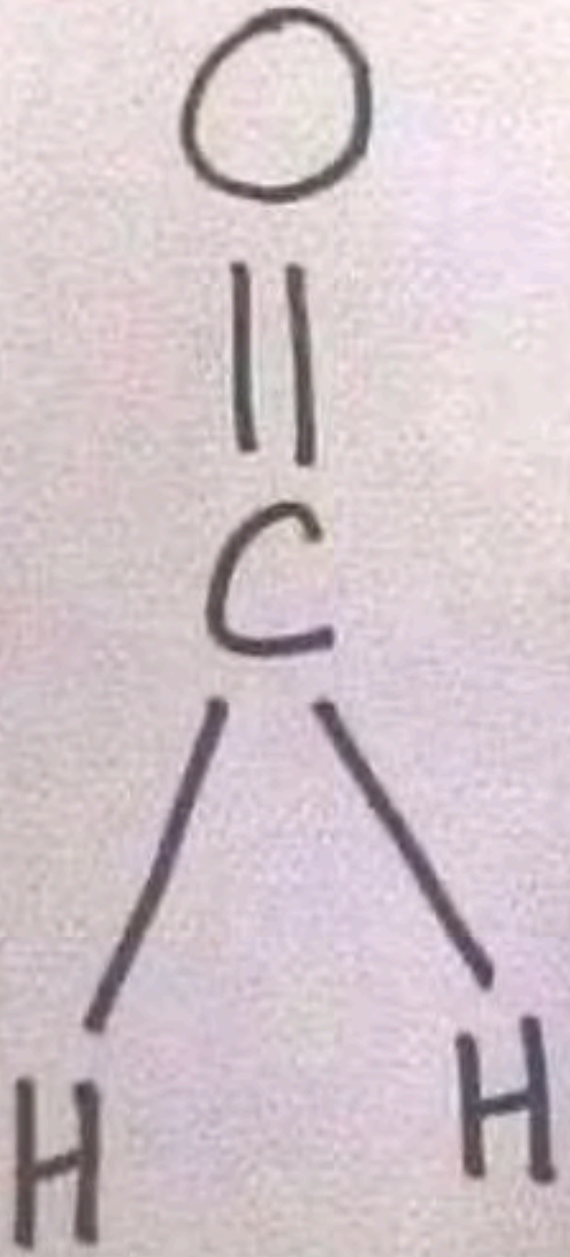
8-17

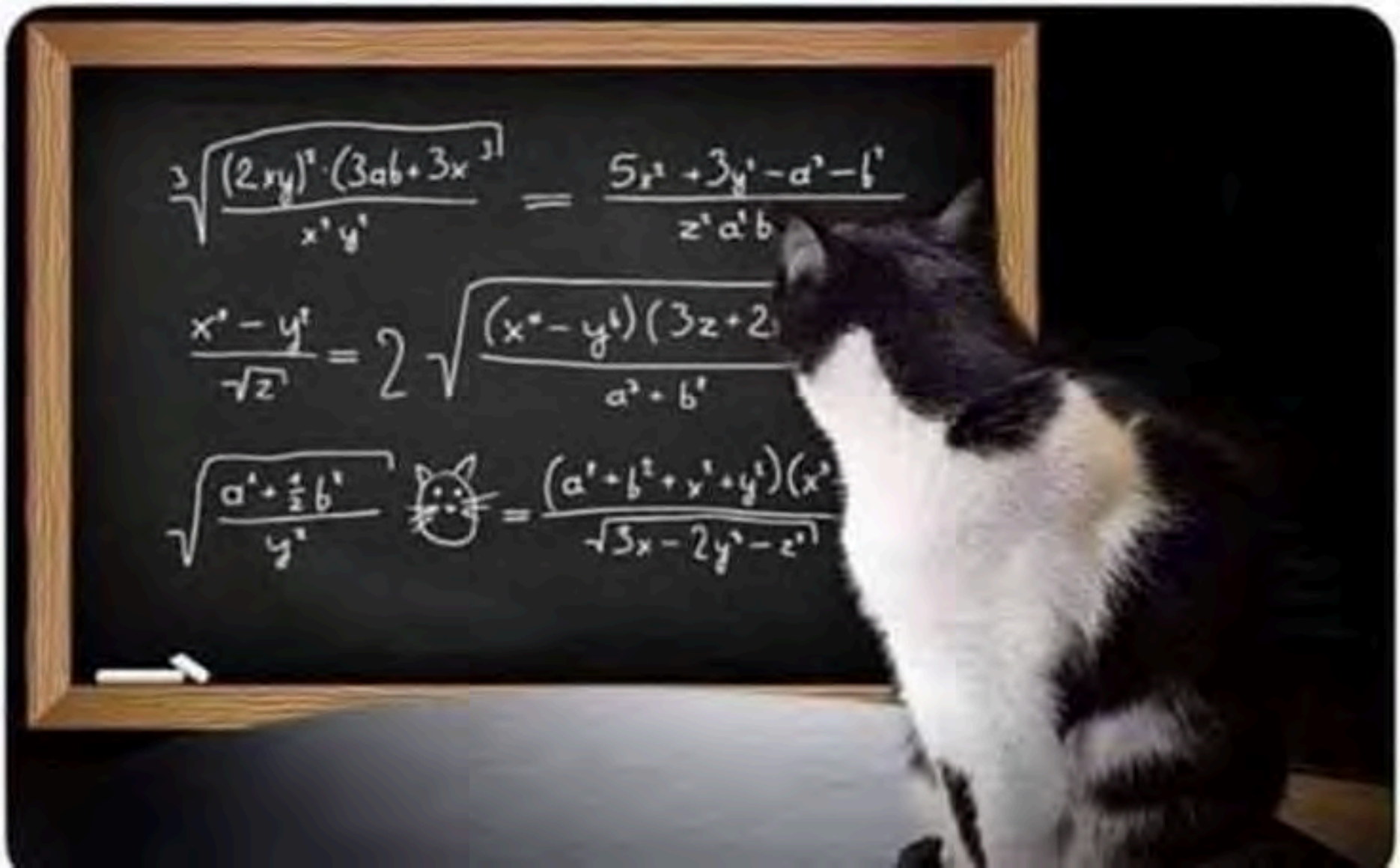
FORMALDEHYDE



CASUAL-DEHYDE

Scientists discover a new superbug.

Your cat trying to work out how to be both outside the door and inside at the same time using quantum superpositioning



"Spare a dollar for some lab consumables, buddy?"

40 People Missing After First Flat Earth Surfing Championship

PERIODIC TABLE OF ELEPHANTS

©John Atkinson, Wrong Hands

Gold

Tin

Krypton

Calcium

Iron

Einsteinium

Helium

Mercury

Neon

Radium

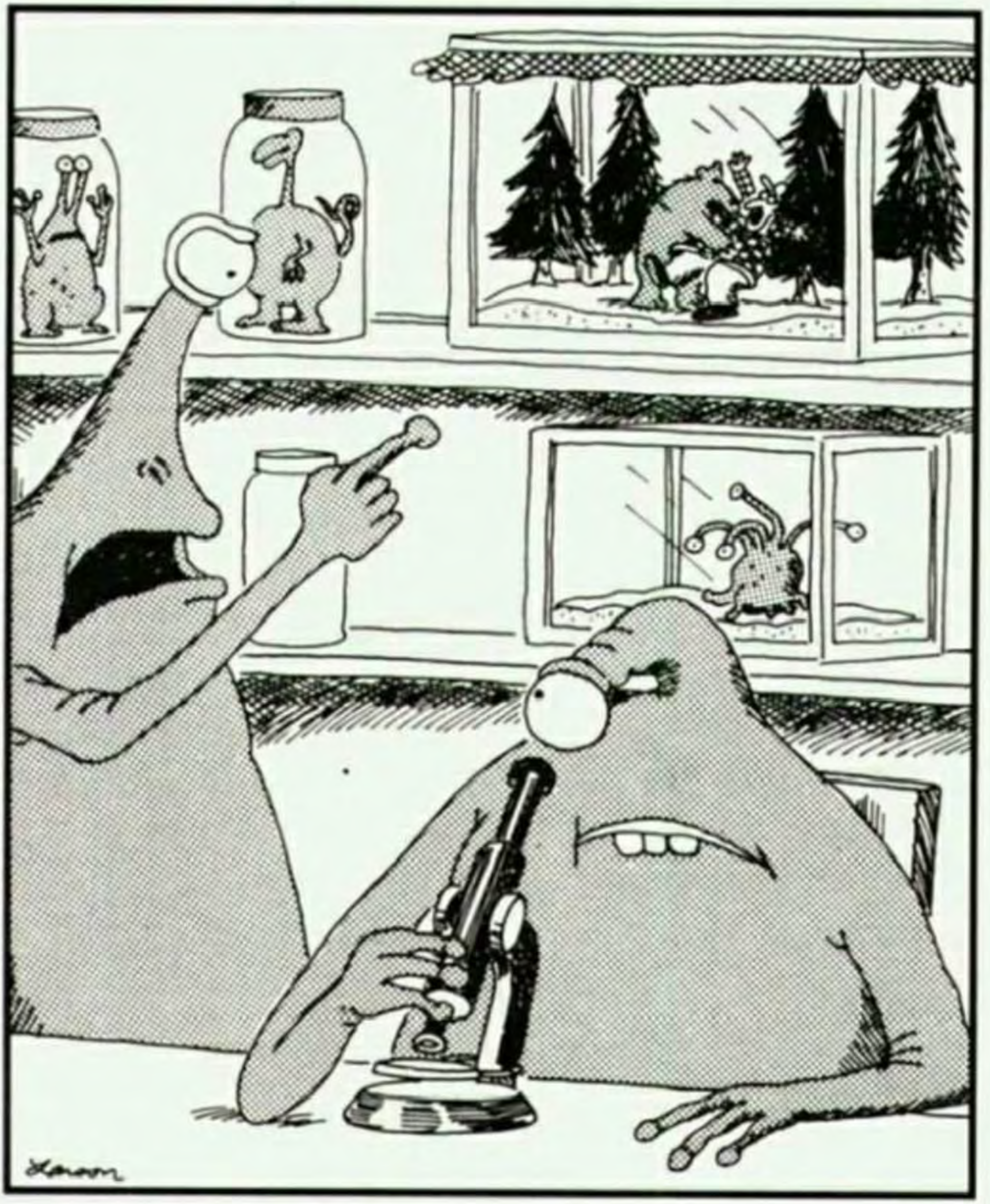
Arsenic

Xenon

©John Atkinson, Wrong Hands . wronghands1.com

So, what happens if we're not the first one to reach the egg?
We're tadpoles, Ted. Stop looking up stuff on the Internet.

"Apparently he learned his technique from supervising grad students."



"Zorak, you idiot! You've mixed incompatible species in the earth terrarium!"

Data

Information

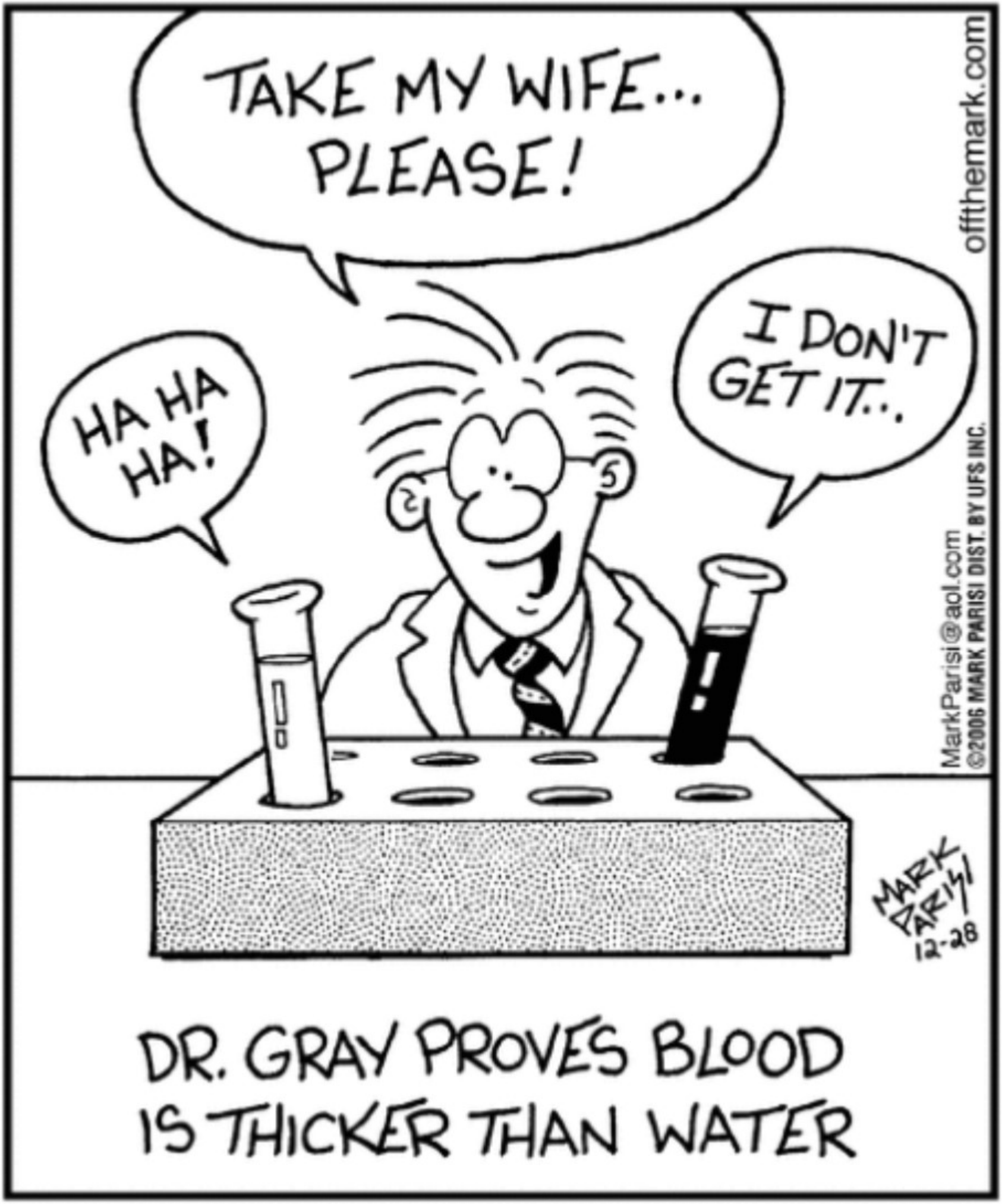
Knowledge

Insight

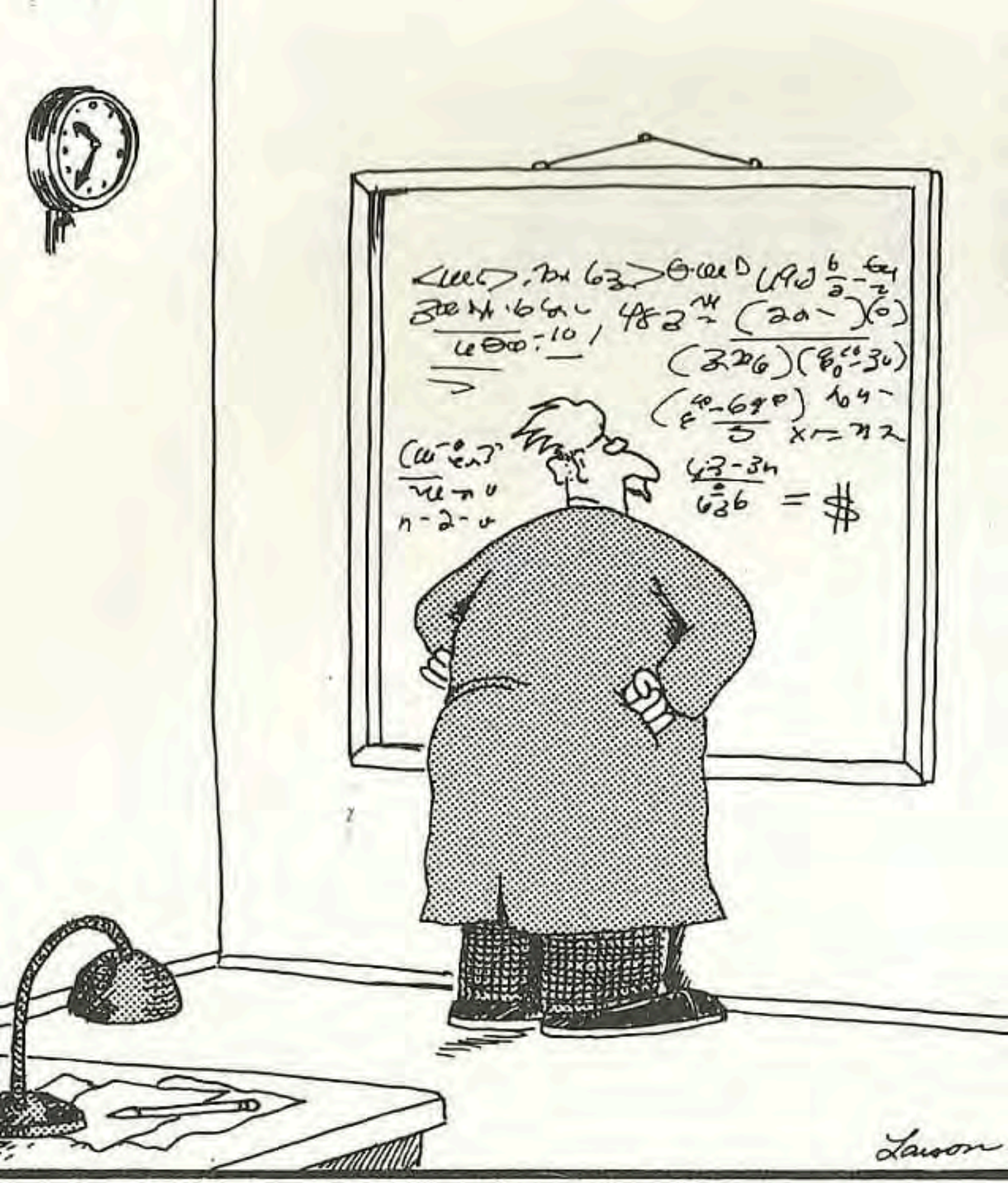
Wisdom

Conspiracy Theory

"I still say it's only a theory."



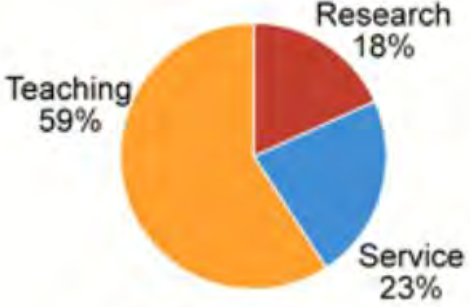
DR. GRAY PROVES BLOOD IS THICKER THAN WATER



Einstein discovers that time is actually money.

HOW PROFESSORS SPEND THEIR TIME

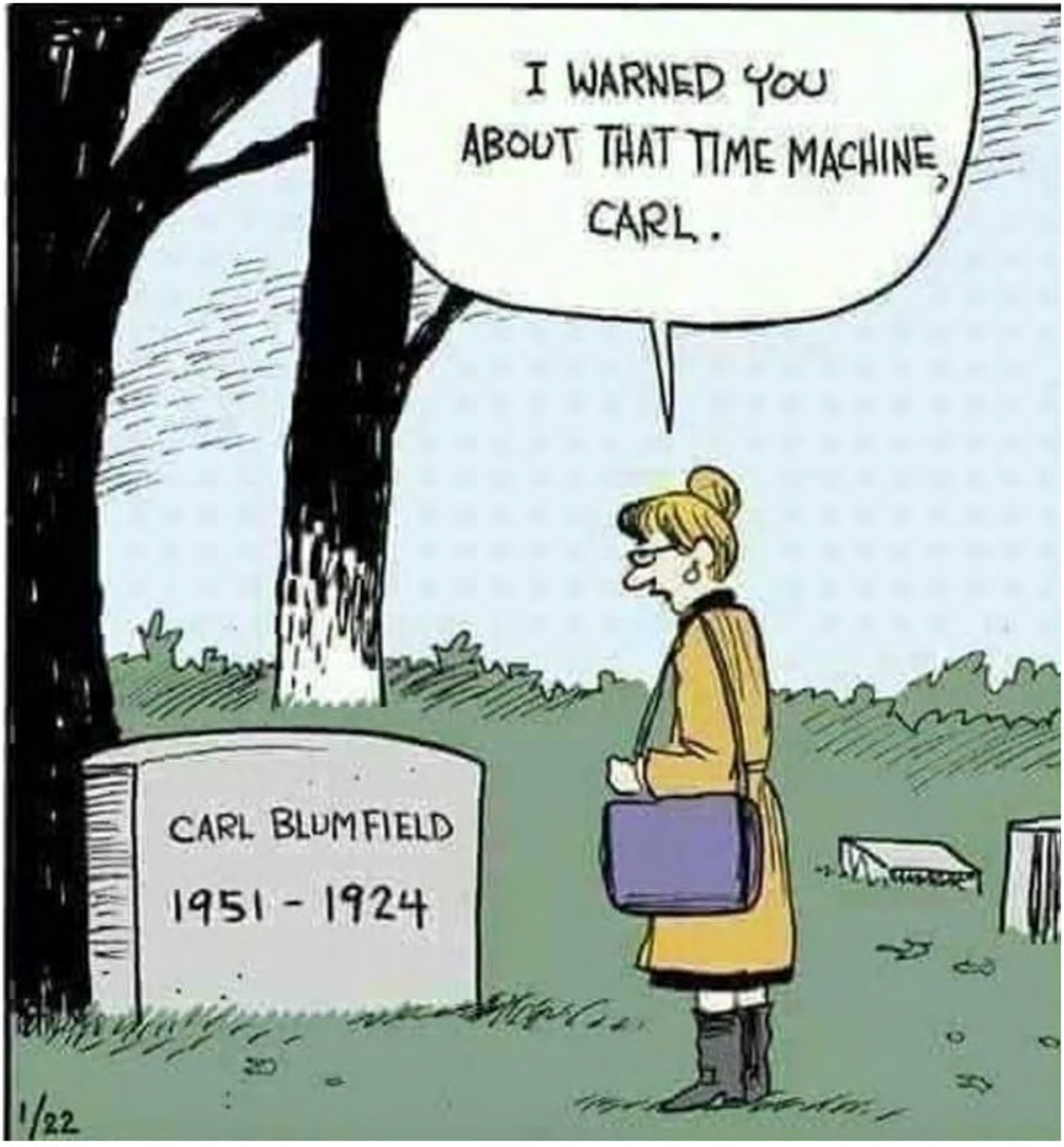
How they actually spend their time:



Source: Higher Education Research Institute Survey (1999)

How departments expect them to spend their time:

How Professors would *like* to spend their time:


I WARNED YOU ABOUT THAT TIME MACHINE, CARL.
CARL BLUMFIELD
1951 - 1924
1/22

3.14159265358979323846264338327

When did they start telling the truths?

What it's *really* like to be around Neil deGrasse Tyson...

GUYS, DID YOU KNOW THAT THIS HOT COFFEE I'VE BROUGHT YOU IS COOLING DUE TO ***QUANTUM ENTANGLEMENT?***

THE STATE OF THE COFFEE AND THE STATE OF THE ROOM ARE SLOWLY BECOMING ***ONE!***

THIS MIXED STATE OF ENTANGLEMENT RESULTS IN THE STATISTICAL UNLIKELIHOOD OF A COLD CUP OF COFFEE SPONTANEOUSLY WARMING UP, GIVING TIME'S ARROW THE APPEARANCE OF ***IRREVERSIBILITY!***

OH FOR THE LOVE OF TIME'S ARROW, JUST ***GIVE US OUR COFFEE!!!***

HI THERE! DO YOU REALIZE THAT IF YOU FALL INTO A BLACK HOLE, YOU WILL SEE THE ***ENTIRE FUTURE*** OF THE UNIVERSE UNFOLD IN FRONT OF YOU IN A MATTER OF MOMENTS, AND THEN YOU WILL EMERGE INTO ANOTHER SPACE-TIME CREATED BY THE SINGULARITY OF THE BLACK HOLE YOU JUST FELL INTO?

OR THAT FLUCTUATIONS IN THE QUANTUM FOAM ARE NOT JUST PARTICLES COMING INTO AND OUT OF EXISTENCE, THEY CAN BE ***WHOLE UNIVERSES*** COMING INTO AND OUT OF EXISTENCE!

NEIL, AS MUCH AS I APPRECIATE YOU CONSTANTLY BLOWING MY MIND, I ***REALLY*** NEED TO GET SOME WORK DONE.

HONEY, ***I'M HOME!***

TODAY I USED THE ***SPACESHIP OF MY IMAGINATION*** TO TRAVEL INTO A ***DEWDROP!***

AND AS I FLOATED AMONGST THE SINGLE-CELLED ORGANISMS AND THE TARDIGRADES, I COULDN'T HELP BUT MARVEL AGAIN THAT WE ALL ***SHARE ATOMS*** FORGED IN THE CRUCIBLES OF FIRST GENERATION STARS, THEN EXPLODED ACROSS OUR GALAXY, EONS AGO!

THAT'S NICE DEAR, BUT CAN YOU TAKE OUT THE GARBAGE? IT'S OVERFLOWING WITH STARSTUFF AND HASN'T BEEN EMPTIED IN WHAT SEEMS LIKE A BILLION YEARS!

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Dist. by King Features

Wayno® & 6 Piraro.
5.6.21

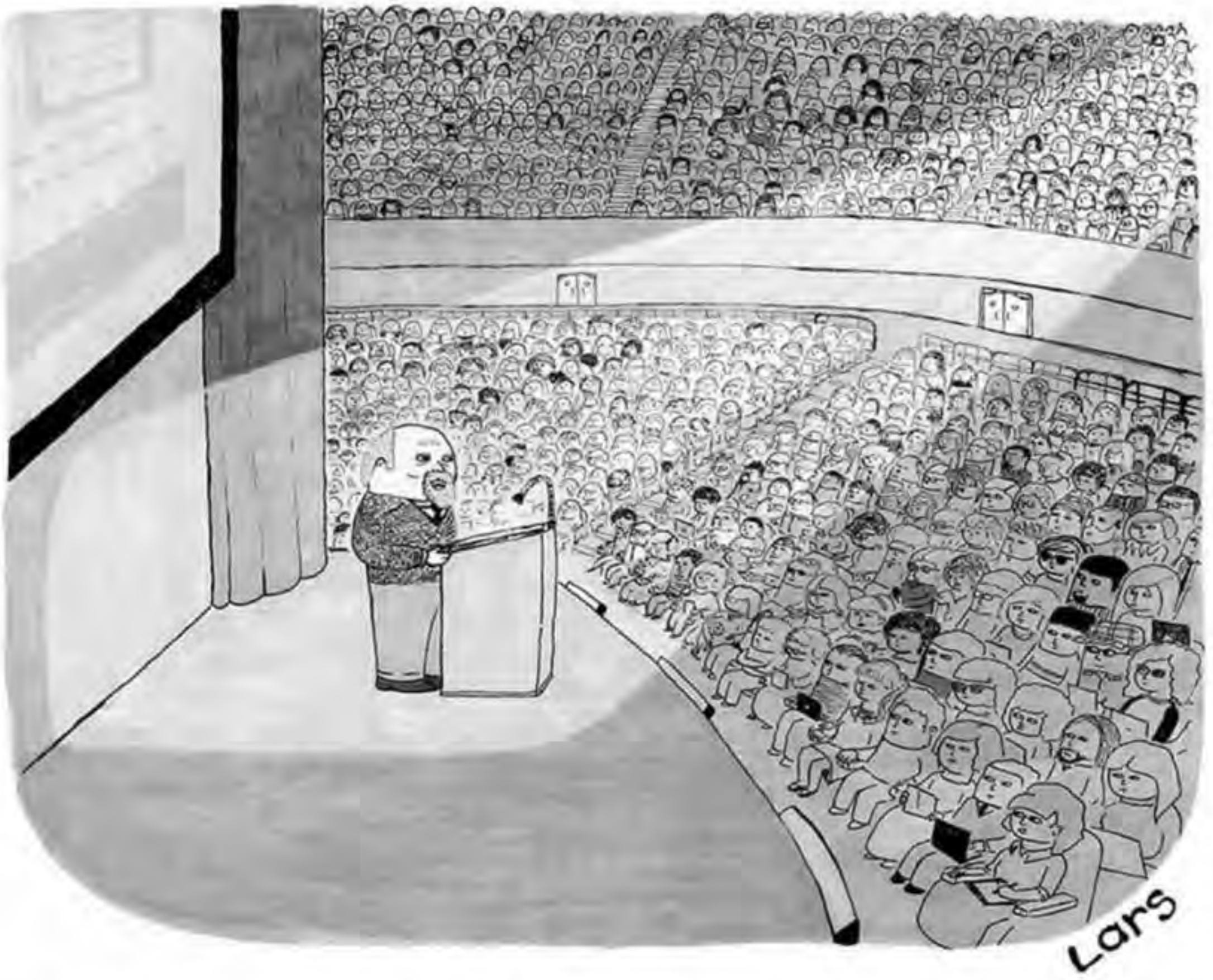
Another "Schrödinger's cat" cartoon? That joke's been done to death.

Or has it?

Facebook.com/BizarroComics

©2021 BIZARRO STUDIOS

$$\text{Velociraptor} = \frac{\text{Distanceraptor}}{\text{Timeraptor}}$$



"None of this research would have been possible without all the bitter professional vendettas that kept me going . . ."

NO, I THINK THE UNIVERSE IS BIGGER THAN THE TWITTERVERSE AND THE BLOGOSPHERE PUT TOGETHER!
1-14
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Bill Whitehead

THE FACE YOU MAKE WHEN REALIZING
COVID-19 DIES AT 80 DEGREES
AND GLOBAL WARMING CAN SAVE US

"They're harmless when they're alone, but get a bunch of them together with a research grant and watch out."

LOOSE PARTS

I think we have bigger questions than 'Why?'
Get this cartoon signed & framed & get a signed copy of the NEW LP book at LoosePartsComic.com
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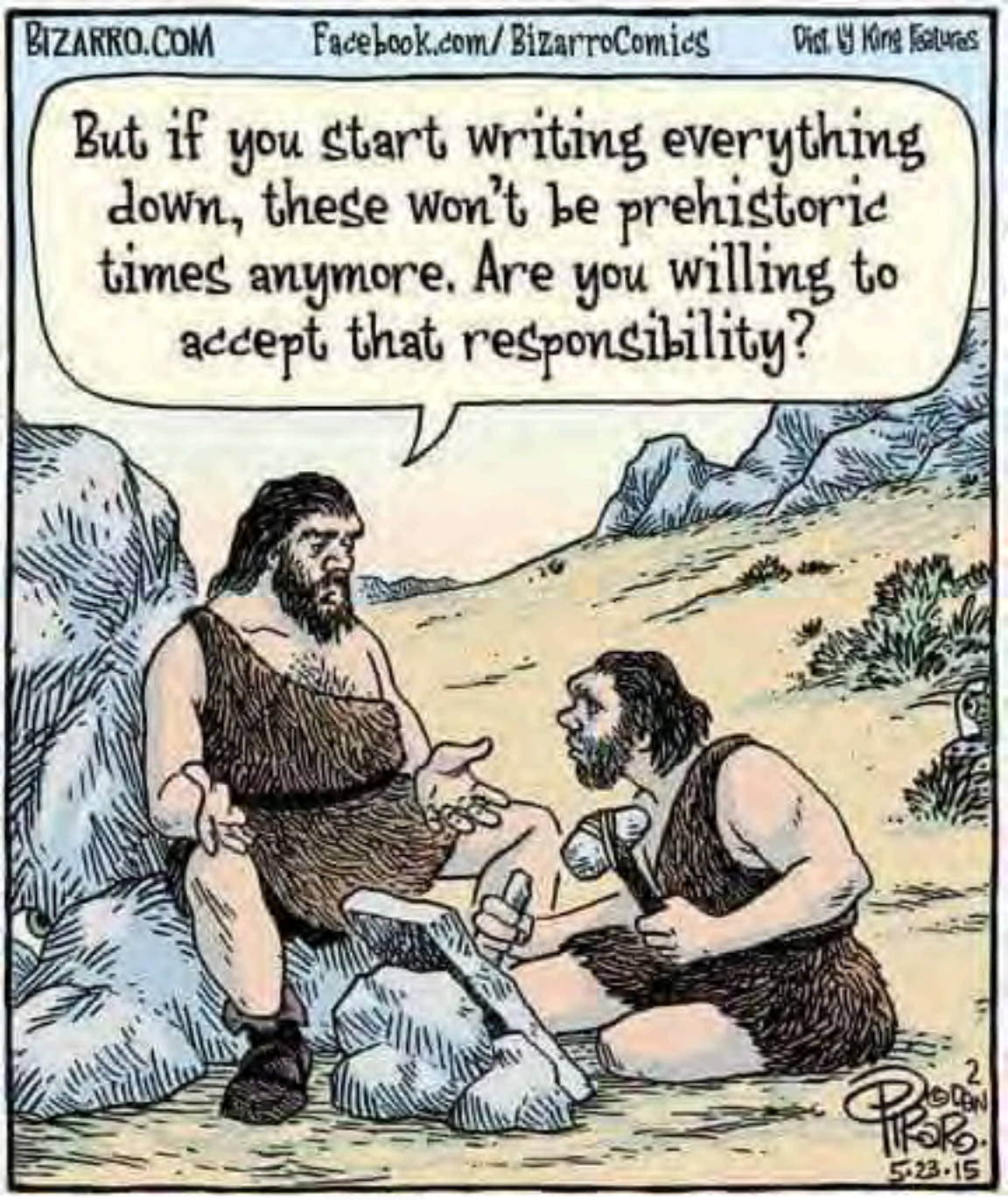
Blazek
4-22

Wi-Fi in MATH HIGH SCHOOL 🤖


But if you start writing everything down, these won't be prehistoric times anymore. Are you willing to accept that responsibility?
2
DAN PIRARO
5-23-15

All my core beliefs contradict the scientific consensus on practically every topic.

How can all those scientists be so wrong??

$$\frac{\sin(\text{zania})}{\cos(\text{zania})} =$$