Welcome to the June 7th, 2017 Edition of THE REVENGE HUMP DAY!

Well, I recovered from the Cataract Surgery on the right eye and I am doing pretty good. It's really funny not seeing everything with a yellow and blurry tinge. And I am seeing blue colors again in my right eye. You don't know exactly what you have lost until it is given back to you. Next week I will get the left eye operated on and I should be in pretty good shape in a few weeks. Speaking of next week, I will be putting this missive out on Monday so that I don't have to miss another week.

I am still getting over all of the terrorist acts happening in Britain in the past few weeks. First was Manchester and now London. My heart and thoughts go out to the people of the UK in their time of trouble. But I am sure that they will come through it just like they have in the past.

But, I do have a problem with the London's response to the terrorists. Run, hide and tell. I am afraid that I prefer the probable American response to terrorists. Draw, aim and fire! I know, this makes me a unrepentant Neanderthal, but I honestly think that it is better to be able to protect yourself and your family instead of waiting for life loosing minutes for the police.

Well, the preparations for LibertyCon 30 are in full swing now. I am finishing up my last minute details about the Killer Cutthroat Spades Tournament by contact all of the probable suspects. So far it looks like we are going to have a good group participating in the event. About the only change we will be having this year is that we will be playing in Gallery B of the Convention Center. That will make life a lot easier on me.

So on that "informational note", why don't y'all sit back and relax because here's the best in gossip, jokes and science for your reading pleasure!

Uncle Timmy

<G>~<O>~<S>~<S>~<I>~<P>~~~<S>~<T>~<A>~<R>~<T>~<S>~~~<H>~<E>~<R>~<E>~<!>

John Wayne 1970

From: "Tom Carpenter" tjej@epbfi.com

Legendary actor John Wayne in a clip from 1970 on the TV variety show he hosted celebrating America's history. Many famous actors and actresses are featured in this video singing God Bless America including Ann Margaret, Lucille Ball, Jack Benny, George Burns, Johnny Cash, Roy Clark, Bing Crosby, Phyllis Diller, Lorne Greene, Bob Hope, Forrest Lewis, Dean Martin, William Shatner, Tom Smothers, and many more. What a classic video.

https://biggeekdad.com/2014/09/john-wayne-1970/#.%20VCHJXVfNNJ8.email

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

JRR Tolkien book Beren and Lúthien published after 100 years

From: "Tim Bolgeo" tbolgeo@epfi.com

BBC, Oxford, 1 June 2017

http://www.bbc.com/news/uk-england-oxfordshire-40109396

Image captionJRR Tolkien had the idea for Beren and Lúthien after returning from the Somme

A new book by Lord of the Rings author JRR Tolkien is going on sale - 100 years after it was first conceived.

Beren and Lúthien has been described as a "very personal story" that the Oxford professor thought up after returning from the Battle of the Somme.

It was edited by his son Christopher Tolkien and contains versions of a tale that became part of The Silmarillion.

The book features illustrations by Alan Lee, who won an Academy Award for his work on Peter Jackson's film trilogy.

It is being published on Thursday by HarperCollins on the 10th anniversary of the last Middle Earth book, The Children of Húrin.

Tolkien specialist John Garth, who wrote Tolkien And The Great War, said the Hobbit author used his writing like an "exorcism" of the horrors he witnessed in World War One.

He said: "When he came back from the trenches, with trench fever, he spent the winter [of 1916-1917] convalescing.

"He'd lost two of his dearest friends on the Somme and you can imagine he must have been inside as much of a wreck as he was physically."

Image copyrightALAN LEEImage captionBeren and Lúthien is a love story that was partly inspired by Tolkien's wife, Edith

Mr Garth said on a walk in an East Yorkshire wood Tolkien's wife Edith danced in a glade filled with white flowers, which became the key scene in Beren and Lúthien.

He said: "Mr Tolkien felt the kind of joy he must have felt at times he would never feel again."

The names Beren and Lúthien are carved on the gravestone Tolkien and his wife share in Wolvercote cemetery in Oxford.

Image copyrightALAN LEEImage captionAlan Lee illustrates the book, having also worked on The Lord of the Rings

The story is about the fate of lovers Beren and Lúthien, a mortal man and an immortal elf who together try to steal from the greatest of all evil beings, Melkor.

For the new book Christopher Tolkien, now aged 92, has kept his father's story in the original form in which it was written and has also shown how the narrative changed to become part of The Silmarillion.

Image copyrightALAN LEEImage captionMr Lee won an Academy Award for his work on Peter Jackson's film adaptations

Image caption: Tolkien and his wife Edith have the names Beren and Lúthien on their gravestone

Published in 1954, The Lord of the Rings was the sequel to The Hobbit and is one of the most successful novels ever written, having sold more than 150 million copies.

The film adaptation, released from 2001 to 2003, is one of the highest-grossing series of all time, with the final movie also winning 11 Academy Awards, tied for the most ever with Ben Hur.

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

JUDY COLLINS - BOTH SIDES NOW (1967)

From: "Jim Woosley" jimwoosley@aol.com

I love this recording as much as I did when it came out 50 years ago.

Judy Collins - Both Sides Now (1967)

https://twitter.com/SteveSGoddard/status/868324080906371072?s=02

BOY, THIS SONG REALLY MAKES YOU THINK ABOUT LIFE, LOVE AND OTHER IMPORTANT THINGS IN YOUR LIFE. TAKE THE TIME TIME TO LISTEN TO IT AND REALLY THINK ABOUT IT. UT

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

GAME OF THRONES SEASON 7 OFFICIAL TRAILER

From: Andrew Porter on the [SouthernFandomClassic] Digest Number 3426

Thu May 25, 2017 2:35 pm (PDT). Posted by: "Andrew Porter" a55porter

A mere 14 million views already, and it was only released a couple of days ago:

https://www.youtube.com/watch?v=giYeaKsXnsI

http://tinyurl.com/k2hxajr

One minute 48 seconds.

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

A POEM THAT WAS US

From: "Bob Bolgeo" bbolgeo@aol.com

A little house with three bedrooms,
One bathroom and one car on the street
A mower that you had to push
To make the grass look neat.

In the kitchen on the wall

**We only had one phone,
And no need for recording things,
Someone was always home.**

**We only had a living room
Where we would congregate,
Unless it was at mealtime
In the kitchen where we ate.**

**We had no need for family rooms
Or extra rooms to dine.
When meeting as a family
Those two rooms would work out fine.**

**We only had one TV set
And channels maybe two,
But always there was one of them
With something worth the view**

**For snacks we had potato chips
That tasted like a chip.
And if you wanted flavor
There was Lipton's onion dip.**

**Store-bought snacks were rare because
My mother liked to cook
And nothing can compare to snacks
In Betty Crocker's book**

**Weekends were for family trips
Or staying home to play
We all did things together –
Even go to church to pray.**

**When we did our weekend trips
Depending on the weather,
No one stayed at home because
We liked to be together**

**Sometimes we would separate
To do things on our own,
But we knew where the others were
Without our own cell phone**

**Then there were the movies
With your favorite movie star,
And nothing can compare
To watching movies in your car**

Then there were the picnics

**at the peak of summer season,
Pack a lunch and find some trees
And never need a reason.**

**Get a baseball game together
With all the friends you know,
Have real action playing ball –
And no game video.**

**Remember when the doctor
Used to be the family friend,
And didn't need insurance
Or a lawyer to defend**

**The way that he took care of you
Or what he had to do,
Because he took an oath and strived
To do the best for you**

**Remember going to the store
And shopping casually,
And when you went to pay for it
You used your own money?**

**Nothing that you had to swipe
Or punch in some amount,
And remember when the cashier person
Had to really count?**

**The milkman used to go
From door to door,
And it was just a few cents more
Than going to the store.**

**There was a time when mailed letters
Came right to your door,
Without a lot of junk mail ads
Sent out by every store .**

**The mailman knew each house by name
And knew where it was sent;
There were not loads of mail addressed
To "present occupant"**

**There was a time when just one glance
Was all that it would take,
And you would know the kind of car,
The model and the make**

**They didn't look like turtles
Trying to squeeze out every mile;**

**They were streamlined, white walls, fins
And really had some style**

**One time the music that you played
Whenever you would jive,
Was from a vinyl, big-holed record
Called a forty-five**

**The record player had a post
To keep them all in line
And then the records would drop down
And play one at a time.**

**Oh sure, we had our problems then,
Just like we do today
And always we were striving,
Trying for a better way.**

**Oh, the simple life we lived
Still seems like so much fun,
How can you explain a game,
Just kick the can and run?**

**And why would boys put baseball cards
Between bicycle spokes
And for a nickel, red machines
Had little bottled Cokes?**

**This life seemed so much easier
Slower in some ways
I love the new technology
But I sure do miss those days.**

**So time moves on and so do we
And nothing stays the same,
But I sure love to reminisce
And walk down memory lane.**

**With all today's technology
We grant that it's a plus!
But it's fun to look way back and say,
HEY LOOK, GUYS, THAT WAS US!**

"Good friends are like quilts-they age with you,

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

From: "Jim Woosley" Jimwoosley@aol.com

JW: Sure to enjoy this one

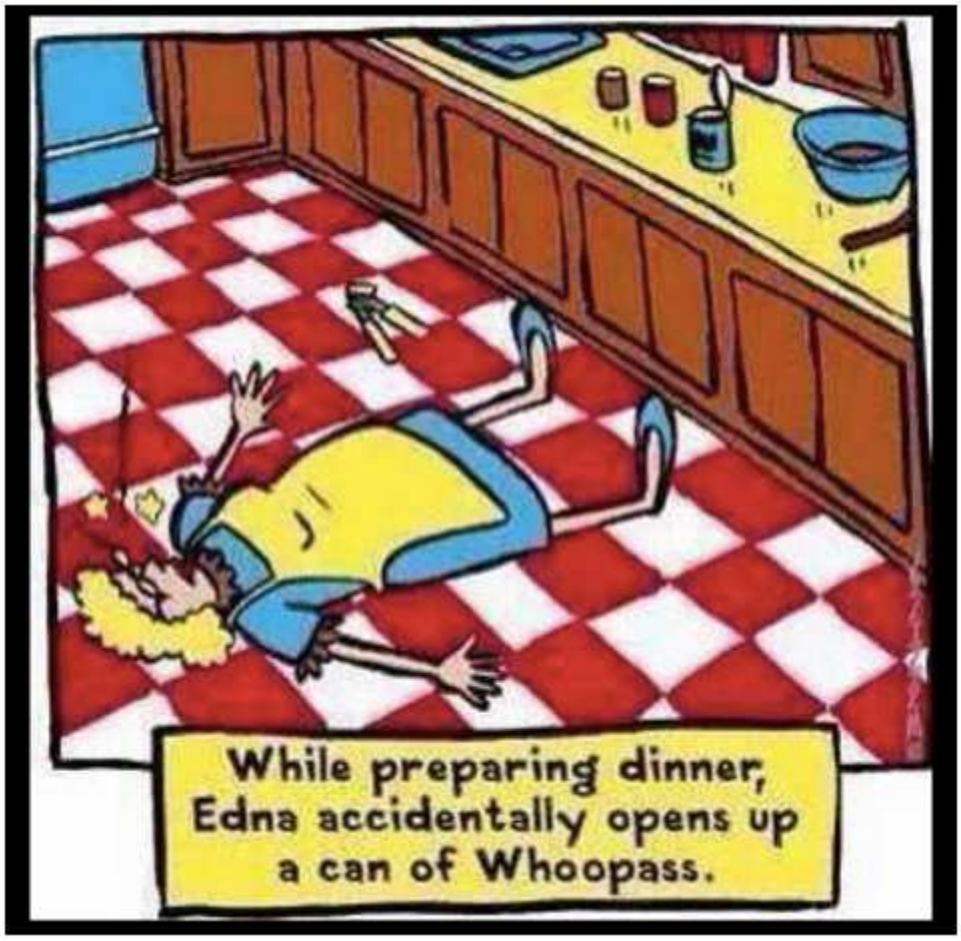
THE TEXAS TENORS – GOD BLESS THE USA

https://www.youtube.com/embed/daqwGRdRIsk?feature=player_detailpage

<T>~<H>~<E>~~~<J>~<O>~<K>~<E>~<S>~~~<S>~<T>~<A>~<R>~<T>~~~<H>~<E>~<R>~<E>

From: "Carol Donaldson" cdonaldson@zortec.com

Wishing you all the best for your cataract surgery. Here's a good laugh for you in the meantime. -Carol



<J>~<O>~<K>~<E>~<S>~~<of>~<the>~~<W>~<E>~<E>~<K>

From: "Mike Waldrip" waldripk@gmail.com

GUILT

A well respected doctor had sex with one of his female patients and felt guilty all day long. No matter how much he tried to forget about it, he just couldn't. The guilt and sense of betrayal of his patient was overwhelming.

But every once in a while he'd hear an internal, reassuring voice in his head that said: "Don't worry about it. You aren't the first medical practitioner to have sex with one of his patients and you won't be the last. And you're single. Just let it go."

But, invariably, another voice in his head would bring him back to reality, whispering: "You're a veterinarian, you sick bastard.

<J>~<O>~<K>~<E>~<S>

What You Say in Japan When You Don't Expect a Bridge

<J>~<O>~<K>~<E>~<S>

THE SHOEBOX

A man and woman had been married for more than 60 years. They had shared everything. They had talked to each other about everything under the sun.
They had kept no secrets from each other except that the little old woman had a shoe box in the top of her closet that she had cautioned her husband never to open it or to ask her about.

For all of these years, he had never thought much about the box, but one day the little old woman got very sick, and the doctor said she likely would not recover.

In trying to sort out their affairs, the little old man took down the shoe box and took it to his wife's bedside. She agreed that it was time that he should know what was In the box. When he opened it, he found two crocheted dolls and a stack of money totaling $95,000.

Of course, he asked her about the contents.

'When we were to be married,' she said, 'my grandmother told me the secret of a happy marriage was to never argue. She told me that If I ever got angry with you, I should just keep quiet and crochet a doll.'

The little old man was so moved, he had to fight back tears. Only two precious dolls were in the box. She had only been angry with him two times in all those years of living and loving. He almost burst with happiness.

'Honey,' he said, 'that explains the doll, but what about all of this money? Where did it come from?'

'Oh,' she said, 'that's the money I made from selling the dolls.'

<J>~<O>~<K>~<E>~<S>

Alzheimer's Test

CHECK FOR ALZHEIMER'S - PRETTY AMAZING

The following was developed as a mental age assessment by the School of Psychiatry at Harvard University . Take your time and see if you can read each line aloud without a mistake.
The average person over 60 years of age cannot do it!

1. This is this cat.
2. This is is cat.
3. This is how cat.
4. This is to cat.
5. This is keep cat.
6. This is an cat.
7. This is old cat.
8. This is fart cat.
9. This is busy cat.
10. This is for cat.
11. This is forty cat.
12. This is seconds cat.

Now go back and read the third word in each line from the top down and I betcha you cannot resist passing it on.....

<J>~<O>~<K>~<E>~<S>

EX WIFE

Tom finally decided to tie the knot with his long time girlfriend.

One evening, after their honeymoon, he was welding some stuff in the garage, just for fun.

His new wife was standing there at the bench watching him.

After a long period of silence she finally spoke.....

"Honey, I've just been thinking, now that we are married, maybe it's time you quit spending all your time out here in the shop. You probably should just consider selling all your welders along with your gun collection and that stupid vintage Harley."

Tom got a horrified look on his face.

She said, "Darling, what's wrong?"

He replied, "There for a minute you were starting to sound like my ex-wife."

"Ex-wife!" she screamed, "YOU NEVER TOLD ME YOU WERE MARRIED BEFORE!"

Tom replied: "I wasn't."

<J>~<O>~<K>~<E>~<S>

Little Timmy and his parents went to the circus. When the elephants came out into the ring, Timmy turned to his mom and asked, "What's that hanging down from that elephant?

"His mom said, "That's the elephant's trunk."

Timmy said, "No, not that. Back underneath the elephant."

His mom, embarrassed, said. "That's nothing."

Timmy isn't satisfied with her response, and turns to his father, "Dad, what's that hanging down underneath that elephant?"

Dad says, "That's the elephant's penis."

"Mom said it was nothing."

"I know, son. I've really spoiled that woman."

<J>~<O>~<K>~<E>~<S>

I'M NOT OLD...

- $ 5.37! That's what the kid behind the counter at Taco Bell said to me.
I dug into my pocket and pulled out some lint and two dimes and something that used to be a Jolly Rancher. Having already handed the kid a five-spot, I started to head back out to the

truck to grab some change when the kid with the Elmo hairdo said the hardest thing anyone has ever said to me. He said, "It's OK. I'll just give you the senior citizen discount."

I turned to see who he was talking to and then heard the sound of change hitting the counter in front of me. "Only $4.68" he said cheerfully.

I stood there stupefied. I am 56 , not even 60 yet? A mere child! Senior citizen?

I took my burrito and walked out to the truck wondering what was wrong with Elmo. Was he blind? As I sat in the truck, my blood began to boil. Old? Me?

I'll show him, I thought. I opened the door and headed back inside. I strode to the counter, and there he was waiting with a smile.

Before I could say a word, he held up something and jingled it in front of me, like I could be that easily distracted! What am I now? A toddler?

"Dude! Can't get too far without your car keys, eh?" I stared with utter disdain at the keys. I began to rationalize in my mind.

"Leaving keys behind hardly makes a man elderly! It could happen to anyone!"

I turned and headed back to the truck. I slipped the key into the ignition, but it wouldn't turn. What now? I checked my keys and tried another. Still nothing.

That's when I noticed the purple beads hanging from my rear view mirror.
I had no purple beads hanging from my rear view mirror.

Then, a few other objects came into focus. The car seat in the back seat. Happy Meal toys spread all over the floorboard. A partially eaten doughnut on the dashboard.

Faster than you can say ginkgo balboa, I flew out of the alien vehicle.

Moments later I was speeding out of the parking lot, relieved to finally be leaving this nightmarish stop in my life. That is when I felt it, deep in the bowels of my stomach: hunger! My stomach growled and churned, and I reached to grab my burrito, only it was nowhere to be found.

I swung the truck around, gathered my courage, and strode back into the restaurant one final time. There Elmo stood, draped in youth and black nail polish. All I could think was, "What is the world coming to?"

All I could say was, "Did I leave my food and drink in here"? At this point I was ready to ask a Boy Scout to help me back to my vehicle, and then go straight home and apply for Social Security benefits.

Elmo had no clue. I walked back out to the truck, and suddenly a young lad came up and tugged on my jeans to get my attention. He was holding up a drink and a bag. His mother explained, "I think you left this in my truck by mistake."

I took the food and drink from the little boy and sheepishly apologized.

She offered these kind words: "It's OK. My grandfather does stuff like this all the time."

All of this is to explain how I got a ticket doing 85 in a 40. Yes, I was racing some punk kid in a Toyota Prius. And no, I told the officer, I'm not too old to be driving this fast.

As I walked in the front door, my wife met me halfway down the hall. I handed her a bag of cold food and a $300 speeding ticket. I promptly sat in my rocking chair and covered up my legs with a blankey.

The good news was I had successfully found my way home.

Pass this on to the other old fogies on your list.

Notice the larger type? That's for those of us who have trouble reading.

P.S. Save the earth..... It's the only planet with chocolate !!!!!

<J>~<O>~<K>~<E>~<S>

RESOURCEFUL NUN

In California Unleaded gas went to $4.00 a gallon last Thursday.

Sister Mary Ann, who worked for a home health agency, was out making her rounds visiting homebound patients when she ran out of gas. Fortunately, an Exxon station was just a block away. She walked to the station to borrow a gas can and buy some gas.

The attendant told her that the only gas can he owned had been loaned out, but she could wait until it was returned. Since Sister Mary Ann was on the way to see a patient, she decided not to wait, and walked back to her car.

She looked for something in her car that she could fill with gas, and spotted the bedpan she was taking to the patient. Always resourceful, Sister Mary Ann carried the bedpan to the station, filled it with gasoline, and carried the full bedpan back to her car.

As she was pouring the gas into her tank, two Baptist ladies watched from across the street. One of them turned to the other and said, 'If it starts, I'm turning Catholic.'

<J>~<O>~<K>~<E>~<S>

COMEDY WILDLIFE PHOTO AWARDS

https://flowartstation.com/2017/05/10/hilarious-winners-of-the-first-annual-comedy-wildlife-photography-awards/

<J>~<O>~<K>~<E>~<S>~~<of>~<the>~~<W>~<E>~<E>~<K>

From: "Bob Bolgeo" bbolgeo@aol.com

Rest Your Mind

I know you have been laying awake at night wondering why baby diapers have brand names such as "Luvs", "Huggies," and "Pampers', while undergarments for old people are called"Depends".

Well here is the low down on the whole thing.

When babies crap in their pants, people are still gonna Luv'em, Hug'em and Pamper' em. When old people crap in their pants, it "Depends" on who's in the will!

Glad I got that straightened out so you can rest your mind.

<J>~<O>~<K>~<E>~<S>

This is tooooo funny not to share.

THE BUSINESS DEAL

BLACK BRA size 38

A Chinese guy goes into a Jewish-owned establishment to buy black bras, size 38. The Jewish store keeper, known for his skills as a businessman, Says that black bras are rare and that he is finding it very difficult to buy them from his suppliers. Therefore he has to charge $50.00 for them.

The Chinese guy buys 25 bras.

He returns a few days later and this time orders fifty.

The Jewish owner tells him that they have become even harder to get and charges him $60.00 each.

The Chinese guy returns a month later and buys the store's remaining stock of 50, and this time for $75.00 each.

The Jewish owner is somewhat puzzled by the large demand for black size 38 bras and asks the Chinese guy, & I quote "...please tell me - What do you do with all these black bras?"

The Chinese guy answers: "I cut them in half and sell them as skull caps to Jewish men for $200.00 each."

<J>~<O>~<K>~<E>~<S>~~~<of>~<the>~~~<W>~<E>~<E>~<K>

TACKY ALERT: THE FOLLOWING IS POLITICALLY TACKY, BUT STILL PRETTY FUNNY.

From: "Jim Woosley" Jimwoosley@aol.com

JW: I'll concede this is a decent anti-Trump joke...

HEADLINE: Putin Praises Trump as 'Straightforward' & 'Frank'

TRUMP: *wipes tear* After all we've been through, you don't even know my name?

<J>~<O>~<K>~<E>~<S>

ON THE OTHER HAND

<J>~<O>~<K>~<E>~<S>~~~<of>~<the>~~~<W>~<E>~<E>~<K>

From: "Pam Adams" pamcrippenadams@gmail.com

THE WORLDS SHORTEST FAIRY TALE

Once upon a time, a guy asked a girl. Will you marry me? The girl said no' and the guy lived happily ever after, and rode motorcycles, and went fishing, and hunting and played golf a lot and drank beer and scotch and had money in the bank and left he toilet seat up and farted when ever he wanted. THE END.

<J>~<O>~<K>~<E>~<S>

FREE SEX...

A gas station in Halifax was trying to increase it's sales. So the owner put up a sign saying "Free Sex With Fill-Up." Soon a Canadian pulls in, fills his tank, and then asks for his free sex.

The gas attendant tells him pick to a number from 1 to 10 if he guesses correctly, he will get his free sex.

The Canadian says, "7"

The gas attendant says, "You were close, sir, but the number was 6. Sorry, no sex this time."

A week later, the same Canadian, along with his buddy, pulls in for a fill up. Again he asks for his free sex and again the gas attendant gives him the same story and asks him to guess the correct number. The Canadian says, "5"

The gas attendant says, "Sorry, it was 4. You were so close, but no free sex this time."

As they were driving away, the Canadian says to his buddy, "I think that game is rigged and he doesn't really give away free sex."

The buddy replies, No, it ain't rigged. My wife won twice last week." Life is good, Peace out

<J>~<O>~<K>~<E>~<S>~~~<of>~<the>~~~<W>~<E>~<E>~<K>

TACKY ALERT: THE FOLLOWING IS POLITICALLY TACKY, BUT STILL PRETTY FUNNY.

From: "Jim Hollis" jhollis@northsidesales.com

A NEW ELEMENT - PELOSIUM

A major research institution has just announced the discovery of the densest element yet known to science. The new element has been named Pelosium. Pelosium has one neutron, 12 assistant neutrons, 75 deputy neutrons, and 224 assistant deputy neutrons, giving it an atomic mass of 311.

These particles are held together by dark forces called morons, which are surrounded by vast quantities of lepton-like particles called peons.

The symbol of Pelosium is PU. pee-yew

Pelosium's mass actually increases over time, as morons randomly interact with various elements in the atmosphere and become assistant deputy neutrons within the Pelosium molecule, leading to the formation of isodopes.

This characteristic of moron-promotion leads some scientists to believe that Pelosium is formed whenever morons reach a certain quantity in concentration. This hypothetical quantity is referred to as Critical Morass.

When catalyzed with money, Pelosium activates CNNadnausium, an element that radiates orders of magnitude more energy, albeit as incoherent noise, since it has half as many peons but twice as many morons as Pelosium.

<YOU>~<>~<JUST>~<>~<CAN'T>~<>~<MAKE>~<>~<THIS>~<>~<STUFF>~<>~<UP!>

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Tim Bolgeo" tbolgeo@epbfi.com

KEVIN HART REFUSES TO TRASH TRUMP: I'M NOT 'ALIENATING' MY AUDIENCE

by JEROME HUDSON1 Jun 20171,194
http://www.breitbart.com/big-hollywood/2017/06/01/why-kevin-hart-refuses-to-trash-trump-im-not-alienating-my-audience/

Rich Fury/Invision/AP

Stand-up comedy superstar and Hollywood A-lister Kevin Hart is willing to crack jokes on just about any topic, except politics.

In an interview with Variety published this week to promote his new book, the What Now star explains why avoiding politically-charged comedy keeps him from "alienating" a portion of his audience.

"When you jump into that political realm you're alienating some of your audience," Hart said.

"The world today, it's really not a laughing matter. It's serious," he added. "I don't want to draw attention to things I don't have nice things to say about."
Hart's films, including 2016's Central Intelligence and the Ride Along franchise, have grossed nearly $1.5 billon domestically. The 37-year-old actor reportedly commands $10 million per film.

With a slew of successful stand-up specials under his belt, a bevy of blockbuster films slated for release — including a Jumanji remake debuting in December and a Great Outdoors remake in the works — the Hartbeat Productions boss says he wants to become an Oprah Winfrey-like media mogul.

"He's a legitimate, bankable movie star," Ron Meyer, vice chairman of NBCUniversal, told Variety. "He's one of the few stars left that brings people into theaters."

"He's going to build companies and invest in companies and do the things that Oprah and LeBron James do, where they don't just do their craft — they create industries," added Dave Becky, Hart's manager.

Hart, an admitted workout-a-holic, has also added a Nike endorsement deal to his resumé and is a Tommy John underwear pitchman, model, and investor.

"I want to own it," Hart told Variety. "I want that last name Hart, when all's said and done, to mean so much."

NOW THAT IS ONE SMART ENTERTAINER. I APPRECIATE KEVIN HART EVEN MORE TODAY. UT

<?>~<YOU JUST CAN'T MAKE THIS STUFF UP!>~<?>

MARK STEYN ON PARIS ACCORD: LEFT BELIEVES WE CAN'T CONTROL THE BORDER, BUT CAN CONTROL THE HEAVENS

by JEFF POOR, 1 Jun 2017

http://www.breitbart.com/video/2017/06/01/steyn-paris-accord-left-believes-cant-control-border-can-control-heavens/

Thursday on Fox News Channel's "Fox & Friends," conservative commentator Mark Steyn offered his views on how President Donald Trump should proceed with the Paris Accord on so-called climate change.

Co-host Brian Kilmeade asked why the issue of climate change had become a "religion" for the left, to which Steyn noted those on the left argue border enforcement is an impossibility, yet they believe they can control the heavens.

"I think precisely because it is so meaningless," Steyn replied as to why the left is so invested in the issue. "Because if you say to them, 'Let's enforce the border' — 'What? Are you out of your mind? That's just a natural phenomenon. We can't enforce the border. People are going to be coming in anyway.' But if you say to them, 'We can control the very heavens,' that, we can do. And it's actually literally insane. The less it has to do with your life, the more the left is invested in it."

<?>~<YOU JUST CAN'T MAKE THIS STUFF UP!>~<?>

TED CRUZ BUSTS ELON MUSK FOR FLYING PRIVATE JET WHILE LECTURING TRUMP ON GLOBAL WARMING

by LUCAS NOLAN2 Jun 2017
http://www.breitbart.com/tech/2017/06/02/elon-musk-private-jet-ted-cruz/

Scott Olson/Getty, Mike Windle/Getty Images for Vanity Fair

Bottom of Form
Sen. Ted Cruz (R-TX) ripped into Tesla CEO Elon Musk Thursday night for his use of a private jet after the tech billionaire tweeted his disapproval of President Trump pulling out of the Paris Climate Accord.

Musk, the CEO of Tesla and SpaceX, took to Twitter to announce that he would be departing from all future presidential councils in protest of President Trump's decision to pull the U.S. out of the Paris Climate Accord. He assured his followers that global warming is real and that leaving the Paris accords is "not good" for America or the world.

Follow Elon Musk ?@elonmusk
Am departing presidential councils. Climate change is real. Leaving Paris is not good for America or the world.
4:02 PM - 1 Jun 2017

Hours later, Cruz mocked Musk's outrage, pointing out that he regularly travels around the country in his own private jet. If the billionaire CEO was so dedicated to reducing the

world's carbon output, Cruz snarked, he would choose to fly commercial planes rather than private ones.

Follow Ted Cruz ?@tedcruz
In support of Paris, CA billionaires pledge to never again fly private, will only fly commercial. J/K--will quit symbolic councils instead.
https://twitter.com/elonmusk/status/870369915894546432 …

12:37 AM - 2 Jun 2017

Musk has come under fire previously for his liberal use of his private jet, which he upgraded last year from a Dassault Falcon 900 B to a Gulfstream G650 ER. It was reported in 2010 that Musk took private jets to Washington on at least 12 occasions over the course of two years to lobby the Department of Energy for a loan of $465 million, which Musk's company Tesla was eventually granted.

Around the same time, Tesla also struck deals with the California Alternative Energy and Advanced Transportation Financing Authority that made the company exempt from up to $320 million in California State sales and U.S. taxes.

Musk has been a vocal supporter of carbon taxes, saying, "All we are doing [with a carbon tax] is trying to match the inherent subsidy for fossil fuels… on the sustainable energy side. Fossil fuels are already getting a massive subsidy if you believe in global warming. If you don't then [the subsidy] seems really unfair. If you do then it is like oh we are just trying to correct it."

FOR ALL OF MY READERS OUT THERE YOU KNOW THAT I THINK ELON MUSK IS A GIANT IN THE SPACE INDUSTRY AND IS DOING GREAT THINGS. BUT EVEN THE GREATEST OF MEN CAN BE WRONG AND HYPOCARTICAL AT TIMES. IN THIS ONE, I THINK HE WAS FAIRLY BUSTED. IF YOU TOTALLY BELIEVE IN A SUBJECT, YOU NEED TO WALK THE WALK AND NOT JUST TALK THE TALK. FOR A NUMBER OF REASONS I THINK THAT PRESIDENT TRUMP DID THE RIGHT THING ABOUT THE PARIS CLIMATE ACCORDS. JUST LIKE THE SENATE DID TO THE KYOTA ACCORDS IN 1999. IF THE LEFT IN THE COUNTRY ARE SO HAPPY WITH THE PARIS CLIMATE ACCORDS, THEN PUT IT UP FOR A VOTE IN THE SENATE AS A TREATY. I'M WAITING. UT

<?>~<YOU JUST CAN'T MAKE THIS STUFF UP!>~<?>

UNLUCKY THIEF PICKS A STORE WHERE EVERYBODY ELSE WAS ARMED; HERE'S FOOTAGE OF HIS BIG MISTAKE

June 3, 2017 | Tom Tillison
http://www.bizpacreview.com/2017/06/03/unlucky-thief-picks-store-everybody-else-armed-heres-footage-big-mistake-498461?utm_source=BizPac+Review+Email+Newsletter&utm_campaign=81b54924bf-EMAIL_CAMPAIGN_2017_06_04&utm_medium=email&utm_term=0_fbf9323fb3-81b54924bf-32881293

A very unfortunate thief in what is reported to be Brazil picked the very last place he should have tried to rob because EVERYBODY in the store seemed to be armed.

"… and the only target was him."

That was the description of a LiveLeak video capturing a bandit entering a store and pulling a weapon from his waistband while at least four customers and a store clerk looked on.

One of the men places his hands on top of his head, but remains conspicuously near the gunman, who makes the critical mistake of getting too close to him. In a matter of seconds, the man knocks the gun out of the robber's hand and pulls a weapon of his own.

But it's hard to say if he shoots the gunman, who is seen falling to the ground, because everybody in the store, other than the clerk, had a weapon pulled by this time!

<YOU>~<>~<JUST>~<>~<CAN'T>~<>~<MAKE>~<>~<THIS>~<>~<STUFF>~<>~<UP!>

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Jim Woosley" Jimwoosley@aol.com

JW: Jesus said, "The poor will always be with us." I am now beginning to think He should have said "the unsane will always be with us."

'BAN CARS TO STOP TERROR' SAYS SWEDEN'S BEST-SELLING NEWSPAPER AFTER STOCKHOLM ATTACK

by VIRGINIA HALE11 Apr 20174,222
http://www.breitbart.com/london/2017/04/11/ban-cars-newspaper-stockholm-attack/

Cars and other vehicles "have turned into deadly weapons", and should be banished from cities to stop attacks like the one in Stockholm from happening in future, according to Aftonbladet editorialist Eva Franchell.

Crackdowns on immigration or extremist ideology are not the way forward when it comes to terror prevention, according to the veteran journalist, writing after Friday's terror attack in Stockholm left four people dead.

Instead, it is cars — which she calls "effective murder machines" — that Franchell says "must simply be removed from city centres and places where people gather, if people are to be protected in future".

Vehicles are "easy to steal, and so nothing has been able to stop their advance", writes Ms. Franchell.

"It just isn't reasonable that a big truck can be driven right into one of Stockholm's busiest streets on a Friday afternoon right before Easter."

Noting how it is a popular destination for tourists, Franchell says the city centre must be a "safe environment" for visitors to enjoy. She described it as "remarkable" that it is possible to drive around the Swedish capital's medieval old town.

Michael Campanella/Getty Images

Outlining her vision for a car-free Stockholm, she argues: "Most problems with regards to mobility and public transport can be solved, and deliveries to shops and restaurants could take place at times when people aren't out on the streets."

"Vehicles have been allowed to dominate our cities for decades and it's the people who need space. It's vital now that cars be regulated," the piece concludes.

The idea of reducing the number of cars in Swedish cities was backed last month by Sweden's environment minister, who argued that driving is a gender equality issue as well as a matter of shrinking the nation's carbon emissions.

"Cars are driven largely by men so by giving a lot of space to cars; we're giving a lot of space to men — at the expense of women," Karolina Skog explained.

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YOU JUST CAN'T MAKE THIS STUFF UP!

From: A Friend

ARIZONA FINDS SIMPLE WAY TO GET RID OF ENTITLED MUSLIM REFUGEES: 1,000S LEAVING!

MAY 5, 2017 BY ALEX LEROUX
http://occupydeplorables.com/arizona-finds-simple-way-to-get-rid-of-entitled-muslim-refugees-1000s-leaving/#.WTRG2Bgml6M.facebook

"Something For Nothing?"

Thousands of Muslim refugees have already left Arizona on their own accord and many more will follow because of one VERY simple thing the Arizona residents are doing. This comes after hordes of Muslim refugees invaded the US and Arizona became a top destination for the immigrants.
At least 7,500 Somali refugees resettled in Arizona have moved out of the state because there are not enough welfare and government benefits to meet their demands. The state also requires them to learn English and find jobs in order to get food stamps. Apparently, this move doesn't please many of them so they are moving out.

From USA News Flash

Here's more… Each immigrant in Arizona receives $925 from the US Department of Health and Human Service every month. After this payment, each migrant is expected to foot the rest of their bills. The state of Arizona doesn't offer additional funding unless these welfare recipients earn them. For many of them that is too much to ask.

All the refugees are required to complete a monthly report proving that they are learning English, and looking for jobs. If some of them skip language courses or refuse to apply for job, their food stamps are cut off and they are denied all other state benefits.

Here's what one Somali refugee said about Arizona's system:

"The one thing that Arizona does very well is making sure that at least these families will not go hungry," Somali asylum seeker Mukhtar Sheikh says. "But sometimes these families don't get enough help — they come in saying, "Oh, my food stamps have stopped,' so we have to call DES and ask them why."

He then admitted that he and his family were leaving Arizona for better benefits.
"If that money runs out and they don't have a job, then there starts to be pressure for them to find a way to survive," Sheikh says. "There's not a lot of programs to help them with employment here."

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From: "Tim Bolgeo" tbolgeo@epbfi.com

PODCAST: New Concrete Recipes Could Cut Cracks

By Christopher Intagliata on May 19, 2017
https://www.scientificamerican.com/podcast/episode/new-concrete-recipes-could-cut-cracks/?WT.mc_id=SA_TECH_20170523

There's a stretch of highway in Pennsylvania, along U.S. 422. "And like every probably 20 feet you see a big pothole or cracking at the joint. Like everywhere. It was so bad." Yaghoob Farnam is a construction materials engineer at Drexel University in Philly. And this road is pretty much his worst nightmare. "Yeah and just imagine I was driving like 60 miles per hour, I could see, I could feel it, I was driving, I was so mad, like, 'what is going on with this?'"

The culprit, he says, may be calcium chloride road salt, used to de-ice highways in the winter. Because calcium chloride reacts with a compound in concrete called calcium hydroxide to form something called calcium oxychloride. "It's a huge molecule that causes a lot of pressure inside concrete. And starts degradation of concrete."

The solution? Novel blends of concrete that use cheap leftover materials from the coal and steel industries: fly ash, silica fume and slag. In his latest work, Farnam and his team created plugs of these experimental concretes, and submerged them in salty solutions—along with plugs of conventional concrete. Then they eavesdropped on any cracking with high-sensitivity acoustic sensors. And they tracked heat flow through the material, to monitor chemical reactions.

The results: concrete slugs made with ingredients like fly ash and slag held up remarkably well after more than a month. Whereas normal concrete was cracked to pieces in just a week. Their recipes are in the journal Cement and Concrete Composites

Farnam says some states have actually started using this sort of concrete—because it's already known to make the material more durable against other factors, like corrosion of internal steel reinforcement. As for those cracks on U.S. 422, and elsewhere? Farnam has another project in the works—to apply a bacterial slurry, which forms limestone when it interacts with salt, plugging up the gaps. But he says that work is still a ways…down the road.

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FUTURE AIR FORCE WEAPON? BABY MOAB

POSTED BY: ORIANA PAWLYK MAY 19, 2017
https://www.defensetech.org/2017/05/19/future-air-force-weapon-baby-moab/?ESRC=airforce_170523.nl

A 15,000-pound BLU-82, an air-to-surface conventional bomb, detonates after being dropped from an MC-130E aircraft in 2008. The AFRL is working on the next type of air-burst bomb that mimics the "Mother of All Bombs" but will probably be smaller, leaner and lighter. (U.S. Air Force photo/Capt. Patrick Nichols)

The next "Mother of All Bombs" will probably be smaller, leaner and lighter but will still pack a punch.

It's what scientists and engineers at the Air Force Research Lab are working on as part of their next-generation munition concept.

Part of the Advanced Ordnance Technologies program, the bomb could be structured to be lighter by using 3D-printed reconstructed loads within the bomb instead of in the casing — plus distributed blast yields, said Dr. John Corley, the core technical competency lead for ordnance sciences at AFRL.

"We've been working on printing [munitions] for the past five to 10 years," Corley said Thursday during a Defense Department Lab day in the Pentagon courtyard.

Corley and colleagues were showcasing a prototype one-seventh the scale of a bomb the lab is working on (not pictured), along with various fuse technologies.

One of the key enablers to prototyping the bomb is through 3D printing. "Right now, most of your penetrator munitions have two-inch case walls," Corley said, which actually prohibits a larger blast and creates more debris.

Instead, the lab has begun printing casing prototypes — with steel — that moves the load from the case to within the bomb itself (the vertical loads look very similar to a DNA double helix within the bomb).

Furthermore, the lab is using distributed embedded fusing in the bomb "so not only do we have all these other features we're relocating the fireset for the bomb into the explosive, so you can distribute that around different places [with]in the bomb to improve survivability," Corley said.

In current penetrating munitions, the ways in which the fuse is hardwired to the case is limiting, Corley said. By separating the fuse from the case could make the bomb more flexible of when it hits and how it hits.

3D printed, steel interlaced bearings on a mock-up bomb. From the center to the end of the bomb, the casing thins out to pack more punch in yield versus debris. (Photo: Oriana Pawlyk).

The fuse prototypes are also being 3D printed at this time.

3D printed fuses. (Photo: Oriana Pawlyk).

The next step for the advanced future bomb will be to incorporate these various "selectable effects," as Corley called them.

"In a selectable effects, on any given day you might want it to be the same weapon to give you a small blast footprint, or a large blast footprint, and right now we can control this …height of burst," he said.

The burst height controls the range of damage. The succeeding shockwave — just like the 21,600-pound, GPS-guided GBU-43 Massive Ordnance Air Blast, or MOAB, uses to penetrate its target — could very well be controlled to be smaller or larger depending on which selectable effect is used.

Thus, how much or how little yield the bomb exerts could be determined for whatever the mission may be — so for once, size (of the actual bomb) doesn't matter.

Looking past MOAB-style bombs, Corley also noted the military aircraft of today are becoming smaller, so weapons too need to adapt — and, of course, fit.

"Workhorse munitions for us are 500 pound and 2,000 pound munitions, but we'd like to get to a 100 pound munition for instance that has the same output as a 500 pound bomb," he said.

Corley said whether the Air Force will make the bombs in-house — much like the MOAB — is still to be determined. Tail kits on bombs, for example, are more likely to be constructed by defense industry companies than the bombs themselves, which "the government owns," he said.

Physical bombs being worked on through the AOT program are still a "few years off" because most are still in the concept stage, Corley said.

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US MILITARY'S XS-1 SPACE PLANE WILL BE BUILT BY BOEING (VIDEO)

By Tariq Malik, Space.com Managing Editor | May 24, 2017 12:45pm ET
http://www.space.com/36985-darpa-xs-1-spaceplane-boeing-phantom-express.html

The U.S. Defense Advanced Research Projects Agency (DARPA) has picked Boeing to design and build the XS-1 military space plane, a robotic spacecraft for launching small satellites. Boeing's design, called Phantom Express, is shown here in an artist's concept. Credit: Boeing

The U.S. military's new XS-1 space plane will be built by Boeing, and it's called the Phantom Express.

The Defense Advanced Research Projects Agency (DARPA) announced today (May 24) it had selected Boeing for the next phase of its XS-1

project, known as the Experimental Spaceplane, after an intense competition among aerospace companies. The XS-1 is aimed to be a completely reusable military space plane capable of launching 3,000-lb. (1,360 kilograms) satellites into orbit 10 times in 10 days. The spacecraft could dramatically reduce the cost of launches to $5 million per flight, DARPA officials said.

"The XS-1 would be neither a traditional airplane nor a conventional launch vehicle but rather a combination of the two, with the goal of lowering launch costs by a factor of ten and replacing today's frustratingly long wait time with launch on demand," DARPA program manager Jess Sponable said in a statement.

Boeing's Phantom Express XS-1 space plane design is shown in launch position in this artist's concept. The autonomous spacecraft is designed to launch vertically, deploy a second stage payload in orbit and return to Earth for a runway landing. Credit: Boeing

"We're very pleased with Boeing's progress on the XS-1 through Phase 1 of the program and look forward to continuing our close collaboration in this newly funded progression to Phases 2 and 3 — fabrication and flight."

Phase 2 of the XS-1 program will have Boeing design, build and test a technology demonstration vehicle by 2019, according to the DARPA statement. A ground-based engine test will be included, to show the feasibility of firing the engine 10 times in 10 days, DARPA officials said.

The first test launches will begin with Phase 3, which aims to launch the XS-1 between 12 and 15 times in 2020.

"After multiple shakedown flights to reduce risk, the XS-1 would aim to fly 10 times over 10 consecutive days, at first without payloads and at speeds as fast as Mach 5," DARPA officials wrote in a statement. "Subsequent flights are planned to fly as fast as Mach 10, and deliver a demonstration payload between 900 pounds and 3,000 pounds [400 to 1,360 kg] into low Earth orbit." (Mach 5 means five times the speed of sound, which equates to 3,806 mph, and Mach 10, or 10 times the speed of sound, is 7,612 mph.)

Boeing's Phantom Express XS-1 design beat out concepts by two other teams: a partnership of Masten Space Systems and XCOR Aerospace, and the team of Northrop Grumman and Virgin Galactic.
The Phantom Express XS-1 is designed to launch to the edge of space, and deploy a piggyback-mounted second stage that would carry a satellite the rest of the way into orbit. The space plane would then return to Earth to make a runway landing.

The XS-1 will launch vertically using an Aerojet Rocketdyne AR-22 engine fueled with liquid oxygen and liquid hydrogen. The AR-22 engine is a version of main engines that were used to power NASA's space shuttles, Boeing representatives said in a statement.

The Phantom Express will be built by Boeing's Phantom Works division, which also built the two robotic X-37B space planes that are currently in use by the U.S. Air Force for classified missions. The reusable X-37B space planes have flown four missions to date, each longer than the last, with the latest mission (called OTV-4) landing at NASA's Kennedy Space Center in Cape Canaveral, Florida, on May 7 after 718 days in orbit.

"Phantom Express is designed to disrupt and transform the satellite launch process as we know it today, creating a new, on-demand space-launch capability that can be achieved more affordably and with less risk," Darryl Davis, president of Boeing Phantom Works, said in a separate statement.

DARPA officials said the rapid-turnaround goal of the XS-1 space plane and the technologies that make it possible won't benefit just the U.S. military. DARPA will publicly release some of its results from the Phase 2 and 3 trials, and share payload specifications for interested commercial companies, agency officials said.

"We're delighted to see this truly futuristic capability coming closer to reality," Brad Tousley, director of DARPA's Tactical Technology Office, which oversees the XS-1 project, said in the DARPA statement, "Demonstration of aircraft-like, on-demand and routine access to space is important for meeting critical Defense Department needs and could help open the door to a range of next-generation commercial opportunities."

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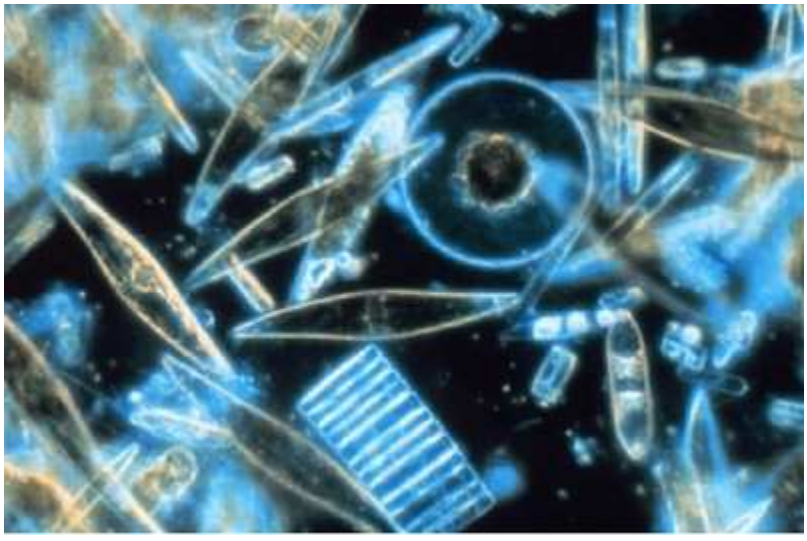

IRON-DUMPING OCEAN EXPERIMENT SPARKS CONTROVERSY

Canadian foundation says its field research could boost fisheries in Chile, but researchers doubt its motives

By Jeff Tollefson, Nature magazine on May 24, 2017
https://www.scientificamerican.com/article/iron-dumping-ocean-experiment-sparks-controversy/?WT.mc_id=SA_EN

GYSUS 20170525

Phytoplankton need iron to make energy by photosynthesis. Credit: Prof. Gordon T. Taylor, Stony Brook University, Wikimedia

Marine scientists are raising the alarm about a proposal to drop tonnes of iron into the Pacific Ocean to stimulate the growth of phytoplankton, the base of the food web. The non-profit group behind the plan says that it wants to revive Chilean fisheries. It also has ties to a controversial 2012 project in Canada that was accused of violating an international moratorium on commercial ocean fertilization.

The Oceaneos Marine Research Foundation of Vancouver, Canada, says that it is seeking permits from the Chilean government to release up to 10 tonnes of iron particles 130 kilometres off the coast of Coquimbo as early as 2018. But Chilean scientists are worried because the organization grew out of a for-profit company, Oceaneos Environmental Solutions of Vancouver, that has sought to patent iron-fertilization technologies. Some researchers suspect that the foundation is ultimately seeking to profit from an unproven and potentially harmful activity.

"They claim that by producing more phytoplankton, they could help the recovery of the fisheries," says Osvaldo Ulloa, director of the Millennium Institute of Oceanography in Concepción, Chile. "We don't see any evidence to support that claim."

Tensions flared in April, when researchers at the institute went public with their concerns in response to Chilean media reports on the project. The government has since requested input from the Chilean Academy of Science, and the institute is organizing a forum on the project and related research on 25 May, at a marine-sciences meeting in Valparaíso, Chile. The Oceaneos foundation, which declined an invitation, has accused the scientists of improperly classifying its work as geoengineering, rather than ocean restoration. Oceaneos president Michael Riedijk says that his team wants to work with Chilean scientists and will make all the data from its experiment public. The foundation plans to hold its own forum later, but if scientists aren't willing to engage, he says, "we'll just move on without them".

Researchers worldwide have conducted 13 major iron-fertilization experiments in the open ocean since 1990. All have sought to test whether stimulating phytoplankton growth can increase the amount of carbon dioxide that the organisms pull out of the atmosphere and deposit in the deep ocean when they die. Determining how much carbon is sequestered during such experiments has proved difficult, however, and scientists have raised concerns about potential adverse effects, such as toxic algal blooms. In 2008, the United Nations Convention on Biological Diversity put in place a moratorium on all ocean-fertilization projects apart from small ones in coastal waters. Five years later, the London Convention on ocean pollution adopted rules for evaluating such studies.

Because Oceaneos's planned experiment would take place in Chilean waters, it is allowed under those rules. Riedijk says that the foundation will voluntarily follow international protocols for such studies; it is unclear whether that will allay fears that the group is promoting an unproven technology, rather than conducting basic research.

Philip Boyd, a marine ecologist at the University of Tasmania in Hobart, Australia, wants to see the foundation publish research based on lab experiments before heading out into the

field. "If they are a not-for-profit scientific venture that wants to partner with academics, then surely transparency is their best foot forward," he says.

Oceaneos's links to a 2012 iron-fertilization project off the coast of British Columbia, Canada, have made some researchers wary. In that project, US entrepreneur Russ George convinced a Haida Nation village to pursue iron fertilization to boost salmon populations, with the potential to sell carbon credits based on the amount of CO_2 that would be sequestered in the ocean. News of the plan broke after project organizers had dumped around 100 tonnes of iron sulfate into the open ocean. In the years since, scientists have seen no evidence that the experiment worked.

Riedijk says he was intrigued when he read about the Haida experiment in 2013, and contacted one of its organizers, Jason McNamee. McNamee later served as chief operating officer of Oceaneos Environmental Solutions—which Riedijk co-founded—before leaving the company last year.

Despite the Haida project's problems, Riedijk says that ocean fertilization merits further research: "If this actually does work, it does have global implications." Oceaneos Environmental Solutions has developed an iron compound that can be consumed efficiently by phytoplankton, he adds, but he declined to release details. Riedijk also says that the foundation is working on a method to trace the movement of iron up the food chain and into fish populations.

In the meantime, scientists say that it will be difficult to get solid data from the Oceaneos foundation's planned experiment. The geology off the Chilean coast, and the patterns of currents there, create a mosaic of low- and high-iron waters. Anchovies, horse mackerel and other fish move freely between these areas.

And adding iron could shift the location and timing of phytoplankton blooms to favour fast-growing species, says Adrian Marchetti, a biological oceanographer at the University of North Carolina at Chapel Hill. One of those, the diatom Pseudo-nitzschia, produces domoic acid, a neurotoxin that can kill mammals and birds. Oceaneos's experiment will probably increase plankton growth in low-iron waters, Marchetti says, "but it's not to say that that is actually good for the higher levels of the food chain".

This article is reproduced with permission and was first published on May 23, 2017.

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HOT STUFF! HUGE SECONDARY MIRROR CAST FOR EXTREMELY LARGE TELESCOPE

By Sarah Lewin, Staff Writer | May 24, 2017 07:00am ET
http://www.space.com/36952-extremely-large-telescope-secondary-mirror-cast.html?utm_source=sdc-newsletter&utm_medium=email&utm_campaign=20170526-sdc

An enormous piece of glass-ceramic has been cast for the secondary mirror of the European Southern Observatory's (ESO) Extremely Large Telescope, entering a year-long cooldown and heat-treatment period until it's ready to be ground and polished for use with the megatelescope.

The completed mirror will measure nearly 14 feet across (4.2 meters) and weigh 3.9 tons (3.5 metric tons) — larger than the primary mirror for many current research telescopes, ESO officials noted in a statement. For the Extremely Large Telescope, though, the mirror will be suspended upside down over the 128-foot (39 meter) primary mirror, which is made of 798 hexagonal mirror segments. The telescope is scheduled to reach first light in 2024 on a mountain in Chile's Atacama Desert. ESO documents the casting process in a new video.

After the year of cooling, the mirror base will be transported from Germany to France, where it will be ground into a precise convex shape and then polished precisely to within 15 nanometers to meet the giant telescope's needs. According to the ESO, the piece will be the largest convex mirror ever produced and the largest secondary mirror to be used in a telescope.

The mirror is made from a special ceramic-glass material manufactured by the glass company Schott, which is used in many astronomical telescopes. The compound has very little thermal expansion when exposed to different temperatures, to avoid distorted measurements; it can be polished very precisely; and is chemically resistant, the statement said.

The base for the secondary mirror of ESO's Extremely Large Telescope is revealed as the mold opens in this photo from May 2017. Credit: SCHOTT/ESO

The ESO also contracted with Schott for the base of the third mirror, and for the flexible fourth mirror, which has already been delivered. (A total of five mirrors make up the telescope's unusual structure.)

Once complete, the telescope will survey the universe in optical and infrared light, letting scientists probe deep into the universe's past to see how galaxies have evolved and pinpoint planets around distant stars, searching for signs of biological activity. There are two other megatelescopes under construction on a similar time frame that could share the burden of discovery: The Giant Magellan Telescope, also slated for the Atacama Desert, with a maximum 80-foot (25 m) light-gathering surface, and the Thirty Meter Telescope in Hawaii, whose light-gathering surface would stretch to 98 feet (30 m).

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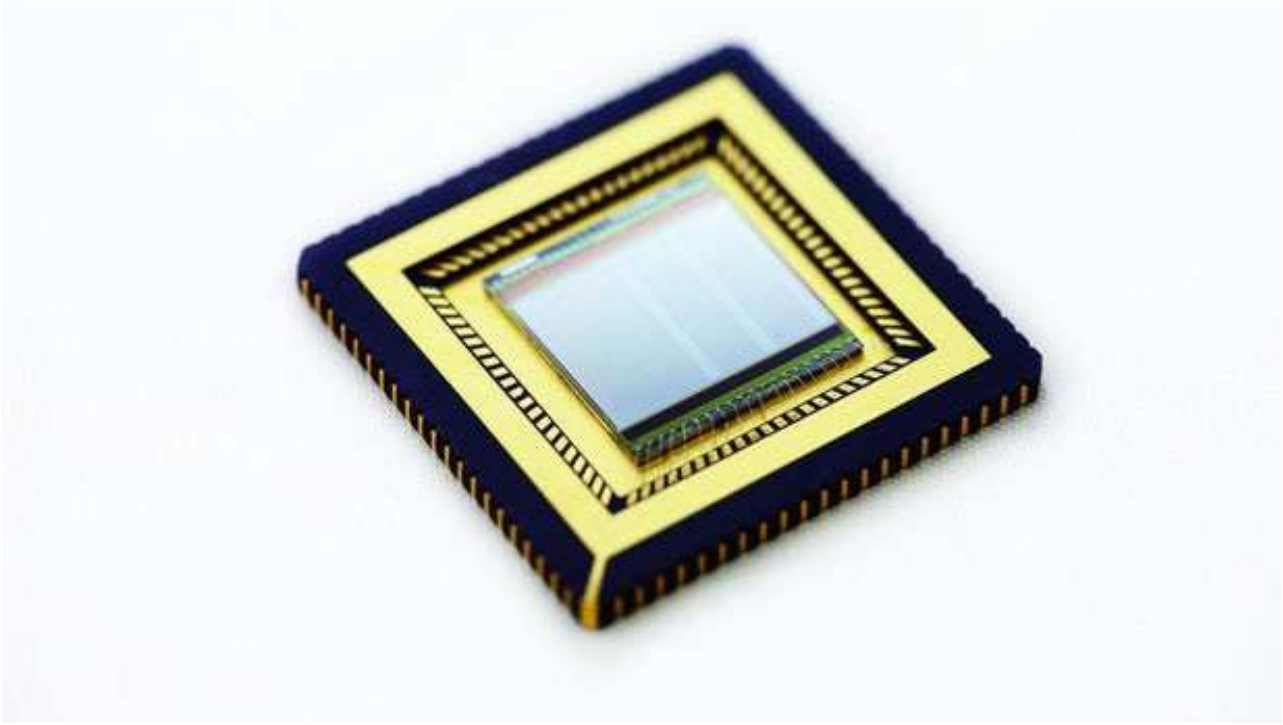
GRAPHENE/QUANTUM DOT HYBRID SYSTEM CREATES CAMERA THAT SEES VISIBLE AND INVISIBLE LIGHT

Michael Irving May 29, 2017
http://newatlas.com/graphene-quantum-dot-camera-visible-infrared-uv/49764/

For the first time, scientists at the Institute of Photonic Sciences (ICFO) have managed to create a digital imaging sensor that can capture ultraviolet, infrared and visible light at the same time. What wonder materials are behind this breakthrough? No prizes for guessing it's two of the usual suspects: graphene and quantum dots.



A new image sensor developed by ICFO can detect UV, visible and infrared light at the same time, thanks to graphene and quantum dots (Credit: ICFO/D. Bartolome)

Both of these materials have long individual lists of potential applications, and when you pair them up, that list grows even longer. But in this case, we're not talking about quantum dots made of graphene – the ICFO team used metallic, PbS colloidal quantum dots deposited onto a sheet of graphene. This hybrid system was then deposited onto a complementary metal-oxide semiconductor (CMOS) wafer, and hooked up to image sensor dies and a read-out circuit.

The end result is a high resolution image sensor that's sensitive to a huge range of wavelengths, from UV rays of about 300 nm, through the visible spectrum in the middle, and up to infrared light with a wavelength of 2,000 nm. The researchers say this is the first time that a single image sensor has been capable of detecting light across such a wide spectrum at once.

"We engineered the quantum dots to extend to the short infrared range of the spectrum (1100-1900 nm), to a point where we were able to demonstrate and detect the night glow of the atmosphere on a dark and clear sky enabling passive night vision," says Gerasimos Konstantatos, co-author of the study. "This work shows that this class of phototransistors may be the way to go for high sensitivity, low-cost, infrared image sensors operating at room temperature addressing the huge infrared market that is currently thirsty for cheap technologies."

Historically, CMOS systems don't integrate easily with semiconductors other than silicon, so getting them to work with graphene is another first for ICFO's new sensor. Even better, the team says the device can be built fairly easily and cheaply at room temperature, which should help keep production costs down and expand their possible commercial applications.

"The development of this monolithic CMOS-based image sensor represents a milestone for low-cost, high-resolution broadband and hyperspectral imaging systems," says Frank Koppens, co-author of the study. "In general, graphene-CMOS technology will enable a vast amount of applications, that range from safety, security, low cost pocket and smartphone cameras, fire control systems, passive night vision and night surveillance cameras, automotive sensor systems, medical imaging applications, food and pharmaceutical inspection to environmental monitoring, to name a few."

The research was published in the journal Nature Photonics.

Source: ICFO

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VIDEO: YOUR IMMUNE SYSTEM... IN SPACE

Video Length: 4:31

https://science.nasa.gov/science-news/sciencecasts/your-immune-system-in-space

NASA studies are looking at the effects of space travel on the human body's immune system.

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THREE RIFLES THAT COULD REPLACE THE ARMY'S M4A1 CARBINE

The Army is "taking a hard look" at new arms for soldiers.

By Kyle Mizokami, May 31, 2017
http://www.popularmechanics.com/military/weapons/a26700/new-rifles-replace-army-m4a1-carbine/?src=nl&mag=pop&list=nl_pnl_news&date=053117

U.S. Army photo by Sgt. William A. Tanner

In new comments to the Senate Armed Services Committee, U.S. Army Chief of Staff Mark Milleyhas said the Army is "taking a hard look" at a new German assault rifle and other designs to replace its existing weapons.

The M4A1 carbine is currently issued to U.S. Army combat troops worldwide. A descendant of the original M16 rifle, the M4A1 has a 14.5" barrel, is chambered for the 5.56-millimeter

round, and weighs approximately nine pounds when fully equipped with optics, lasers, foregrips, and other attachments. There are concerns in Congress, however, that the M4A1 could not penetrate modern Russian body armor, which is what prompted Milley's comment.

With those specifications in mind, what new weapons could replace it? One possible replacement weapon is the Heckler and Koch 416. Outwardly (and inwardly) similar to the M4A1, the 416 differs in using a gas piston system in which hot pressurized gas generated by burning gunpowder drives a piston that ejects empty brass casings, chambers a new round, and cycles the gun's action. The HK serves with the Marine Corps as the M27 Infantry Automatic Rifle, with several issued to each squad and likes them enough to consider issuing them to all marine infantry. The HK416 is also the new official rifle of the French Army.

Arguments for: Unlike the M4A1, which injects the hot, dirty gunpowder gases into the gun's action, the 416 vents the gasses outward. The result is a rifle that runs much cleaner. So called "piston guns" also run much cooler, meaning it takes them longer to overheat.

AR-10 set up for distance shooting. Note the larger magazine well for longer 7.62-millimeter bullets. Via Flickr.

Arguments against: The HK416 is still a 5.56-millimeter firearm, so the Army would need to focus on continuing to make the diminutive round not only capable of penetrating future armors but causing lethal injuries, an increasingly difficult task. A gas piston rifle is slightly heavier and costs three times as much as a M4A1.

Another possible replacement is the AR-10 rifle. The AR-10 is a derivative of the civilian AR-15 rifle, which is functionally identical to the M4A1 -- minus the ability to fire fully automatic. The AR-10 is slightly larger and heavier than the AR-15 and is chambered for the 7.62-millimeter round. The Army's version would be capable of fully automatic fire.

Arguments for: The 7.62-millimeter round is larger than the current 5.56-millimeter round and more likely to both penetrate the body armor of enemy soldiers and incapacitate them. The larger round is also more effective against enemy troops in cover and vehicles. Finally, adopting an AR-10-type rifle would mean the entire infantry squad -- including machine gunners carrying the M240 medium machine gun -- would use a single type of ammunition.

Arguments against: The heavier round also means more recoil, and is more difficult to control firing fully automatic. Soldiers will also be able to carry fewer rounds on them. Finally, the Army would have to get rid of billions of rounds of 5.56 rounds it has stockpiled, although it could compromise by having truck drivers and support personnel continue to carry the M4A1.

Graphic representation of the Textron LSAT rifle. Via US Army Readiness Command.

Finally, the Army could finally enter the plastic age and adopt a new carbine developed by Textron. Developed under the Army's Lightweight Small Arms Technology program, the rifle uses specially developed bullets. Unlike regular rounds, which have the bullet peeking out from the top, 6.5-millimeter bullets are fully encased in polymer and gunpowder, reducing their overall length.

Arguments for: The new 6.5-millimeter round has 300 percent more energy that the current 5.56 millimeter round, which translates into greater penetration. Like the HK416, the LSAT rifle is also a piston design, so it too will need less cleaning and more firing time to overheat.

Arguments against: The new 6.5 round is heavier and bulkier than the current 5.56 round, meaning soldiers can carry fewer rounds. Textron's rifle is also nearly pound heavier than the M4A1, although at the time it was introduced the company hadn't yet tried to optimize the weapon's weight. Finally, the Army would have to buy billions of 6.5 rounds and distribute them troops worldwide.

If none of these arguments for a new rifle don't sound compelling enough to warrant a totally new rifle you're not alone in thinking so. Small arms development has largely plateaued, and while advances such as the new 6.5 round bring new advantages, they also bring old disadvantages -- particularly weight issues. While the Army in the Age of Trump could do something big and bold by adopting a totally new rifle and bullet, the safe money is on it doing nothing at all, except perhaps fielding a new armor penetrating 5.56 bullet.

Source: The Firearm Blog

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PAUL ALLEN'S ENORMOUS STRATOLAUNCH CARRIER AIRCRAFT ROLLS OUT OF HANGAR FOR FIRST TIME

On a football field, the wingtips would extend beyond the goalposts by more than 12 feet on each side.

By Jay Bennett, May 31, 2017
http://www.popularmechanics.com/flight/a26715/stratolaunch-rolls-out-of-hangar/?src=nl&mag=pop&list=nl_pnl_news&date=060117

Stratolaunch Systems

The gargantuan Stratolaunch carrier aircraft, built by Scaled Composites and nicknamed the "Roc," has the longest wingspan of any aircraft ever built: 385 feet from tip to tip. The six-engine mothership is designed to carry rockets between its two fuselages. Once at altitude, the mega-plane will drop the launch vehicle, which will then fire its boosters and launch to space from the air.

It's a new way of approaching spaceflight, reminiscent of the X-plane testing the Air Force did in the 1950s and 60s, and Paul Allen's company Stratolaunch Systems is leading the way. The long aircraft just rolled out of the Scaled Composites hangar for the first time earlier today, May 31. Fueling tests will begin in the coming days, followed by engine runs, taxi tests, and finally first flight.

Stratolaunch Systems is still working on the rocket models that will be dropped from the carrier aircraft, but in October 2016 the company said it would use modified Pegasus XL rockets built by Orbital ATK for the first tests. In preparation for today's rollout, Scaled Composites spent the past weeks disassembling a three-story scaffold that surrounded the

aircraft during construction. The aircraft's full weight rested on its 28 wheels for the first time, allowing Scaled Composites to weigh the almost entirely composite plane for the first time. It came in at 500,000 lbs.

Stratolaunch Systems

The big aircraft is designed for a maximum takeoff weight of 1,300,000 lbs., making the plane capable of carrying launch vehicles and their payloads weighing up to about 550,000 lbs., with 250,000 lbs. devoted to fuel. The first full launch test will use only one Pegasus XL rocket, but Stratolaunch has designed the system so up to three launch vehicles can be dropped during a single flight. The company will also look to expand the types of launch vehicles that are compatible with its carrier aircraft.

Flightline testing will be conducted at the Mojave Air and Space Port in California over the course of several months, extensively testing all the systems of the new aircraft before flight. Stratolaunch is also preparing for delivery of the first Pegasus XL rocket to their facilities in Mojave. The new spaceflight company is on track to conduct the first launch test by 2019.

Stratolaunch is betting on a new way to launch rockets and payloads to space, and it has completed its gigantic aircraft for the job, revealing it to the world for the first time. If the Roc can drive up launch efficiency and drive down price, it might just change the orbital game.

Stratolaunch Systems

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ALLERGY TREATMENT: SCIENTISTS CLAIM BREAKTHROUGH THAT COULD LEAD TO CURE FOR ALL INTOLERANCES

Leading expert says the research, in mice, could be the 'Holy Grail' of allergy treatment but warns similar work has failed to produce an effective treatment for humans in the past

Ian Johnston Science Correspondent, @montaukian
http://www.independent.co.uk/news/science/allergy-cure-treatment-breakthrough-egg-whites-mice-australia-gene-therapy-immune-system-a7769031.html

Research could lead to a permanent cure to food and other allergies Getty

Scientists in Australia claim to have discovered what could be a life-long cure for potentially fatal allergies to peanuts, shellfish and other food.

The researchers said they had been able to "turn off" the allergic response in tests on mice using gene therapy to desensitise the body's immune system, and suggested this could also be used to treat asthma.

They predicted human trials could begin in just five or six years.

Commenting on the study, a leading British expert said scientists had managed to cure allergies in mice before without this leading to an effective human treatment, but added that the new research could lead to the "Holy Grail" of allergy treatment.

He was sceptical about the researchers' claims their technique might be effective against asthma, but Asthma UK said it was "a very exciting step forward".
Allergies occur when the immune system over-reacts to something that is usually harmless. In the journal JCI Insight, the Australian researchers reported they had used genetic techniques to prevent this from happening in mice who were allergic to the protein in egg whites.

In a video about the new research, Professor Ray Steptoe, of Queensland University, said: "We can actually turn off the response. What that means is the disease is stopped in its tracks.

"What we do is we stop the underlying disease that causes these symptoms. That could revolutionise treatment for severe allergies. It would prevent, we think, some of the life-threatening allergic episodes that occur for people who are allergic to foods for instance.

"That would make a huge difference for people with severe allergies … what that would mean is they would no longer be in fear of life-threatening incidents if they were to go to a restaurant and be exposed to shellfish and they weren't aware that was in the food.

"Kids with peanut allergies … could go to school without any fear of being contaminated from other kids' food.

"We envisage in the future, with this approach, that they could go to the doctors' rooms, get a single treatment and that would give them permanent protection from future allergic attacks or asthma attacks."

He added that the researchers hoped human trials could begin in five to six years, estimated it would take a similar period after that for the treatment to be available to patients.

Professor Adnan Custovic, an allergy expert at Imperial College London, expressed particular caution about the claim the treatment would be effective against asthma as the condition is caused by a "completely different mechanism" to the one behind food allergies.

But he added: "This is one of the potentially exciting approaches to treating allergies.

"It's sort of approach, where you try to switch off the allergic response, is kind of the Holy Grail, but a mouse model is not the same as a human model.

"We can cure allergies in mice but we cannot do it in humans … the mechanisms are not identical. Only time will tell whether this approach will be a viable one."

And he criticised the degree of optimism about the technique expressed by the Australian team.

"My real problem with this sort of bombastic statements like this is people with asthma … it gives them hope which very often is not realistic," Professor Custovic said.

However Dr Erika Kennington, head of research at Asthma UK, was more optimistic.

"This is potentially a very exciting step forward in asthma research," she said.

"Allergen immunotherapy – exposing people to small amounts of an allergen in order to build up tolerance – is currently the only disease-altering treatment available for asthma but it can have significant side effects in some people, and every other existing asthma treatment and medication works by reducing or relieving the symptoms.

"These findings suggesting a novel approach to reversing allergic disease are therefore very welcome.

"We also know that there are certain allergy triggers that cause asthma flare ups, which makes this research important in possibly reducing the risk of life-threatening asthma attacks."

But Dr Kennington also pointed to the difference between animal and human trials.

"A lot more research is needed to see if the same results can be achieved in people before we can say that a cure for asthma is around the corner," she said.

In the study of the allergic mice, the researchers inserted a gene into blood stem cells that controls the immune response to the egg white.

The genetically modified cells were then injected into the mice's bone marrow, where they produced new blood cells that were able to "turn off" the allergic response.

The researchers hope to create a similar form of gene therapy that works on humans after a single injection.

"We haven't quite got it to the point where it's as simple as getting a flu jab, so we are working on making it simpler and safer so it could be used across a wide cross-section of affected individuals," Dr Steptoe said.

Dr Louisa James, British Society for Immunology spokesperson and an immunologist at Queen Mary University of London, said allergies were "far more complex than can be replicated in an animal model".

"Patients with severe allergies often react to several different types of allergen and symptoms can develop over several years," she said.

"Although the results are encouraging and heading in the right direction, it is too early to predict whether this form of therapy could ever be used to treat allergies in humans.

"As the authors state in their paper 'gene-therapy is not yet suitable for clinical application to mild disease in young individuals'.

"There are simply too many open questions around the translation of these findings from animal models into humans. Would the cells engineered to produce allergens produce the same response in humans? How would other immune cells that play a critical role in human allergy be affected? What are the mechanisms that 'switch off' the immune response and are they comparable in humans?

"This approach holds promise, and further research is certainly warranted, but claims that a single injection could switch off allergies are over-optimistic at this time."

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HUGE, DEEP HOLE ON MARS LEAVES SCIENTISTS BAFFLED

Fox News, Published June 05, 2017
http://www.foxnews.com/science/2017/06/05/huge-deep-hole-on-mars-leaves-scientists-baffled.html

A depression huge and deep on Mars has left astronomers baffled.

It was discovered by NASA's Mars Reconnaissance Orbiter (NRO), which has been studying the Martian surface for 11 years. The vast pit, estimated to be hundreds of feet

across and surrounded by frozen carbon dioxide, is located on the south pole of Mars— sticking out among the Swiss cheese terrain of Earth's closest neighbor.

According to NASA, "the depressions are thought to be caused by sublimation, which is when a material goes directly from a solid to a gas phase."

According to Science Alert, there are many ways such holes are formed on Mars, which is colder than Earth— meteorites leave craters; lava tubes collapse and produce deep pits; floods from long ago hollow out grand canyons; and volcanos melts ice fashioning funnels.

The depression was discovered by the MRO's High Resolution Imaging Science Experiment, or HiRISE camera, which allows NASA to see Martian objects larger than 3 feet from about 125 to 250 miles above.

The camera takes repeated images throughout Mars' seasons to monitor the terrain's changes.

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SPACEX SUCCESSFULLY LAUNCHES USED DRAGON CARGO SHIP IN HISTORIC FIRST

By Hanneke Weitering, Staff Writer-Producer | June 3, 2017 05:20pm ET
http://www.space.com/37072-spacex-first-used-dragon-launch.html?utm_source=sdc-newsletter&utm_medium=email&utm_campaign=20170605-sdc

SpaceX Falcon 9 rocket carrying a used Dragon cargo craft blasts off from NASA's Kennedy Space Center in Florida on June 3, 2017. Credit: SpaceX

For the first time in the history of commercial spaceflight, a used spacecraft has blasted off on a mission to deliver cargo to the International Space Station (ISS).

After lightning strikes delayed the launch on Thursday (June 1), lingering storm clouds parted just enough for SpaceX's Falcon 9 rocket to safely lift off from NASA's historic Pad 39A at the Kennedy Space Center in Florida today (June 3).
The Falcon 9 rocket, topped with SpaceX's first refurbished Dragon cargo craft, took to the skies at 5:07 p.m. EDT (2107 GMT). About 8 minutes after liftoff, the first-stage rocket booster returned to Earth to stick a landing at nearby Cape Canaveral Air Force Station.

A little over 10 minutes into the flight, the Dragon separated from the Falcon 9's second stage, deployed its solar arrays and began its three-day trek to the ISS. On Monday (June 5), the spacecraft will dock at the space station's Harmony module, delivering close to 6,000 lbs. (2,700 kilograms) of supplies and science experiments to the Expedition 52 crew.

Today's launch marked the 100th mission to lift off from Launch Complex 39A, where NASA's Apollo missions and dozens of space shuttle missions were also launched. "For [SpaceX], it's the seventh launch this year, and you can tell that we picked up the rate significantly," Hans Koenigsmann, vice president of flight reusability at SpaceX, said in a prelaunch briefing on Wednesday (May 31).

"We are hoping to stay at this rate through the rest of the year and work our backlog down. We're hoping to also fly more and more refurbished Dragons, and the same is true for the first stages," he said. "The next launch after this is also refurbished first stage."

Another historic 1st for SpaceX

Today's mission is the latest in a series of historic firsts for SpaceX, the private spaceflight company founded by billionaire entrepreneur Elon Musk. In March, the company successfully launched and landed a used rocket booster for the first time. SpaceX is also the first and only company to have landed a rocket booster during an orbital mission (though Jeff Bezos' Blue Origin has achieved this multiple times on suborbital journeys). And in 2012, SpaceX's Dragon capsule became the first private spacecraft to dock at the ISS.

With the ultimate (and highly ambitious) goal of being able to reuse all major components of their launch vehicles, SpaceX is now putting the Dragon to the test. The capsule first flew on a cargo mission to the space station on Sept. 21, 2014, for the cargo resupply mission CRS-4, and it returned to Earth with a splashdown in the Pacific Ocean one month later.

"Once this capsule landed, we refurbished it, inspected it, made sure everything is qualified for the next flight," Koenigsmann said.

But the capsule isn't 100 percent reused parts, Koenigsmann added. Certain parts had to be replaced for a number of reasons, such as exposure to seawater during splashdown, he said, and the heat shield needed to be replaced for safety. "But I can tell you the majority of this Dragon has been in space before and has been docked to the station for a couple of weeks."

The next steps toward full reusability for SpaceX involve figuring out how to refurbish the second-stage rocket booster and the payload fairings — an ambitious but important goal, Koenigsmann said.

"This whole notion of reuse is something that's very important to the entire space industry and NASA as well as Space X and others," Kirk Shireman, manager of NASA's ISS program, said in the briefing. "The idea of reuse is important for economic reasons as well as technical reasons." [SpaceX Gaining Substantial Cost Savings From Reused Falcon 9]

Science on board

Along with food, water, clothing and other gear for the astronauts at the space station, the Dragon will deliver plenty of science experiments.

The experiments on board will support about 220 investigations currently happening at the space station. "They span a multitude of scientific disciplines, including biological research, the physical sciences, the human research that we're doing with the astronauts, the technology demonstration studying Earth and space from the ISS, and then last but not least, the educational activities that students have an opportunity to participate in," Camille Alleyne, an associate space station program scientist at NASA's Johnson Space Center in Houston, said at the briefing.

One astrophysics experiment, called the Neutron star Interior Composition ExploreR (NICER), will investigate the possibility of utilizing neutron stars — the ultradense cores of dead stars — to develop a type of interstellar GPS navigation system.

A new, experimental type of solar panel is also flying to the space station on the Dragon. Called the Roll Out Solar Array (ROSA), these new solar arrays are smaller, lighter and more efficient than the current solar panels that power the ISS.

The Dragon also contains some live passengers, including 40 mice and thousands of fruit flies. For a project called Rodent Research-5, the mice will help researchers study a new drug for osteoporosis, or bone density loss. The fruit flies will help investigators study the prolonged effects of spaceflight on the human heart.

More Earth-observation instruments are also on their way to the ISS. The Multiple-User System for Earth Sensing (MUSES) facility, developed by Teledyne Brown Engineering, contains new high-resolution digital cameras and hyperspectral imagers, bringing new capabilities to the space station's suite of Earth-observing technologies.

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CANNABINOIDS SHOWN TO ENHANCE TUMOR-KILLING EFFECTS OF CHEMOTHERAPY DRUGS

Rich Haridy June 5, 2017
http://newatlas.com/cannabinoids-cancer-treatment-with-chemotherapy/49899/

Cannabinoids, the group of active compounds found in cannabis, are currently getting a great deal of attention from researchers for their potential medical applications. Despite many studies still being in their nascent stages, early observations are showing these

compounds can decrease the growth of cancerous tumors. A new study has found pairing cannabinoids with chemotherapy drugs can increase the tumor-killing effects of both.

A team of oncologists at the University of London studying the effects of cannabinoids on leukemia cells in vitro, has observed that not only did cannabinoids enhance the death of cancer cells when used in combination with chemotherapy drugs, but the order in which the compounds were administered was vitally important.

Pairing cannabinoids with chemotherapy drugs can enhance the tumor-killing efficacy of both compounds (Credit: OpenRangeStock/Depositphotos)

The cannabinoids were only effective in enhancing the treatment when administered after chemotherapy. The study reports that when the order was reversed, with the cannabinoids being administered before the chemotherapy, the effect was significantly diminished.

"We have shown for the first time that the order in which cannabinoids and chemotherapy are used is crucial in determining the overall effectiveness of this treatment," explains Dr Wai Liu, who led the study.

We are still in the very early stages of clinical research into the broader effects of cannabinoids on cancer, and it's important to remember that this study was only performed in vitro and animal studies are yet to come. The researchers also note that these results do not mean that smoking marijuana has any particular anti-cancer effect.

"These extracts are highly concentrated and purified, so smoking marijuana will not have a similar effect," adds Dr Liu.

The long term goals of research like this could result in cannabinoids enhancing the effect of lower doses of chemotherapy, meaning current treatments would be more efficacious

with fewer side-effects. More studies are currently underway exploring the potential medical uses of cannabinoids, but it is possible that oncologists could soon have a new weapon in their arsenal to battle cancer.

The study was published in the International Journal of Oncology.

Source: St George's, University of London

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From: "Stephanie Osborn"

This is the way the climate scare ends; not with a bang, but a whimper

Guest Blogger / May 28, 2017
Guest essay by Ian Aitken
https://wattsupwiththat.com/2017/05/28/this-is-the-way-the-climate-scare-ends-not-with-a-bang-but-a-whimper/

What does the future hold for the climate change debate? Will there ever come a day when we see the headlines across the globe, 'It's Official – There Is No Climate Change Crisis'? Hardly – for unless we find some way to leap ahead in the currently highly immature science of climate change and manage finally to pin down the exact direct and indirect (via feedbacks) warming effect of adding greenhouse gases to our atmosphere and the exact

effects of natural changes in our climate the outcomes will remain uncertain. The eminent scientist Stephen Koonin has stated that, 'Today's best estimate of the sensitivity [of the atmosphere to the addition of carbon dioxide]… is no different, and no more certain, than it was 30 years ago. And this is despite an heroic research effort costing billions of dollars.' Basically, unless the 'Uncertainty Monster' is slain (and there is absolutely no reason to believe that will happen in the foreseeable future) neither the believers nor the skeptics can 'prove' their case. In which case we seem to be in a 'wait and see' position. But for how long?

Even if the current global warming Slowdown persisted for decades it would still be possible that dramatic and dangerous warming was just about to resume. Indeed in 2015 The UK's Royal Society expressed the view that it would take 50 years of divergence between the observations and the climate models before they would be convinced that the theory of anthropogenic climate change was flawed. We cannot be absolutely sure that there will be no climate change crisis – only that it is becoming increasingly unlikely. So the politically-correct scientific shibboleths of the 'climate change crisis' idea may well persist for a great many decades.

Having persuaded the world to spend trillions of dollars on fighting man-made climate change is the Intergovernmental Panel on Climate Change (IPCC) really going to admit that the causes of climate change are actually far more complex than they originally thought and so they may have been fundamentally mistaken about both the attribution and quantification of warming? And what about the UK's Royal Society and the American National Academy of Sciences, those most renowned of scientific institutions; are they going to admit that they may have put political correctness and scientific funding concerns before scientific objectivity? What about all those climate scientists who have been so careful to tacitly collude with the IPCC and not rock the climate change crisis boat; are they going to admit that their judgments may have been skewed by considerations of the self-interest of retaining their jobs, careers, incomes and pensions? And the many climate research units around the world; are they going to say, 'Well we must go where the science takes us – if the science says that there actually isn't a problem then we'll just have to shut up shop.'

What about all of the senior politicians in the western world who have foisted an avalanche of regulations, taxes and controls on their electorates to 'fight climate change'; are they going stand up and admit that their scientific illiteracy led them to be completely fooled? Are all those prestigious environmental organizations, such as the WWF, Greenpeace and Friends of the Earth going to admit they had only 'signed up' to the global warming scare because it happened to suit their agendas, attracted donations and increased their influence? Is the BBC, that globally respected bastion of impartiality and objectivity, going to admit to the people of Britain that it abused its position of trust by simply taking on face value the selective and spun science fed to them and taking an irresponsible and unjustifiably partisan editorial approach to the climate change debate?

What about all those newspaper journalists who for years have been repeating NASA and IPCC Press Releases as 'objective facts', neither subjecting them to critical analysis nor asking any awkward questions? What about all those celebrities who have lined up to pledge their support for fighting climate change by flying less frequently in their private jets to reduce their 'carbon footprint'? What about all those school teachers who (willingly or unwillingly) taught their pupils about the climate change crisis as though it was an

undisputed fact? No, it just isn't going to happen – far too many reputations and far too much money is at stake.

There is also the strange culture in science explained by the scientific historian Thomas Kuhn as, 'Once it has achieved the status of a paradigm, a scientific theory is declared invalid only if an alternative candidate is available to take its place'. Note that he is not suggesting that this is right; instead he is saying that history shows it to be case. A credible alternative theory today is the 'cosmic ray flux theory'; but for every dollar in research funding that goes into that theory and for every mention in the media of that theory there must be ten thousand that go into the IPCC theory. It just cannot compete. And anyway it is too late – the IPCC theory grabbed the high ground decades ago and has never surrendered it. Furthermore skeptical scientists are not suggesting that there is any single, simple theory to supplant the IPCC's anthropogenic climate change theory, the 'Climate Change Orthodoxy'. Instead they offer a theory that climate change probably derives predominantly from natural ocean-atmosphere oscillations and/or by natural solar variations (irradiation and cosmic ray flux) and/or by natural cloud cover variations and/or the Milankovitch Effect, i.e. it is probably predominantly just natural.

On the one hand you have something that is superficially simple, certain and easy for the public and journalists and politicians to understand ('our carbon dioxide emissions are definitely the cause of dangerous climate change and reducing them will definitely solve the problem') and on the other hand something that is complex, nuanced, uncertain and requires a considerable knowledge of science to understand ('various complex and interlinked phenomena in nature, none of which is well understood, are probably the predominant cause of climate change that in some ways will probably be beneficial but in others may not').

It is a very easy to understand, very alarming problem with a very 'simple' solution ('decarbonize globally') vs. a very hard to understand, very unthreatening problem with no man-made solution (since we are at the mercy of nature). Which is more likely to get the media headlines, sell newspapers and grab the public imagination? And simply admitting that our knowledge of climate change science is too slight to know 'what causes climate change' is never likely to supplant the dominant paradigm of the Climate Change Orthodoxy.

Perhaps the Climate Change Orthodoxy theory lives on for little better reason than the failure of a simple, certain, compelling alternative theory to supplant it – and if the skeptical scientists are right then no such theory is ever likely to be found. Add to the huge vested interests of the media the huge vested interests of the scientists, the scientific authorities and the army of people who profit hugely from subsidized renewables and the dominant paradigm appears secure for the indefinite future.

Instead we may find the years rolling by with rising man-made greenhouse gas emissions yet modest, nonthreatening, global warming (and perhaps some temporary global cooling). In the fullness of time the inability of the climate change models to predict climate states generally, and atmospheric temperatures specifically, will become increasingly inescapable, the funding for climate change science research will quietly peter out (at first research into physical climate science, then later research into climate change mitigation, then finally research into climate change adaptation), the climate change researchers will quietly move on to other things (perhaps researching natural climate variability – or global cooling), the journalists and politicians will quietly stop talking about the climate change crisis – and the

whole issue will quietly fade from the public consciousness. Basically, the man-made climate change crisis idea will probably simply follow a trajectory, not dissimilar to that of many other 'man-made global crises' (such as the DDT or BSE 'crises'), of

1) Scientists misreading the evidence, confusing correlation, cause and effect – and then, long before the science is sufficiently mature to warrant it, leaping to alarmist conclusions

2) Scientists then exaggerating the risks (and suppressing uncertainties and contradictory evidence) in order to attract government funding to investigate the potential scare properly

3) Journalists hyping the potential scare in order to drum up public alarm (and sell newspapers)

4) The public, unable to understand the science, over-reacting and clamoring for political action

5) Politicians, unable to understand the science, over-reacting and responding to public alarm by rushing in ill-considered policies to mitigate the perceived risks

6) Politicians increasing scientific funding in order to find more evidence in support of the scare in order to confirm the rightness of their policies

7) Scientists duly supplying more evidence in order to attract further government funding (this evidence being used by journalists to drum up even more public alarm)

8) A rising awareness by scientists that the problem is actually much more complex (and the causes much more ambiguous and uncertain) than they originally surmised – and, anyway, far less risky

9) A rising awareness by the public and politicians that the risks have been exaggerated and the scare is not materializing – and the policies have done, and are doing, more harm than good

10) Scientists, journalists and politicians quietly retreating from association with the scare

11) The scare fading from the public consciousness

Today we are at about point (8). The trouble is that at this point the investment in the 'cause' has been so vast (both in terms of money and reputation/ego) that calling a halt has become virtually impossible (although Trump's withdrawal from the Paris climate accord would be a good start). After (11), in the 2030s or 2040s perhaps, we may start to see many PhD theses being written by psychology graduates about the great global delusion of the catastrophic climate change scare of the early 21st century and the extraordinary story of how a small group of highly politicized scientists and computer modelers brought science into public disrepute as never before by corrupting the scientific process in order to achieve their hubristic and utopian goals.

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From: "Jim Woosley" Jimwoosley@aol.com

This says it all

Mathematical models based on the same physical principles can be used to generate either short-term weather forecasts or longer-term climate predictions; the latter are widely applied for understanding and projecting climate change. ... Manipulating the vast datasets and performing the complex calculations necessary to modern numerical weather prediction requires some of the most powerful supercomputers in the world. Even with the increasing power of supercomputers, theforecast skill of numerical weather models extends to only about six days....A more fundamental problem lies in the chaotic nature of the partial differential equations that govern the atmosphere. It is impossible to solve these equations exactly, and small errors grow with time (doubling about every five days). Present understanding is that this chaotic behavior limits accurate forecasts to about 14 days even with perfectly accurate input data and a flawless model.

NUMERICAL WEATHER PREDICTION
From Wikipedia, the free encyclopedia

For a broader coverage related to this topic, see Atmospheric model.

https://en.wikipedia.org/wiki/Numerical_weather_prediction

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AIR FORCE CADET CREATES BULLETPROOF BREAKTHROUGH

By Kelly David Burke, Alicia Acuna, Published June 02, 2017, Fox News
http://www.foxnews.com/us/2017/06/02/air-force-cadet-creates-bulletproof-breakthrough.html

Air Force Academy cadet creates bulletproof substance

Air Force cadet Hayley Weir had an idea that turned out to be a game changer. "It was just the concept of going out there and stopping a bullet with something that we had made in a chemistry lab."

The 21-year-old Weir approached Air Force Academy Assistant Professor Ryan Burke with the idea. He was skeptical.

"I said, 'I'm not really sure this is going to work, the body armor industry is a billion-plus-dollar industry," he noted.

Weir's idea was to combine anti-ballistic fabric with what's known as a shear thickening fluid to create a less heavy material to use in body armor. She demonstrated the principle to Burke by combining water and cornstarch in a container and asking the professor to jam his finger into the paste-like goo.

"I jam my finger right into this bowl, and I almost broke my finger! Hayley's laughing because I've got this finger that I'm shaking and I'm saying, 'You know, that's pretty impressive stuff.'"

Convinced, Ryan worked with Weir for several months in a small lab at the Air Force Adacemy in Colorado Springs. They were helped and advised by Dr. Jeff Owens, Senior Research Chemist at the Air Force Civil Engineer Center at Tyndall Air Force Base in Florida.

They tried combining several different ingredients to come up with the exact formula for the shear thickening fluid, and the correct way to layer it with ballistic fibers.

"The pieces are not new," Weir explains, "everything that we've used in there has been researched (before) in some capacity for ballistics protection."
They tested their combinations on the firing range, failing time and again, until one day their quarter-inch thick design repeatedly stopped a round fired from a 9mm handgun.

Weir and Ryan's excitement was tempered by the range safety officer who pulled his .44 Magnum and told them bluntly, "This will fail."

Ryan says, "We loaded it in and it stopped it. And it stopped it a second time, and then a third time."

They realized they had hit on something special, that could potentially lighten the average 26-pound body armor kit worn by servicemen in the field by as much as two thirds.

"This is something that our competition doesn't have right now," Weir explained. "And with this advantage our soldiers, if they wear this body armor, will be able to move faster, run farther, jump higher."

Body armor for the military and first responders may not be the only thing that can be improved by the new fabric. It could possibly be used to reduce or replace the thick metal plates that protect military aircraft, tanks and other vehicles.

"And there's some significant gravity and weight behind that," Ryan said. "And what it could mean for people like my friends who are still active duty in the military, that are going downrange, serving overseas."

A patent for the as yet unnamed design is pending, and if money is ultimately made, the Air Force will share the profits with Weir, Ryan and Owens.

"It doesn't feel like it's that great of an achievement," Weir muses, "just because it's been something that we've enjoyed doing."

The Air Force believes it is definitely a great achievement. They are providing the newly graduated 2d Lt Weir with a full-ride scholarship to Clemson University, where she will earn her Master of Materials Science and Engineering, before returning to the Air Force to continue her work.

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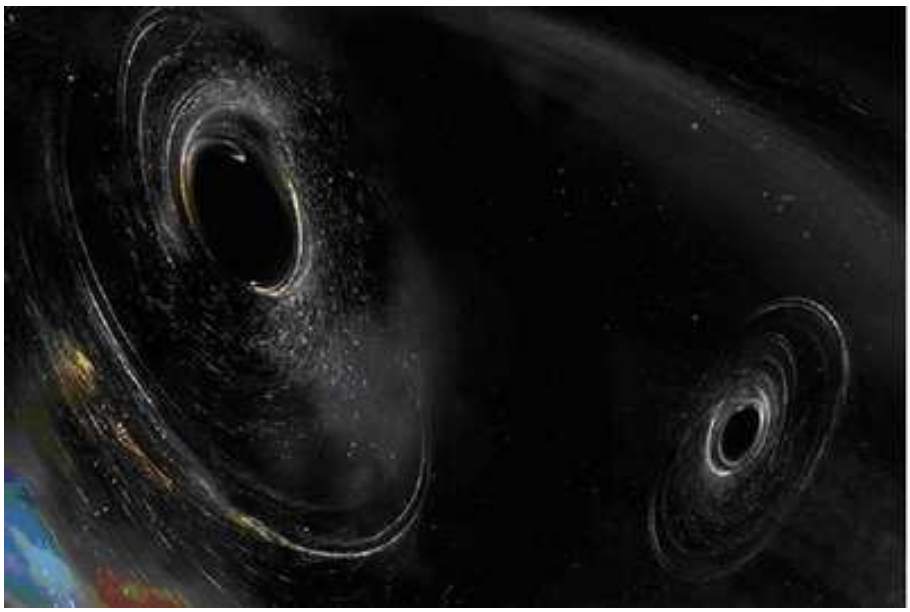
From: "Christina Cowan" cowan1028@earthlink.net

LIGO'S LATEST BLACK-HOLE MERGER CONFIRMS EINSTEIN, CHALLENGES ASTROPHYSICS

New results from the gravitational wave observatory hint that black holes move in mysterious ways

By Lee Billings on June 1, 2017
https://www.scientificamerican.com/article/ligos-latest-black-hole-merger-confirms-einstein-challenges-astrophysics1/?WT.mc_id=send-to-friend

Two abnormally massive black holes spin off-kilter to their orbital plane in this artist's impression of the latest black-hole merger detected by LIGO. The sizes and spin misalignments of these black holes suggest the pair formed in a surprisingly dynamic fashion that theorists are now struggling to understand. Credit: LIGO/Caltech/MIT/Sonoma State (Aurore Simonnet)



Some three billion years ago, when Earth was a sprightly ocean world dotted with protocontinents and inhabited solely by single-celled organisms, a pair of black holes spiraled together and collided in a far-off region of the universe, leaving behind a single black hole some 50 times heavier than our sun. Emitting no light, the entire affair should have remained forever lost to the void.

Instead, the invisible violence of the pair's final moments and ultimate merging was so great that it shook the fabric of reality itself, sending gravitational waves—ripples in spacetime—propagating outward at the speed of light. In the early morning hours of January 4, 2017, those waves washed over our modern Earth and into the most precise scientific instrument ever built, the Advanced Laser Interferometer Gravitational-Wave Observatory (LIGO). There the waves shifted the positions of vacuum-insulated, laser-bathed mirrors by less than the radius of a single subatomic particle. Traveling at light-speed, the waves first perturbed LIGO mirrors set up in Hanford, Wash., before passing through a second set of mirrors in Livingston, La., some three milliseconds later. Synced together from each station's moving mirrors and converted to audible frequencies, the cosmos-quaking gravitational waves sounded like a single, soft "chirp." Analyzing it, researchers are teasing out remarkable and otherwise-inaccessible details about the hidden lives of black holes. Announced Thursday by members of the LIGO team, the findings are described in Physical Review Letters.

As inconceivable as it may seem, tuning in to such chirps is now becoming routine. First predicted by Einstein more than a century ago as a consequence of his theory of general relativity, gravitational waves were long thought to be beyond observational reach—if not entirely nonexistent. But the chirp from January 4, dubbed "GW170104," is actually LIGO's third and farthest-reaching detection of gravitational waves, coming from somewhere about

3 billion light-years away. It follows earlier chirps from two other events detected separately in late 2015 that each occurred closer by, yet still more than a billion light-years distant.

Other cosmic phenomena such as supernovae in the Milky Way and colliding neutron stars in our galactic neighborhood should also produce detectable gravitational waves, each with their own accompanying revolutionary insights, but so far all three of LIGO's detections have been death-rattles from merging pairs of black holes in remote stretches of the universe.

GRAVITY RAINBOWS?

For the time being, thousands of scientists around the world are making the most of LIGO's limited view and the project's three confirmed detections. Whereas the "loudness" of each chirp has clearly conveyed each event's distance from us, LIGO's twin stations can at present only vaguely constrain their celestial sources, which may lie anywhere within huge swaths of the heavens containing thousands upon thousands of large galaxies. So thirsty are theorists for new insights into black holes and relativistic processes that, with each LIGO detection, observational astronomers have leapt into action to target those enormous patches of sky, hoping to see some afterglow or other emission of electromagnetic radiation—even though by definition the resulting larger black hole should emit no light.

GRAVITATIONAL WAVES ARE THE RINGING OF SPACE-TIME

Fortunately, even without light the merger's gravitational waves reveal much. LIGO team members have already used the billion–light-year intergalactic traverses of the first two chirps to look for signs of "dispersion" in the propagation of gravitational waves—a phenomenon analogous to how rays of light traveling through a prism disperse based on their wavelength to form rainbows. According to Einstein's theory of general relativity, gravitational waves should experience no dispersion at all—and any deviation from that prediction would suggest Einstein's relativistic reckoning of the universe is somehow incorrect, potentially pointing the way to new breakthroughs in physics. Signs of any dispersion should have been obvious in LIGO's third event, GW170104, because its gravitational waves traveled across three billion light-years, rather than the one billion of LIGO's previous two events. But when researchers looked, they saw no gravitational rainbows. "We made very careful measurement of that effect," said LIGO team member Bangalore Sathyaprakash of The Pennsylvania State University and Cardiff University. "But we did not discover any dispersion, once again failing to prove that Einstein was wrong."

Using that same measurement, researchers also honed in on the mass of the graviton, the hypothetical particle that mediates the force of gravity. "Basically we are testing general relativity in a new regime," says Laura Cadonati, a physicist at Georgia Institute of Technology and LIGO's deputy spokesperson. "The fact that this event is twice as far as the previous two gives us a longer baseline to test the dispersion relation, and as a result we now have a limit on the mass of the graviton that is 30 percent tighter than the one we previously set. One could say we are putting general relativity to a tighter and tighter test—it is still holding, but with more signals we may find something that does not quite agree."

MYSTERIOUS MIDDLEWEIGHT MERGERS

Although LIGO's latest event may be a brick in the towering edifice of Einstein's general relativity, it is also restructuring the foundations of our understanding of black holes.

Before LIGO's detections, astronomers only had definitive observations of two varieties of black holes: ones that form from stars that were thought to top out around 20 solar masses; and, at the cores of large galaxies, supermassive black holes of still-uncertain provenance containing millions or billions of times the mass of the sun. Both are thought to be important for understanding the formation and evolution of galaxies, and thus to some degree important for the formation and evolution of everything galaxies contain—including stars, planets and people. Most of the black holes in LIGO's mergers have been middleweights, being heavier than that 20–solar mass limit but much lighter than the supermassive variety, raising questions about their origins and relationship to the two well-studied populations of black holes.

The prevailing explanation for LIGO's bulky black holes is that they form from very massive stars that are also quite pristine, composed almost entirely of hydrogen and helium with scarcely any heavier elements at all. Most stars of such immensity would have more heavy elements, causing them to lose much of their mass via high-speed winds whereas "low metallicity" stars would have weaker winds and keep more of their star stuff, ultimately ending their lives by collapsing to become overlarge stellar black holes.

Making LIGO's merging black hole pairs, one conventional theory goes, would then require the "binary evolution" of two massive, low-metallicity stars that form as a pair. If, for instance, the two stars are very close, over the courses of their lives they can swap gas from their atmospheres back and forth in a cyclic process that pulls their orbits even closer and eventually produces two tightly orbiting, supersize black holes. At the end of this process, the spins and orbits of both black holes would have become inextricably linked, so each black hole's equator would be aligned with the plane of their shared orbit.
"Think of black holes as being like tornadoes that drag stars and matter around them," Cadonati explains. "Now think of two going around each other, and each one spinning clockwise or counterclockwise," aligned with the orbital motion. Two black holes with such an alignment would possess more rotational energy than an unaligned pair, and thus require ever-so-slightly more time to coalesce together in the final moments of their merger. The deepest mystery of GW170104, LIGO's latest discovery, is that the merger happened too quickly for both of its progenitor black holes to be so aligned; in terms of Cadonati's analogy, at least one of the orbiting "tornadoes" must have been paradoxically tilted near or on its side.

The most common explanation for black hole pairs with such "spin misalignment" is that they did not form from the binary evolution of isolated twin stars. Instead, each black hole must have formed independently, and somehow found its partner after millions or billions of years of wandering through the universe. Any eventual union through this "dynamical formation" channel would most likely take place in thick swarms of stars called globular clusters, says Fred Rasio, a physicist at Northwestern University who is not a member of the LIGO collaboration. "Imagine throwing a thousand black holes into a mosh pit where they kick each other around like crazy," Rasio says. "Their spins will be randomized. The dynamics don't care which way the holes are spinning, so when they are bound into a pair that merges, their spins have no correlation with how they orbit."

BLACK HOLES FROM THE BIG BANG?

According to some theorists, the best explanation for GW170104's curious misalignment is that its black holes did not start out as stars at all. "Even in dense globular clusters, these

black holes would not form in sufficient density to find each other in the age of the universe," says Juan García-Bellido, a professor at the Autonomous University of Madrid who is not a member of the LIGO collaboration. García-Bellido is a leading proponent of the unorthodox idea that LIGO's abnormally heavy, oddly misaligned merging black holes are actually part of a putative population of "primordial black holes." Rather than arising from stars, such exotic objects could have emerged in the first moments after the big bang, coalescing from particularly dense regions of the fiery plasmatic fog that then suffused the universe. If grouped in clusters, primordial black holes could also form merging pairs with misaligned spins.

There is, however, an additional wrinkle to ascribing primordial origins to some or all of LIGO's observed black holes—something that could be seen as either the theory's most alluring feature, or a nasty bug. Clusters of primordial black holes dense enough to produce LIGO's newfound population of merging ones, García-Bellido and others say, could also be a natural solution to the mystery of dark matter—the elusive and invisible 80 percent of the universe's matter that astronomers see solely through its gravitational effects on glowing stars and gas in galaxies.

"The idea would be that [the primordial black holes] would be concentrated in halos around the matter we can see," said Michael Landry, the head of LIGO's Hanford Observatory, summarizing the speculative concept in response to a question at a recent press conference. "It's not impossible that what we're seeing are primordial black holes that form the dark matter." On the other hand, Landry added, some teams of astronomers occasionally looking for halos of primordial black holes around the Milky Way have yet to find evidence they exist in sufficient numbers to account for the effects of dark matter. Whether black holes from the big bang explain dark matter—not to mention LIGO's results—is an "open question," Landry said.

HEARING THE BLACK HOLE SYMPHONY

Whether born from binary evolution, dynamical pairing, the big bang or something else entirely, the true origins of LIGO's mysterious black hole mergers could soon be revealed. The collaboration's current best guess is that somewhere between 12 and 213 such mergers occur each year in a cubic volume of space a bit over three billion light-years on a side. This suggests LIGO—which is in the midst of upgrades to boost its sensitivity and planning for a new station in India—could eventually be detecting the chirps from black hole mergers at a rate of anywhere between once per day to once per week. Upgrades are also in progress for Virgo, a companion gravitational-wave observatory approaching LIGO's sensitivity. As early as this summer both projects will simultaneously monitor the sky to better localize the origins of any new celestial gravitational grumbles. Beyond LIGO and Virgo, additional observatoriesare likely to debut in coming years around the world, creating a globe-girdling network for finer-grained gravitational-wave searches. By the 2020s, the chirps will come so fast and furious, from so many merging pairs of black holes, their sounds could form a symphony.

"It's not a single one or two black hole binaries by which we can distinguish between different models," Sathyaprakash said. "It's only from a population of detections, which will give us distributions for spins and for masses. That's where the differences between formation mechanisms will become clear." Very heavy, misaligned black hole pairs could prove to be very rare, strengthening the case that most mergers come from isolated systems of binary stars—or they could prove common, suggesting denser, more dynamical

origins. And if, García-Bellido says, any black hole in a LIGO merger proves to weigh less than our sun, this would be a "smoking gun" for primordial black holes, as such relatively minuscule black holes are thought impossible to form from stars.

"Before our discovery, we didn't even know for sure that these [middleweight] black holes existed," Cadonati said at the press conference announcing GW170104. "What we do know now is, first of all, they do exist, they may have played an important role in the early universe and we're now starting to get a glimpse into how they behaved…. This has really opened a new window on the universe, and we're learning more about where we're coming from. That's the big excitement."

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NO, THERE WASN'T AN ADVANCED CIVILIZATION 12,000 YEARS AGO

Did an advanced civilization disappear more than 12,000 years ago?

By Michael Shermer | Scientific American June 2017 Issue
https://www.scientificamerican.com/article/no-there-wasnt-an-advanced-civilization-12-000-years-ago/?WT.mc_id=send-to-friend

Credit: Izhar Cohen

Graham Hancock is an audacious autodidact who believes that long before ancient Mesopotamia, Babylonia and Egypt there existed an even more glorious civilization. One so thoroughly wiped out by a comet strike around 12,000 years ago that nearly all evidence of its existence vanished, leaving only the faintest of traces, including, Hancock thinks, a cryptic warning that such a celestial catastrophe could happen to us. All this is woven into a narrative entitled Magicians of the Gods (Thomas Dunne Books, 2015). I listened to the audio edition read by the author, whose British accent and breathless, revelatory storytelling style are confessedly compelling. But is it true? I'm skeptical.

First, no matter how devastating an extraterrestrial impact might be, are we to believe that after centuries of flourishing every last tool, potsherd, article of clothing, and, presumably from an advanced civilization, writing, metallurgy and other technologies—not to mention trash—was erased? Inconceivable.

Second, Hancock's impact hypothesis comes from scientists who first proposed it in 2007 as an explanation for the North American megafaunal extinction around that time and has been the subject of vigorous scientific debate. It has not fared well. In addition to the lack of any impact craters determined to have occurred around that time anywhere in the world, the radiocarbon dates of the layer of carbon, soot, charcoal, nanodiamonds, microspherules and iridium, asserted to have been the result of this catastrophic event, vary widely before and after the megafaunal extinction, anywhere from 14,000 to 10,000 years ago. Further, although 37 mammal genera went extinct in North America (while most other species survived and flourished), at the same time 52 mammal genera went extinct in South America, presumably not caused by the impact. These extinctions, in fact, were timed with human arrival, thereby supporting the more widely accepted overhunting hypothesis.

Third, Hancock grounds his case primarily in the argument from ignorance (because scientists cannot explain X, then Y is a legitimate theory) or the argument from personal incredulity (because I cannot explain X, then my Y theory is valid). This is the type of "God of the gaps" reasoning that creationists employ, only in Hancock's case the gods are the "magicians" who brought us civilization. The problem here is twofold: (1) scientists do have good explanations for Hancock's X's (for example, the pyramids, the Great Sphinx), even if they are not in total agreement, and (2) ultimately one's theory must rest on positive evidence in favor of it, not just negative evidence against accepted theories.

Hancock's biggest X is Göbekli Tepe in Turkey, with its megalithic, T-shaped seven- to 10-ton stone pillars cut and hauled from limestone quarries and dated to around 11,000 years ago, when humans lived as hunter-gatherers without, presumably, the know-how, skills and labor to produce them. Ergo, Hancock concludes, "at the very least it would mean that some as yet unknown and unidentified people somewhere in the world, had already mastered all the arts and attributes of a high civilization more than twelve thousand years ago in the depths of the last Ice Age and had sent out emissaries around the world to spread the benefits of their knowledge." This sounds romantic, but it is the bigotry of low expectations. Who is to say what hunter-gatherers are or are not capable of doing? Plus, Göbekli Tepe was a ceremonial religious site, not a city—there is no evidence that anyone lived there. Moreover, there are no domesticated animal bones, no metal tools, no inscriptions or writing, and not even pottery—all products that much later "high civilizations" produced.

Fourth, Hancock has spent decades in his vision quest to find the sages who brought us civilization. Yet decades of searching have failed to produce enough evidence to convince archaeologists that the standard timeline of human history needs major revision. Hancock's plaint is that mainstream science is stuck in a uniformitarian model of slow, gradual change and so cannot accept a catastrophic explanation.

Not true. From the origin of the universe (big bang), to the origin of the moon (big collision), to the origin of lunar craters (meteor strikes), to the demise of the dinosaurs (asteroid impact), to the numerous sudden downfalls of civilizations documented by Jared Diamond in his 2005 book Collapse, catastrophism is alive and well in mainstream science. The real magicians are the scientists who have worked this all out.

This article was originally published with the title "Romance of the Vanished Past"

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OUR OLDEST ANCESTOR: IT'S IN THE BAG

By Gemma Tarlach | January 30, 2017 10:00 am

Say hello to my little friend (and our great-granddaddy to the nth), Saccorhytus coronarius. Credit: S Conway Morris/Jian Han.

Who's your daddy, give or take a few hundred million years? Researchers believe a 540-million-year-old creature unearthed in China is our oldest ancestor, and I can definitely see the family resemblance.

Publishing today in Nature, the study introducing us to Saccorhytus coronarius places the tiny creature in the earliest days of the Cambrian Period, some 540 million years ago. Researchers discovered 45 specimens of the animal in limestone deposits in South-central China.

The team classifies Saccorhytus as a deuterostome, one of the major groups of animals and the branch of the Tree of Life that includes vertebrates. Prior to Sir Sackybag here, the oldest deuterostomes found in the fossil record were around 520-525 million years old, though we can tell from their diversity that the actual lineage was established much earlier, during the Pre-Cambrian.

Some deuterostome lines would evolve into things like starfish and sea cucumbers while others grew a backbone, evolutionarily speaking, and ended up as dinosaurs and fish and primates and such.

If you're up on your ancient Greek, you may be wondering if deuterostomes ("second mouth") are supposed to have two mouths. Nope. It means the mouth is the second orifice to develop in the embryo, after the anus. In other words, yes, as deuterostomes we belong to the "assholes first" branch of the Animal Kingdom.

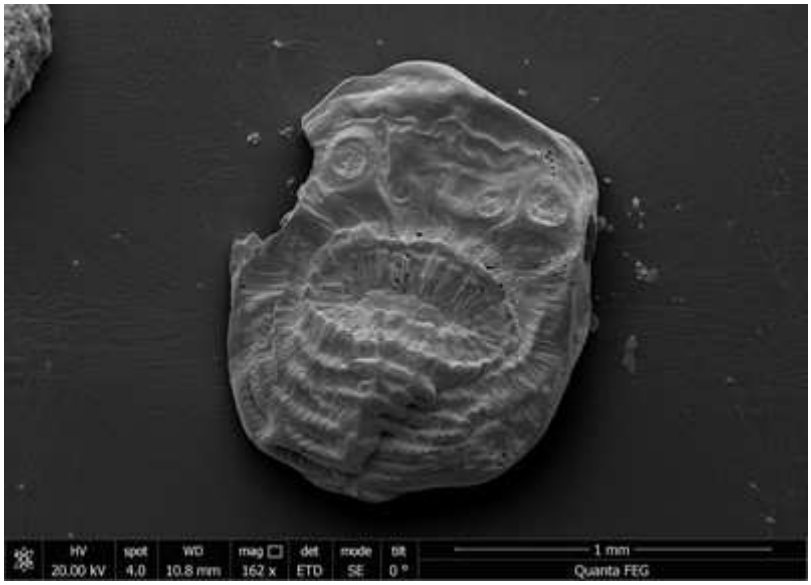
A VIEW TO A GILL

But back to Saccorhytus. So far, this is the earliest chronologically, and the most primitive, deuterostome known to science. It was about a millimeter in both length and height and probably hung out on the seabed. Its most striking features are its mouth, which is large for its body size, and structures that look like tiny volcanoes all over its sack-like body. Researchers believe these mini-cones may have flushed out the water Saccorhytus took in as it ate, making them possible precursors to fish gills.

Despite its size (a half-dozen of them could have had a dinner party on a grain of rice), Saccorhytus may well turn out to be massively significant to our understanding of how and when life developed on Earth. It comes from a time for which we have few fossils, and much of what we think we know about this period is based on molecular clock modeling. Grossly oversimplified, that's a way of deducing the timeframe for a common ancestor by

looking at differences between later species and counting backwards using a standard rate of mutation.

Having Saccorhytus may mean that researchers can clean that clock, so to speak, for a more precise model.



Hey, that's not a Halloween mask run over by a car, that's my ancestor! Viewed with an electron microscope, our tiny, distant ancestor Saccorhytus is no looker. Credit: Jian Han, Northwest University, China.

Please Let Me Call Him Bilbo BAGgins

The less-than-attractive scientific name of this less-than-attractive microfossil calls out its winkled, bag-like body and mouth resembling a crown.
And yes, more than 500 million years of evolution between SacDaddy and modern vertebrates have changed up a lot of observable traits, but I do believe I can see hints of our most ancient heritage even today.

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NASA'S SILVER SNOOPY AWARD, EXPLAINED

The cartoon beagle has been flying with the space agency since the 1960s.

BY ERIC GRUNDHAUSER, MAY 31, 2017

The Silver Snoopy pin. NITRORAT/CC BY-SA 3.0

http://www.atlasobscura.com/articles/silver-snoopy-nasa-award

YES, NASA REALLY DOES GIVE out a prestigious award called the Silver Snoopy. But it isn't given to astronauts.

Instead, astronauts give them to members of their various research and support staffs, in recognition of their

contributions to the safety of the space program. Why Snoopy? Because in the 1960s, there was no one hotter.

In that decade, the popularity of Charles M. Schulz's Peanuts characters were at an all-time high. The first animated special, A Charlie Brown Christmas, hit the airwaves at the end of 1965. Earlier that same year, the characters were featured on the cover ofTime. In the Peanuts gang, and specifically in breakout star Snoopy, NASA saw a way to bring a beloved, smiling face to the space program at a time when it desperately needed one.

Recall that in 1967, Apollo 1 suffered a catastrophic fire in the command module that killed all three crew members. The tragedy forced the massive space agency to grapple with how they could help their often disconnected internal departments feel closer to the actual astronauts and their mission. By 1968, NASA employed some 268,000 people, a great number of whom were solely dedicated to sending a handful of astronauts into space.

The Silver Snoopy award came out of these post-Apollo 1 efforts, and was the brainchild of Al Chop, then the director of public affairs for the Manned Spacecraft Center.

Astronaut John W. Young holds up a picture of Snoopy in an image from the Apollo 10 mission. NASA/PUBLIC DOMAIN

As he recounted in a 2000 article in the Houston Chronicle (shared on Collect Space), Chop went to the United Feature Syndicate, which controlled the rights to Peanuts, to ask permission to use Snoopy for the award. Initially, they were reluctant to let the beagle "moonlight," until Chop mentioned that he could probably send Snoopy to the moon. Before long, and with the blessing of Schulz himself, Snoopy was approved for work with NASA.

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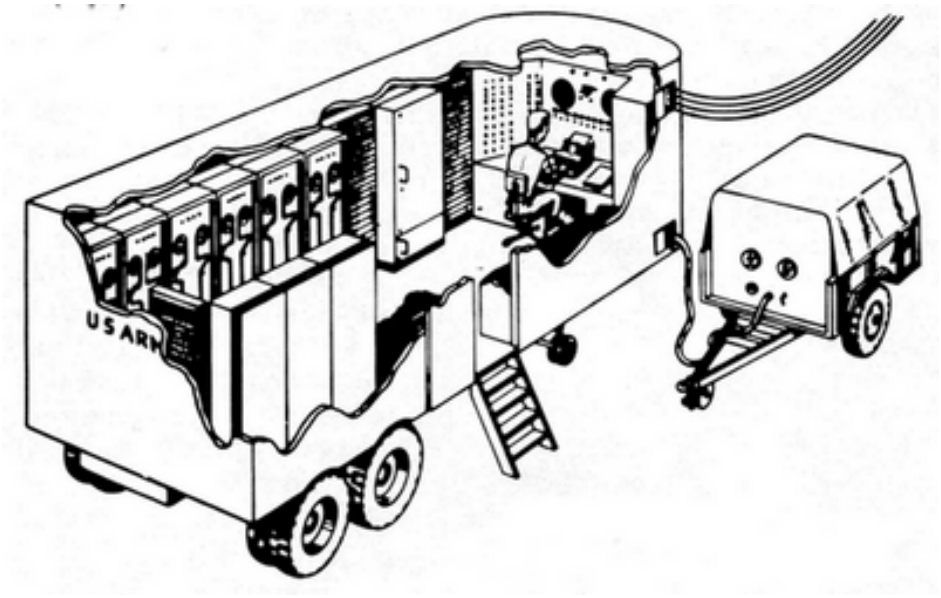
From: "Mel Boros" boros@pobox.com

COBOL PROGRAMMERS KNOW OLD != BAD

Most articles about COBOL imply that the language is obsolete, companies using it are foolish, and it's hard for young people to learn. But these may be gross misconceptions.

By Evan Koblentz | June 2, 2017, 7:57 AM PST
http://www.techrepublic.com/article/cobol-programmers-know-old-is-not-bad/?ftag=TRE684d531&bhid=20475111516392849658393921790594O



A rendering of MOBIDIC (Mobile Digital Computer), one of the earliest systems programmed in COBOL. Image: U.S. Army Signal Corps Museum at Aberdeen Proving Ground

A myth about COBOL, the Common Business-Oriented Language invented in 1959, is that large organizations use it only because it's too tedious to rewrite their programs in something modern and because nobody young knows how to move their employers away from it.

Reality begs to differ. Large organizations use COBOL because it's incredibly efficient at high-end transaction processing applications in ways that no newer language can match; the programs operating today are largely based on COBOL updates from 2002 or, at worst, 1985, and learning how to write its code can be mastered in a few weeks by any competent C or Java developer.

COBOL remains popular for IBM's z series of mainframes and for non-IBM distributed systems, too. "It's solving a very important problem in a good way, and people continue to use it," noted Kevin Stoodley, IBM fellow and CTO for z Systems software.

The language is steeped in computer history. COBOL began in 1959 through an industry standards committee notably featuring two prominent female engineers. U.S. Navy Adm. Grace Hopper led the master committee to make a high-level language, while committee member Jean Sammet, who died May 20, 2017, led a subcommittee for the language itself.

Sammett worked for Sylvania at that time. She was responsible for the COBOL compiler of MOBIDIC (Mobile Digital Computer) being made on contract to the US Army Evans Signal Laboratory in Wall, NJ. Mobile was a relative term, as the computer required two 30-foot tractor trailers. This may have been the earliest computer to be programmed in COBOL.

Sylvania built six units. The computers were considered successful by Army users stateside and in Europe. System administrators, writing in 1973 of their experiences with MOBIDIC in the 1950s-1960s, said they were "pleasantly amazed by... the sophistication of

the applications for which it has been used," and that they would've kept using it if its hardware had not become obsolete.

Today's COBOL developers widely agree that the language keeps outlasting the hardware. IBM COBOL is of course the most popular version for mainframes. Another company, Micro Focus, is a leader in COBOL for distributed systems. There are other lesser-used flavors such as the open-source GnuCOBOL.

In any version it could take dozens of lines of COBOL for every one line of Java, but the latter just isn't as fast for crunching troves of so-called big data, experts assert. Just about the only thing quicker would be moving data around a processor by hand. "If you really want to be efficient, go make sure you use the exact right assembler instruction code," observed IBMer Maria Boonie, vice president for z Systems software development.

Still, "Starting about 2007 we went back and looked at this—is this rhetoric of COBOL being dead possibly true—and concluded by the numbers it's simply infeasible. It's not going away, it's thriving," Stoodley said.

Thriving may be a stretch, although Stoodley added that IBM expects the industry's COBOL standards committee to regroup following its disbandment after a minor update in 2014. (TechRepublic's messages to the committee convener went unreturned.)
Most customers write COBOL to maintain legacy applications. Stoodley said he does know of some new applications written in the language. Customers on both fronts require constant improvement from IBM's compiler, which is currently in version 6.1.

Boonie noted that recent improvements focused on XML and JSON support, along with a continuous update model for the compiler itself rather than traditional software versions. What do customers still want? "We are starting to get some [interest] about 64-bit," Stoodley said. "We're starting to think about how it would manifest itself... there are some customers starting to run into that address space limit," especially when parsing XML documents, Stoodley said.

Micro Focus for its part has a compiler in version 2.3 and plans to release 3.0 in July 2017, officials said. The company's recent emphasis has been on modernization tools such as the Eclipse integrated development environment and Microsoft Visual Basic links. The summer release will have new features for debugging and additional platform support, they said. Micro Focus is also releasing a developer's book online on June 6, 2017.

COBOL programmer Mark Levy used the language at Sony and now works for United Parcel Service in northern New Jersey. There were already rumors of COBOL's demise when his career started in 1984. Thirty-three years later, longer than most Java developers' age, and a decade beyond the age of Java itself, he's still at it.

"As a language it's very easy to go in and make changes to existing legacy systems. Overall it really has been a steady language all these years," Levy said. "You might have a system that's done for a user on the internet and that's written in Java or something else, but they end up calling back to COBOL accessing big mainframes and DB2," he said, referring to IBM's database management system.

Levy said he sees a decent amount of COBOL developers in their 40s and occasionally someone in the 30s. Many are born overseas, he added. IBM's Stoodley said his company hopes to push that number younger with its Millennial Mainframer blog.

Disclosure: The US Army Evans Signal Laboratory today houses the InfoAge Science History Learning Center, home to various historical organizations including the nonprofit Vintage Computer Federation. VCF is led by the author.

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From: "Jim Woosley" Jimwoosley@aol.com

HOW AMERICA LOST ITS HEAD

By Ben Shapiro, May 31, 2017
View online at: https://patriotpost.us/opinion/49364

In 2013, the Left went nuts over a rodeo clown.

The rodeo clown was performing at the Missouri State Fair, and he had the awful temerity to wear a mask of then-President Obama. "We're going to stomp Obama now," said an announcer. "Hey, I know I'm a clown,â" the rodeo clown replied. "He's just running around acting like one. Doesn't know he is one." The media quoted a bystander who compared the act to a Ku Klux Klan rally. The lieutenant governor of the state condemned the act, as did one of the senators. The rodeo clown was fired, even though he'd dressed up as other presidents in the past.

Fast-forward four years. On Tuesday, TMZ posted photos of comedienne Kathy Griffin, who has helped host CNN's New Year's Eve coverage for a decade, holding a mock-up of President Trump's severed head covered in blood. Griffin has a long record of anti-Trump sentiment, of course; in February, she told MSNBC's Chris Matthews: "I'm a big resister, and I don't believe in compromise with this president. I also think he's crazy. I think he's mentally ill. He's also an idiot." But this photo shoot crossed a rather obvious line — it celebrated Trump's prospective murder. Imaginne if anyone on the Right had done something similar with Obama. The outcry would have been deafening.

Yet the same people who ask for trigger warnings for material that might offend anyone; the same people who believe that there is a â€œrape cultureâ€ that pervades America; the same people who say that President Trump has incentivized a culture of political violence across the land; are largely silent about Griffin's antics. Why? Because political violence is no longer taboo in the United States. It's just another tactic to utilize when useful and denigrate when others engage in it.

That sentiment expresses itself on both sides of the political aisle. When Montana House candidate Greg Gianforte allegedly body-slammed a reporter, prominent conservatives including talk-show host Laura Ingraham demeaned his victim as a wuss and championed Gianforte as a sort of stalwart man's man. When leftists attacked Trump rallies during the 2016 election cycle, the media attempted to paint them as defenders of the common good against Trump himself.

The overused phrase "cycle of violence" is often used by the press to refer to situations in which an aggressor acts violently and somebody defends him. But we've entered an actual cycle in violent political rhetoric, whereby the vileness of the left provokes a direct response from the right, and vice versa.

And it's getting worse.

If you spend all day proclaiming that you're in a "civil war" with other Americans, that you're part of the "resistance," it's only a matter of time until you become willing to look the other way at violence itself. If Americans aren't your brothers and sisters, if we disagree, then they will quickly become your enemies. Kathy Griffin may think it's hilarious to hold up a bloody head of the president of the United States, but she's tearing away at the social fabric far more than President Trump. And those who back her play are helping to provoke their enemies to respond in kind.

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It takes a special kind of "stupid" to believe anything in the MSM these days, including the current weather report.
