

Welcome to the June 8th, 2016 Edition of THE REVENGE OF HUMP DAY!

Since I have gotten back from Uncle Bobby's I have been busy starting to work on my assigned last minute details for LibertyCon 29. One of the things I have been working on are the changes to the Killer Cutthroat Spades Tournament because we have moved to the American Car at the Choo Choo. While the American Car is very nice, it is a little smaller than what we are used to and will only support 5 tables at a time. Soooo, we have had to split the first round of Spades to two different times. The A round will start at 10:00 pm on Friday in the American Card and then the B round will start at 11:30 pm. That should work out pretty well for us. Also, we will be physically closer to the New Pennsylvania Station Consuite at LC29 when playing cards. So, it will be easier to get a refreshment over last year. I am starting to get really stoked about meeting my peers over the table of doom! But the first one to go down will be my adopted niece who dropped me out of the first round last year! I will be avenged! But I still love her anyway. ☺

I finally got through with the hotel setup document for the Chattanooga Choo Choo. What's a setup document you ask? Simple, I go over the layouts in each room of the Choo Choo we use for LibertyCon and give the hotel a detailed layout pictorially and in words so that they can get their work orders prepared and get their staff allocated for the weekend. It saves the hotel money and keeps us on their good side when we come in. Also it makes sure we have our ducks in a row with regard to who does what where for the convention. Just one of the myriad of details we have to go over to before the convention. Now you know when I ask Brandy if I can retire totally for the LibertyCon work she laughs like a crazy woman and says, "Lincoln freed the slaves, he said nothing about fathers!" ☺

The end of last week, Matt, our fearless Registrar, posted that we already had 704 people preregister. Well, since I see all of the registrations that are sent in via the internet, I can tell you that we are rapidly closing in on our limit of 750. I really don't know how many are left, but it's not very many. Also Brandy posted that we have only about 2 banquet tickets left. And I already know that they have been asked for by some of the family. Someone smarted off, who shall remain nameless, that it was time to go to plan B and add a couple of more tables. Brandy didn't answer me. Oops, I mean the nameless smart ass. ;^) We will see.

Even though the convention is a month away, I am busy trying to finish up my other tasks. Radios, Hucksters, Alternate database for registration, you know, nothing too strenuous.

So, on that "Humble 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>~<I>

PLANETARY STORIES ISSUE 36 AVAILABLE ONLINE

From: "Shelby Vick" planetarystories@gmail.com

With amazing offline help from Jerry Page (including hundreds of old pulp illos, some used in this issue) we present Issue 36. As always, it has both talented new authors and our

great regular writers delivering their best. That, along with tremendous artwork from Jim Garrison, George Karagiannis and others, makes for great entertainment.

Follow along as Lt Luna chats with readers in our letter column.

Then see the great discovery we reveal!

www.planetarystories.com/PS36cvr.html

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MEET THE FATHER OF MODERN SPACE ART

From: "Christine Cowan" cowan1028@earthlink.net

Chesley Bonestell knew what he was doing.

By Erik Shilling, MAY 27, 2016

http://www.atlasobscura.com/articles/meet-the-father-of-modern-space-art?utm_source=article&utm_medium=email&utm_campaign=sendtofriend



Saturn as seen from Titan, 1944 (Photo: Reproduced courtesy of Bonestell LLC)

Twenty-five years before Neil Armstrong set foot on the lunar surface, Chesley Bonestell showed humanity a view from Saturn's moon. The image, which showed Earth as a distant speck—or was that just another star?—was an astonishingly beautiful painting titled Saturn as seen from Titan.

Space art had been seen before, but never as cinematically as this. The painting, published in *Life*, was a sensation, and the man behind it

would go on to paint many more inspiring images of the as-yet-unexplored universe.

Saturn as seen from Titan combined Bonestell's long-standing passion for astronomy with his experience as an artist for the silver screen. Born on New Year's Day in 1888, spending his childhood years in San Francisco and looking up at the stars and drawing what he saw. Once, he went to an observatory in San Jose and saw Saturn. Then, as a teen, he drew it.

After attending Columbia University, and leaving without a degree, Bonestell became a working architect, contributing to the Chrysler Building and the Golden Gate Bridge. Before he turned his talents to space art, Bonestell was a matte artist, painting backgrounds for a string of movies in Hollywood's golden age. In our current era of special

effects, the art of matte painting is a bit forgotten, but for decades, until at least the late 1990s, it was essential to Hollywood filmmaking. The Death Star's laser tunnel, the Statue of Liberty emerging from the sand in Planet of the Apes, the city of London in the background to a gliding Mary Poppins: all of these were matte paintings.

Bonestell churned out mattes for every major studio in Hollywood, at a time when they were an essential and cost-effective way to build scope. His work can be seen in such cinema classics as 1939's *The Hunchback of Notre Dame* and 1941's *Citizen Kane*. (That wide shot of Xanadu? That's Bonestell).

Chesley
(Photo: Wikimedia)

Bonestell



Nearly 40 years after drawing Saturn as a teen, Bonestell drew it again. But this time it wasn't from the perspective of the Earth, but from Titan, Saturn's largest moon. Bonestell submitted the image, unsolicited, to *Life* magazine. It was published in the May 29, 1944 issue, along with several other Bonestell paintings. *Life* then was an American institution, with a circulation well over a million, and Bonestell's work hit the public "like an atomic bomb," Bonestell biographer Ron Miller wrote.

How did Bonestell do it? As Miller writes, Saturn was meticulously planned. Bonestell's process started with a sketch, and then a real-life model, which he photographed, enlarged, and used to paint the artwork. As it turned out, the science of the painting was wrong—you'd likely see nothing but a thick haze if you were actually standing on Titan, not a clear view of Saturn—but that hardly mattered. The image blew up.

Bonestell would go on to publish dozens more paintings in various magazines, science fiction or otherwise. In 1949, many of those paintings were compiled into a book: *The Conquest of Space*, which showed, in 58 illustrations with near photo-realistic detail, astronauts actively exploring our solar system. (That book also helped inspire a movie of the same name.)

In 1952, there came an influential series in the now-defunct magazine *Collier's*, just before Congress was beginning to think about how to fund the space program. Five years after that, the Soviets launched Sputnik, and the Space Race was on. It's hard to say with any certainty just how influential Bonestell's paintings were in initiating humans' drive to shoot for the stars, but his artwork certainly made an impact on those dreaming of space travel.

"Chesley Bonestell not only changed my life," G. Harry Stine, the creator of amateur model rocketry once said, "but motivated two generations of people to start the human race on its way to ultimate freedom of the stars."

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The early 1950s, for Bonestell, was one of the most productive of his career. He produced space painting after space painting, depicting imagined parts of the universe in all its forms, in addition to man's (then still-hypothetical) attempts to explore it. Look, there's a colony on Mars! And, look, the surface of Mercury! And here we have the assembly of "moonships" above Hawaii!

How accurate were these paintings? Bonestell got a few things right; he seemed to know, for example, the importance rockets would have in space travel, in addition to how rockets would burn in stages before separating. And his lunar landers were also reasonably realistic, for having been imagined in 1951. Elsewhere, though, he missed the mark, as with his depiction of a circular space station, or a "baby satellite," that, for some reason, still has a rocket nose cone attached.

Still, Bonestell, who died in 1986 at the age of 98, was an exacting and demanding artist and collaborator, sometimes clashing with those who questioned his vision. He complained bitterly, for example, to the director of 1955's *Conquest of Space* that the movie's landscape of Mars, a smoothed-out panorama of red dust, was not craggy enough. (The director's vision, in fact, turned out to be closer to reality.)

"My file cabinet is filled with sketches of rocket ships I had prepared to help in his artwork—only to have them returned to me with penetrating, detailed questions or blistering criticism of some inconsistency or oversight," Wernher von Braun, who collaborated with Bonestell on the *Collier's* series, once said. "I have learned to respect, nay, fear, this wonderful artist's obsession with perfection."

Bonestell is generally credited as the father of modern space art, but he definitely wasn't the first. That title goes to Lucien Rudaux, a French astronomer and space art enthusiast who Bonestell discovered in London in the 1920s, when Bonestell was still a relatively unknown illustrator. But Rudaux's paintings of the Moon, made in the 1920s and the 1930s and compiled into a book called *Sur les Autres Mondes (On Other Worlds)*, might have just been too realistic. While Bonestell's Moon contained dramatic peaks and valleys, Rudaux's were more restrained, reflecting a surface of the Moon that Rudaux rightly expected was closer to the real thing.

"Rudaux's lunar landscapes might have been more correct scientifically," Ron Miller wrote in *A Chesley Bonestell Space Art Chronology (1999)*, "but they were also, unfortunately, as boring-looking as the Moon itself turned out to be."

In the 1960s, when Bonestell finally saw pictures of the real thing, he was disappointed.

It looks, he said, according to Miller, "for all the world like the Berkeley Hills."

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Re: The May 30, 2016, Memorial Day Edition of REVENGE OF HUMP DAY!

From: "Adam Grim" grimaf23@hotmail.com

The problem with increasing the requirements or standards for teachers is that we have a teacher shortage. Instead we should increase the number of people who want to be teachers, in part by decreasing requirements. That would give schools more and better

choices for teachers, resulting in better teachers. Teacher requirements have the same problem as price controls, you mess with the market you cause shortages and lower quality.

With politicians the same reasoning applies, unless you assume the voters are idiots who need to have their choices restricted for their own good.

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Re: The May 30, 2016, Memorial Day Edition of REVENGE OF HUMP DAY!

From: "Frank Brayman" afranklin3@gmail.com

"They shall grow not old, as we that are left grow old:
Age shall not weary them, nor the years condemn.
At the going down of the sun and in the morning
We will remember them."

From "For the Fallen" by Robert Laurence Binion, first published 21 Sept 1914.

Spoken as an invocation at the Last Post Ceremony at the British Empire War Memorial (reconstructed Menin Gate) at Ypres, Belgium. This ceremony has been carried out at sunset every day since 11 Nov 1928, except during the German occupation. Speaker used is a always a British veteran.

Musicians are from the Ypres Fire Brigade. The trumpets sound sharper than normal because they are silver, not brass. Music file of Last Post at this link: <http://www.greatwar.co.uk/westfront/ypsalignt/meningate/lastpost.mp3>

More appropriate perhaps for 11 November, but I felt like sharing as tribute to "Gramps" (1894-1972, served in the 50th Canadian Infantry Battalion 1916-18.)

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Re: Super Volcano at the North Pole

From: Stephanie Osborn

5/23/2016 — SUPER VOLCANO DISCOVERED AT THE NORTH POLE — MOUNT DUTCH UNDERSEA SUPER VOLCANO CALDERA

Uncle Timmy, this came from a crackpot site. I can find nothing about this on any legitimate geological site, and this guy has all kinds of crazy stuff posted on the web, such as that CERN is really trying to control the weather and crap like that. He's also evidently off into the whole "HAARP is really weather control" nonsense. I've hunted and hunted and, while I know there is an active volcano field under the Arctic (I think it's a little farther west of where he claims the supervolcano), there is no such a beastie as he claims that I can find on ANY legit site. (The fact that he's naming it after himself is telling, as well.)

And then, of course, when people complain or whatever, and he gets rude, and then the social media locks him out, he claims the government is "censoring" him.

I would strongly advise you to retract it in the next edition of the Revenge.

CONSIDER THE SUPER VOLCANO STORY RETRACTED. AND HERE I HAD HOPES THAT THEY WOULD FIND THE ENTRANCE TO PELLUCIDAR NEAR IT. UT

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

Re: Correction

From: Len" lkaplan@dreamscape.com

Hi, Uncle Timmy!

A correction to the WaPo article about the B-17 crew member - note the end - Rector hadn't served on the Memphis Belle:

<https://www.washingtonpost.com/news/morning-mix/wp/2016/05/26/after-long-sought-journey-to-wwii-post-u-s-vet-94-dies-quietly-at-battle-of-britain-bunker/>

I'm not sure where the misinformation came from, though it appears to also be in a Daily Mail story, but *that* one points to a Florida Today article that doesn't mention the Memphis Belle.

Still a terrific story, of course.

-Len

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Re: The May 30, 2016, Memorial Day Edition of REVENGE OF HUMP DAY!

From: "Christina Cowan" <cowan1028@earthlink.net>

I agree about military service (natch, being a vet myself) but before you go all happy about your boy Trump, seems he was just another rich kid who used deferments and (IMHO, I may be wrong) a dubious medical disqualification - bone spur? really! to avoid the draft. Didn't even bother to buy his way into the Air National Guard, which Dubya at least did. Drilling or not.

<http://www.thesmokinggun.com/documents/celebrity/deferments-helped-trump-dodge-vietnam>

And have you been listening to the latest news about his fundraising for vets? Seems a whole lot of those checks of his were written just after the "lyin' media" started asking him about it! {sigh}

it really is like the farmer with the two sizes of weevils to deal with.

HILARY OR TRUMP. TO SOME, THE DEVIL IS IN THE DETAILS. I PERSONALLY JUST DO NOT HAVE THAT HIGH MINDED OF MORALS HERE. I JUST WANT TO KICK START THE ECONOMY AND SEE THIS COUNTRY PROTECTED. UT

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

Re: The May 30, 2016, Memorial Day Edition of REVENGE OF HUMP DAY!

From: "Conley Powell" cpowell46@gmail.com

I agree with you and Heinlein, and if that makes me a fascist, so be it.

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

Re: The May 30, 2016, Memorial Day Edition of REVENGE OF HUMP DAY!

From: "Ray.Jones619" ray.jones619@comcast.net

You are right about one thing. I'm pissed off that you and your high and mighty belief that only veterans have enough sense to vote. I knew personally a couple of old (in their 80s) veterans that believed that the answer to all military or domestic problems (like overturning and burning cars in riots) was to use military force. One man was a friend of mine, but he never imposed his beliefs on me on anyone else. One man in my church wouldn't even let his wife express an opinion that was different from his. Violence was the only answer and I know this from being in classes with him. He left our church and moved to Texas about 3 years ago to live on a military base where he said people thought like himself. He died last year and I didn't mourn his death like I have many other older people in my church. Jesus didn't advocate killing as the answer to people that he disagreed with like the money changers in the temple or even the guards that arrested him. I do not feel at all that the man from my church was more qualified to vote for any federal official than I am. Just because you believe that violence and military intervention is the only way to solve anything and veterans are much more likely to side with you doesn't mean you have the right to tell me I'm not good enough to vote. And yes, this time you are directly telling me that I shouldn't be allowed to vote because I'm not a veteran. I was turned down for military service in the Vietnam war and I'm just as good as you when it comes to being able to decide what man I want as my congress person or president. And no, I didn't pick up garbage on the side of the road for a year. But that wouldn't have qualified me to be a veteran. I would have been willing to do something else for my country if it had been required. How many of the Democrat and Republican presidential contenders were in the military (not near all)? How many of Congress have served in the military, not all. Has Brandy and Derek and all of the other members of your family served in the military? If not, are they not smart enough to vote? So get off the BS, you pompous SOB.

RAY, WE LIVE IN A FREE COUNTRY AND EVERYONE HAS THE RIGHT TO THEIR BELIEFS. I PUT MINE OUT SO THAT PEOPLE CAN QUESTION THEM AND POSSIBLE ALLOW ME TO REFINE THEM AND MAKE THEM BETTER. UT

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

From: "Jim Woosley" Jimwoosley@aol.com

It Went Click



A TRUE STORY FROM... "THE HOUSTON HERALD" HOUSTON , TEXAS Last Thursday night around midnight, a woman from Houston , Texas was ...arrested, jailed, and charged with manslaughter for shooting a man 6 times in the back as he was running away with her purse. The following Monday morning, the woman was called in front of the Arraignment Judge, sworn-in, and asked to explain her actions. The woman replied, "I was standing at the corner bus stop for about 15 minutes, waiting for the bus to take me home after work. I am a waitress at a local cafe. I was there alone, so I had my right hand on my pistol in my purse hanging on my left shoulder. All of a sudden I was spun around hard to my left. As I caught my balance, I saw a man running away with my purse. I looked down at my right hand and saw that my fingers were wrapped tightly around my pistol. The next thing I remember is saying out loud, "No Way Punk! You're not stealing my pay check and tips." I raised my right hand, pointed my pistol at the man running away from me with my purse, and started squeezing the trigger of my pistol. When asked by the arraignment judge, "Why did you shoot the man 6 times? The woman replied under oath, "Because, when I pulled the trigger the 7th time, it only went click." The woman was acquitted of all charges. She was back at work the next day! That's Gun Control, Texas Style

I DON'T KNOW IF THIS IS TRUE OR NOT, BUT IT IS FUNNY. WAY TO GO TEXAS! UT

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

From Wyman Cooke's Facebook Page

When things are getting nutty, there's a squirrel for the job.

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

From: "Mike Waldrip" waldripk@gmail.com

AUSSIE HUMOR

Curly went hunting one day up in The Northern Territory' and bagged three ducks. He put them in the back of his Ute and was about to drive home when he was confronted by a surly Territory game warden who didn't like smart alecs. The warden ordered Curly to show his hunting license, so Curly pulled out a valid Northern Territory license.

The game warden looked at the license, then reached over and picked up one of the ducks, sniffed its bum and said, "This duck ain't from The Territory. This is a Queensland duck. You got a Queensland huntin' license?"

Curly reached into his wallet and produced a Queensland license.

The game warden looked at it, then reached over and grabbed the second duck, sniffed its bum, and said "This ain't a Queensland duck. This duck's from West Australia. You got a West Australian license?"

Curly reached into his wallet and produced a West Australian hunting license.

The warden then reached over and picked up the third duck, sniffed its bum, and said, "This ain't a Western Australian duck. This duck's from South Australia. You got a South Australian Huntin license?"

Again Curly reached into his wallet and brought out a South Australian license. The game warden was extremely frustrated at this point, and he yelled at Curly "just where the hell are you from?"

Curly smiled turned around, bent over, dropped his pants, and said, "You tell me, you're the expert.

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

SLEEPING WITH BOB

he guys were all at a deer camp. No one wanted to room with Bob, because he snored so badly. They decided it wasn't fair to make one of them stay with him the whole time, so they voted to take turns.

The first guy slept with Bob and comes to breakfast the next morning with his hair a mess and his eyes all bloodshot.

They said, "Man, what happened to you?"

He said, "Bob snored so loudly, I just sat up and watched him all night."

The next night it was a different guy's turn. In the morning, same thing, hair all standing up, eyes all bloodshot.

They said, "Man, what happened to you? You look awful!"
He said, "Man, that Bob shakes the roof with his snoring. I watched him all night."

The third night was Fred's turn. Fred was a tanned, older cowboy, a man's man. The next morning he came to breakfast bright eyed and bushy tailed. "Good morning!" he said. They couldn't believe it. They said, "Man, what happened?"

He said, "Well, we got ready for bed. I went and tucked Bob into bed, patted him on the butt, and kissed him good night. Bob sat up and watched me all night."

With age comes wisdom!!!

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

From: "Jim Woosley" <Jimwoosley@aol.com>

Forwarded as received. This seems very unrealistic, but stupidity does happen.

AKBAR THE SKATEBOARDER

Terrorist dressed for work with his suicide bomb ready to blow. Would you not think Akbar the skateboarder might have polished up his skateboarding skills before going out on his mission.

{This story is only 5 seconds long}

<https://qfycat.com/PlaintiveObedientFlounder>

Excrement occurs!!!!

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

From: "Townsend, Mike" mtown3721@gmail.com

CHURCH LADIES WITH TYPEWRITERS

They're Back! Those wonderful Church Bulletins! Thank God for the church ladies with typewriters. These sentences actually appeared in church bulletins or were announced at church services:

The Fasting & Prayer Conference includes meals.

Scouts are saving aluminium cans, bottles and other items to be recycled. Proceeds will be used to cripple children.

The sermon this morning: 'Jesus Walks on the Water.' The sermon tonight: 'Searching for Jesus.'

Ladies, don't forget the rummage sale. It's a chance to get rid of those things not worth keeping around the house. Bring your husbands.

Don't let worry kill you off - let the Church help.

Miss Charlene Mason sang 'I will not pass this way again,' giving obvious pleasure to the congregation.

For those of you who have children and don't know it, we have a nursery downstairs.

Next Thursday there will be try-outs for the choir. They need all the help they can get.

Irving Benson and Jessie Carter were married on October 24 in the church. So ends a friendship that began in their school days.

A bean supper will be held on Tuesday evening in the church hall. Music will follow.

At the evening service tonight, the sermon topic will be 'What Is Hell?' Come early and listen to our choir practice.

Eight new choir robes are currently needed due to the addition of several new members and to the deterioration of some older ones.

Please place your donation in the envelope along with the deceased person you want remembered..

The church will host an evening of fine dining, super entertainment and gracious hostility.

Pot-luck supper Sunday at 5:00 PM - prayer and medication to follow.

The ladies of the Church have cast off clothing of every kind. They may be seen in the basement on Friday afternoon.

This evening at 7 PM there will be a hymn singing in the park across from the Church. Bring a blanket and come prepared to sin.

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The pastor would appreciate it if the ladies of the Congregation would lend him their electric girdles for the pancake breakfast next Sunday.

Low Self Esteem Support Group will meet Thursday at 7 PM . Please use the back door.

The eighth-graders will be presenting Shakespeare's Hamlet in the Church basement Friday at 7 PM .. The congregation is invited to attend this tragedy.

Weight Watchers will meet at 7 PM at the First Presbyterian Church. Please use large double door at the side entrance.

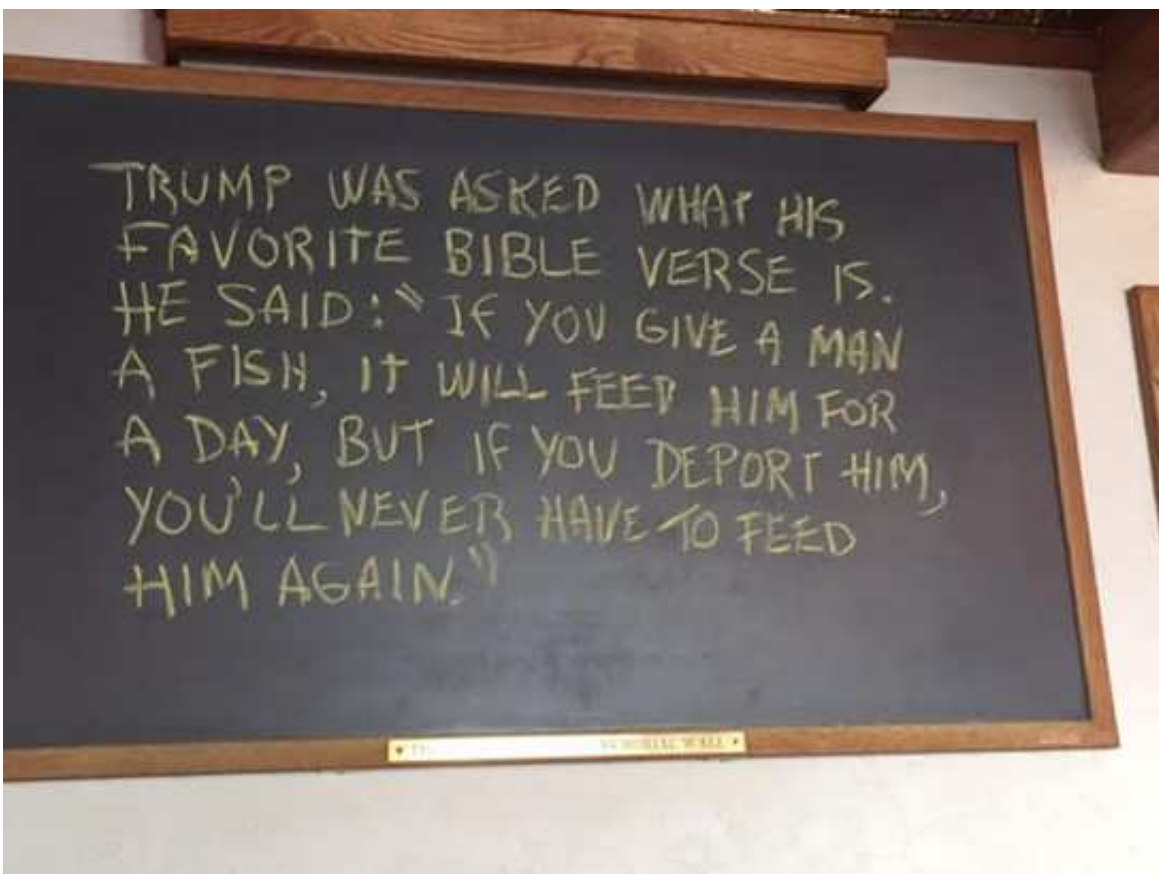
And this one just about sums them all up

The Associate Minister unveiled the church's new campaign slogan last Sunday:
'I Upped My Pledge - Up Yours.'

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

From: "Jerry Tollett" haleja@epbf.com

TRUMP'S FAVORITE BIBLE QUOTE



<T><H><I><S><~><I><S><~><A><~><C><R><Y><I><N><G><~><S><H><A><M><E>

From: "Christine Cowan" cowan1028@earthlink.net

From Christina: "Scum. Just scum. And that insults scum."

PARK SERVICE INVESTIGATING LOOTING AT PETERSBURG CIVIL WAR BATTLEFIELD

Karen Jowers, Military Times 5:38 p.m. EDT May 27, 2016

<http://www.militarytimes.com/story/military/2016/05/27/park-service-investigating-looting-petersburg-civil-war-battlefield/85054720/>



Photo: Lisa Billings/AP)

On the eve of Memorial Day, National Park Service officials are investigating a looting at the Petersburg National Battlefield, citing "a large number of excavations" in the Virginia Civil War park.

Park service staff members discovered the excavated pits earlier this week, officials said. Thieves were likely digging for relics on the field where more than 1,000 Union and Confederate soldiers died fighting during the Siege of Petersburg, from June 9, 1864,

through March 25, 1865. "There's a market for these items related to the Civil War," said Chris Bryce, a park service spokesman.

"This is an affront to the memory of people who fought and died on this field and it is destruction and theft of history from the American people," said Petersburg National Battlefield Superintendent Lewis Rogers, in an announcement of the theft. "This kind of aberrant behavior is always disgusting, but it is particularly egregious as Memorial Day weekend arrives, a time when we honor the memories of our friends and family."

"This is still a very active investigation," said Bryce. Officials are urging anyone who may have seen something to call the park service with tips or other information. The toll-free number is 888-653-0009, and callers can leave a message.

This looting is a federal crime covered by the Archeological Resources Protection Act of 1979, and the crime carries a fine of up to \$20,000, imprisonment for up to two years, or both.

While it's unlikely that soldiers were buried in the area where the looting occurred, it's not beyond the realm of possibility that there could be remains that were overlooked when troops were burying their dead, Bryce said.

The affected area is an active crime scene, but the remainder of the 2,700-acre park is open to visitors.

ACTUALLY I THINK THAT CHRISTINA IS BEING TOO NICE CALLING THESE PEOPLE SCUM. IT GIVES SCUM A BAD NAME. ALSO I THINK THAT THE FBI SHOULD BE INVESTIGATING THIS AND NOT THE PART SERVICE. THEN WHEN THEY FIND THEM, I WOULD HAPPILY VOLUNTEER TO SERVE ON THEIR JURY. AN APPROPRIATE SENTENCE WOULD BE A FIRING SQUAD BY VOLUNTEER VETERANS. UT

Christina commenting on my comment: "I think the veterans should also be re-enactors (from both sides) using replica Civil War muskets."

YOU KNOW, THAT IS NOT A BAD IDEA. UT

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Tim Bolgeo" tbolgeo@comcast.net

KATIE COURIC'S ANTI-GUN PRODUCERS REPEATEDLY VIOLATED FEDERAL GUN LAWS

Stephanie Soechtig, the producer of Katie Couric's anti-gun documentary, admitted on camera that her team illegally purchased guns across state lines.

By Sean Davis, JUNE 3, 2016

<http://thefederalist.com/2016/06/03/katie-courics-anti-gun-producers-repeatedly-violated-federal-gun-laws/>

Katie, get your gun lawyer.

By now you've probably heard about Katie Couric's new anti-gun documentary "Under The Gun," and how her producer doctored video of interviews with gun owners in order to make them look stupid and heartless. Couric's producer and director, Stephanie Soechtig, admitted to doctoring the video, and Couric herself kinda sorta apologized for it.

But that's not the worst thing that happened with the making of this documentary. It turns out that Couric's production team deliberately conspired to violate federal gun laws. According to video obtained by Ammoland, a shooting sports news website, one of Couric's producers deliberately committed at least four separate felonies by purchasing four separate firearms across state lines without a background check.

In the video, Soechtig openly admits that she directed one of her employees to purchase guns across state lines, and that he absolutely followed her orders:

SOECHTIG: We sent a producer out and he was from Colorado. He went to Arizona, and he was able to buy a Bushmaster and then three other pistols without a background check in a matter of four hours. And that's perfectly legal. He wasn't doing some sort of underground market.

[..]

And he just met someone in the parking lot of Wendy's and bought a Bushmaster. Legally. Like, this is legal.

Except it's not legal. Like, it's illegal. Super duper illegal. Quadruple illegal in the case of the Soechtig employee who purchased four firearms across state lines without processing the sale through a federal firearms licensee (FFL) in his home state of Colorado.

Federal law is abundantly clear on what types of transactions require federal background checks. Gun owners tend to understand these laws incredibly well. Gun controllers like Soechtig do not. Under federal law, all gun purchases from an FFL must be accompanied by a federal background check. It doesn't matter if the FFL sells a gun at a retail location, at a gun show, or out of the back of a car in a Wendy's parking lot. All FFL transactions require a federal background check. It doesn't matter who you are or where you're from: if you buy a gun from an FFL, the FFL must confirm that you have passed a federal background check.

Next we have interstate purchases, all of which must be conducted through an FFL in the buyer's home state. It is illegal to purchase a gun across state lines unless the transaction is processed through an FFL in the buyer's home state. And what did we just learn about all FFL purchases? That they require federal background checks. Ergo, all interstate purchases must be accompanied by federal background checks.

What does that mean? It means that a producer who resides in Colorado cannot legally buy a gun in Arizona unless that gun is shipped to an FFL in Colorado, whereby that FFL confirms that the Colorado resident can legally own that firearm. The Colorado resident who bought the gun from someone in Arizona cannot take possession of that gun until the Colorado FFL receives the gun from Arizona and confirms that the Colorado buyer can legally own that weapon. Once that happens, the Colorado FFL would transfer possession of the gun to the Colorado buyer.

The federal Bureau of Alcohol, Tobacco, Firearms, and Explosives even has a handy FAQ on its website which directly answers the question of whether you can buy a gun across state lines:

How may an unlicensed person receive a firearm in his or her State that he or she purchased from an out-of-State source?

An unlicensed person who is not prohibited from receiving or possessing firearms may purchase a firearm from an out-of-State source, provided the transfer takes place through a Federal firearms licensee in his or her State of residence.

[18 U.S.C 922(a)(3) and 922(b)(3); 27 CFR 478.29]

But that's not what happened according to Soechtig's very own testimony. According to Soechtig, she gave direct orders to an employee of hers who lives in Colorado to buy some guns in Arizona without undergoing a federal background check. He then acted on those orders, and, according to Soechtig's own admission, proceeded to illegally purchase four separate firearms from a seller in Arizona. And if he was purchasing the guns for Soechtig rather than himself, you can add illegal straw purchases to the list of federal crimes.

Soechtig's employee, acting on her orders, repeatedly violated federal gun laws. And he did so not just because of his own monumental ignorance, but because of the aggressive ignorance of Stephanie Soechtig, Katie Couric's hand-picked producer, director, and writer of the anti-gun documentary.

Soechtig's chest-thumping ignorance and arrogance on display in that interview—"Legally. Like, this is legal."—are a perfect example of why so many gun owners care so little about the opinions of sanctimonious gun controllers. Because they have absolutely no clue what they're talking about. They don't understand how guns work. They don't understand crime statistics. They don't know the difference between semi-automatic and automatic. And they can't even deign to spend 5 minutes researching actual gun laws before declaring that those laws just aren't sufficient.

The one thing gun controllers all agree on, however, is that strong enforcement of commonsense gun laws is key to preventing senseless gun violence. Katie Couric, Stephanie Soechtig, and their entire anti-gun documentary team now have a chance to put their money where their mouths are. If enforcement of federal gun laws is essential to preventing gun violence, then Soechtig and her team must pay the price for their willful and admitted violations of federal gun laws.

When Soechtig and her team plea to federal charges for violating the nation's commonsense gun laws, we'll know they're serious about cutting down on gun crime. Until then, we'll know they're just a bunch of ignorant, gun-trafficking profiteers who want to take away our rights while they violate with absolute impunity the very laws they demand.

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

DILBERT CREATOR: I'M ENDORSING HILLARY (FOR MY PERSONAL SAFETY)

Christine Rousselle, Posted: Jun 06, 2016 7:46 AM

<http://townhall.com/tipsheet/christinerousselle/2016/06/06/dilbert-creator-im-endorsing-hillary-for-my-personal-safety-n2174016>

"Dilbert" creator Scott Adams "endorsed" Hillary Clinton for president in a post on his blog Sunday, with a rather interesting caveat: He's only doing this because he fears endorsing Donald Trump could get him killed.

In Adams' view, the practice of equating Trump with Hitler is giving people a "moral permission" to assassinate him or anyone who supports his views. He also feels as though Clinton supporters are far more violent towards Trump supporters than Trump supporters are of Clinton fans. Thus, to save his own skin, he's going to publicly "endorse" Clinton.

And I would be a top-ten assassination target in that scenario because once you define Trump as Hitler, you also give citizens moral permission to kill him. And obviously it would be okay to kill anyone who actively supports a genocidal dictator, including anyone who wrote about his persuasion skills in positive terms. (I'm called an "apologist" on Twitter, or sometimes just Joseph Goebbels).

If Clinton successfully pairs Trump with Hitler in your mind – as she is doing – and loses anyway, about a quarter of the country will think it is morally justified to assassinate their own leader. I too would feel that way if an actual Hitler came to power in this country. I would join the resistance and try to take out the Hitler-like leader. You should do the same. No one wants an actual President Hitler.

So I've decided to endorse Hillary Clinton for President, for my personal safety. Trump supporters don't have any bad feelings about patriotic Americans such as myself, so I'll be safe from that crowd. But Clinton supporters have convinced me – and here I am being 100% serious – that my safety is at risk if I am seen as supportive of Trump. So I'm taking the safe way out and endorsing Hillary Clinton for president.

As I have often said, I have no psychic powers and I don't know which candidate would be the best president. But I do know which outcome is most likely to get me killed by my fellow citizens. So for safety reason, I'm on team Clinton.

Clever, in a dark way, yet also incredibly sad. His piece was a solid commentary on the sad state of political affairs in this country. Endorsing a candidate shouldn't be an act of bravery, yet here we are. Any sort of cooperation or understanding between members of different political parties (or, heck, even members of the same party who support different candidates) has gone completely out the window this election, and it is incredibly upsetting to observe. Adams probably isn't wrong about fearing for his life for supporting Trump--the protests outside the rally in San Jose were just the latest in protests-gone-violent at Trump rallies. That behavior--whether it comes from the left or from the right--is never acceptable. Celebrities who endorse Trump are mocked and shamed for their beliefs, sometimes to the point of immediately backpedaling any sort of praise they have for the candidate. This is sad. America is a free country and supporting the presumptive nominee of a major political party shouldn't be a risky career move.

Adams also said that the protesters at Trump rallies are likely doing more to prove his talking points than promote any of their own. This "endorsement" is essentially a continuation of that thought.

For what it's worth, Adams fully believes that Trump will win in a landslide... but it'll be a solid five months before we'll know if that prediction is true too.

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Michael Townsend" mtown3721@gmail.com

KAMIKAZE ATTACK IN 1945

This is incredible actual footage during the 80-minute attack on the USS Laffey. About the best naval footage ever shot by a Navy cameraman.

The camera was in the gun turret under attack. It's Amazing! The USS Laffey, (This was a Destroyer) "The ship that would not die" was hit by 6 Kamikazes and 4 bombs, but remained afloat after an 80 minute battle that included 22 Kamikaze attacks.

<https://www.dropbox.com/sh/4zkp7hvrgbcd7gd/D-qPNsG9ym?preview=Laffey+Enhanced+vo+3.wmv>

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YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Jerry Tollett" haleja@epbf.com

VET WALKS INTO RESTORATION HANGAR, STUNS THEM WITH UNLIKELY STORY

100 year old vet reunited with his WWII aircraft - You Have To Love Stories Like This!

<http://worldwarwings.com/vet-walks-into-restoration-hangar-tells-them-most-unlikely-stories>

As of this writing, World War II ended over 70 years ago. Although this awful conflict took place relatively recently in the scope of world history, nowadays its weight seems to be fading. Although we here at World War Wings love the history of the planes in particular, we of course do respect and try to keep the history of the entire war alive.

It's sometimes really sad to hear how much people know, or actually don't know, about the history of this war. This is only getting worse by the day as the only remaining survivors are dying everyday; their stories with them.

The P-38 restored in this story is called White 33.

This is why we're so happy every time we find a story like this one.

We're not going to give you too much information in this article about it, as the video pretty much sums up the whole story in just a few minutes. It is incredible however that such a story even came to be, as the odds are pretty unlikely.



Photo credit: Jon Bowman

We'd like to extend our thanks and gratitude to the hero of this story (and the war), Franky Royal. 101 as of this writing, he's still making history and truly a part of the "Greatest Generation."

VIDEO OF THIS EVENT CAN BE VIEWED AT THE WEBSITE.

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YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Tom Carpenter" tje@epbf.com

THE SECRET SHAME OF MIDDLE-CLASS AMERICANS

Nearly half of Americans would have trouble finding \$400 to pay for an emergency. I'm one of them.

NEAL GABLER, MAY 2016 ISSUE

<http://www.theatlantic.com/magazine/archive/2016/05/my-secret-shame/476415/>

Since 2013, the federal reserve board has conducted a survey to "monitor the financial and economic status of American consumers." Most of the data in the latest survey, frankly, are less than earth-shattering: 49 percent of part-time workers would prefer to work more hours at their current wage; 29 percent of Americans expect to earn a higher income in the coming year; 43 percent of homeowners who have owned their home for at least a year believe its value has increased. But the answer to one question was astonishing. The Fed asked respondents how they would pay for a \$400 emergency. The answer: 47 percent of respondents said that either they would cover the expense by borrowing or selling

something, or they would not be able to come up with the \$400 at all. Four hundred dollars! Who knew?

Well, I knew. I knew because I am in that 47 percent.

I know what it is like to have to juggle creditors to make it through a week. I know what it is like to have to swallow my pride and constantly dun people to pay me so that I can pay others. I know what it is like to have liens slapped on me and to have my bank account levied by creditors. I know what it is like to be down to my last \$5—literally—while I wait for a paycheck to arrive, and I know what it is like to subsist for days on a diet of eggs. I know what it is like to dread going to the mailbox, because there will always be new bills to pay but seldom a check with which to pay them. I know what it is like to have to tell my daughter that I didn't know if I would be able to pay for her wedding; it all depended on whether something good happened. And I know what it is like to have to borrow money from my adult daughters because my wife and I ran out of heating oil.

You wouldn't know any of that to look at me. I like to think I appear reasonably prosperous. Nor would you know it to look at my résumé. I have had a passably good career as a writer—five books, hundreds of articles published, a number of awards and fellowships, and a small (very small) but respectable reputation. You wouldn't even know it to look at my tax return. I am nowhere near rich, but I have typically made a solid middle- or even, at times, upper-middle-class income, which is about all a writer can expect, even a writer who also teaches and lectures and writes television scripts, as I do. And you certainly wouldn't know it to talk to me, because the last thing I would ever do—until now—is admit to financial insecurity or, as I think of it, “financial impotence,” because it has many of the characteristics of sexual impotence, not least of which is the desperate need to mask it and pretend everything is going swimmingly. In truth, it may be more embarrassing than sexual impotence. “You are more likely to hear from your buddy that he is on Viagra than that he has credit-card problems,” says Brad Klontz, a financial psychologist who teaches at Creighton University in Omaha, Nebraska, and ministers to individuals with financial issues. “Much more likely.” America is a country, as Donald Trump has reminded us, of winners and losers, alphas and weaklings. To struggle financially is a source of shame, a daily humiliation—even a form of social suicide. Silence is the only protection.

So I never spoke about my financial travails, not even with my closest friends—that is, until I came to the realization that what was happening to me was also happening to millions of other Americans, and not just the poorest among us, who, by definition, struggle to make ends meet. It was, according to that Fed survey and other surveys, happening to middle-class professionals and even to those in the upper class. It was happening to the soon-to-retire as well as the soon-to-begin. It was happening to college grads as well as high-school dropouts. It was happening all across the country, including places where you might least expect to see such problems. I knew that I wouldn't have \$400 in an emergency. What I hadn't known, couldn't have conceived, was that so many other Americans wouldn't have the money available to them, either. My friend and local butcher, Brian, who is one of the only men I know who talks openly about his financial struggles, once told me, “If anyone says he's sailing through, he's lying.” That might not be entirely true, but then again, it might not be too far off.

<SNIP>

THIS IS A VERY LONG, IMPORTANT AND INTERESTING ARTICLE THAT I WOULD SUGGEST YOU GO TO THE WEBSITE TO FINISH READING IT. UT

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From: "Tim Bolgeo" tbolgeo@comcast.net

KING STALLION HELICOPTER ACES FIRST HEAVY LOAD LIFT TEST

Michael Irving May 31, 2016

<http://www.gizmag.com/ch53k-king-stallion-first-20k-lift/43596/>



The US Marine Corps' biggest helicopter, the CH-53K King Stallion, has lifted its first 20,000 lb load in tests.

Last October, Sikorsky's CH-53K King Stallion heavy lift helicopter made its maiden flight. That marked the start of a three-year, 2,000-hour test program that has continued with the aircraft making its first external load flight test carrying 20,000 lb (9,072 kg).

The heavy lift replacement for the US Marine Corps' CH-53E, the CH-53K is intended to allow the movement of more material more quickly. The recent test was conducted at Sikorsky Aircraft Corporation's Development Flight Center in West Palm Beach, Florida.

This is just one step on the road to the King Stallion's requirement to carry 27,000 lb (12,247 kg) at a mission radius of 110 nautical miles (203 km), which is three times the carrying capacity of the previous model, the CH-53E Super Stallion.

For the next tests, the King Stallion will lift the 20,000 lb load at incrementally increasing speeds, before eventually reaching its full potential of 27,000 lb.

Source: NavAir News

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WORLD'S LONGEST AND DEEPEST RAIL TUNNEL OPENS IN SWITZERLAND

Stu Roberts June 1, 2016

<http://www.gizmag.com/gotthard-base-rail-tunnel-switzerland/43627/>



Including its two main tubes and the various shafts, cross passages and access tunnels, the Gotthard Base Tunnel has 152 km (94 mi) of tunnels (Credit: AlpTransit Gotthard Ltd.)

A tunnel through the Alps in Switzerland that has taken 17 years to build officially opens today. The Gotthard Base Tunnel stretches for 57 km (35 mi), making it the longest rail tunnel in the world. In addition, at 2,300 m (7,546 ft) below the surface of the mountain in places, it is also the world's deepest rail tunnel.

London's Crossrail is regarded as the largest construction project in Europe, but includes only 42 km (26 mi) of new tunnels. The Gotthard Base Tunnel is also just over 3-km (1.9-mi) longer than the Seikan Tunnel in Japan and just under 7-km (4.3-mi) longer than the Channel Tunnel between the UK and France, both of which provide rail passage. It is the ninth longest tunnel of any type in use in the world.

If you take into account the two main tubes that comprise the Gotthard Base Tunnel and its various shafts, cross passages and access tunnels, it actually has 152 km (94 mi) of tunnels in total. It is also said to have virtually no gradients.

The initial idea for the tunnel was conceived 68 years ago, but the plans were redrawn on a number of occasions. Once construction finally commenced, there were 2,400 workers on site at peak times. Nine workers also lost their lives during the build.



There were a wide variety of different rock types through which it was necessary to bore, including granite and sedimentary rock. Around 80 percent of the work was carried out by tunnel boring machines, with the final 20 percent undertaken using blast methods. In total, 28.2 million tonnes (31.1 million tons) of material was excavated.

When work began on laying the slab track, the task took 125 workers working three shifts around the clock over three years to complete. The process used 131,000 cu m (4,626,200 cu ft) of concrete, 290 km (180 mi) of track and 380,000 sleepers.

The tunnel connects Erstfeld with Bodio and will see 325 trains per day run through it, of which 260 will be 160-km/h (99-mph) freight trains and 65 will be 200-km/h (124-mph) passenger trains. The speed of those passenger trains is expected to rise over time to a potential 250 km/h (155 mph) and the journey-time between Zurich and Lugano, which are north and south of Erstfeld and Bodio respectively, is expected to be cut by around 45 minutes.

The Gotthard Base Tunnel is being opened with a special ceremony today, with additional opening events at the weekend expected to attract around 50,000 to 100,000 visitors. Commercial services are scheduled to begin in December 2016.

The video [AT THE WEBSITE](#) is an introduction to the tunnel.

Source: Gotthard Base Tunnel

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PROSTHESIS ALLOWS AMPUTEES TO WALK IN HEELS

Chris Wood June 1, 2016

<http://www.gizmag.com/johns-hopkins-prosthesis-high-heels/43625/>



The prosthesis is reported to perform admirably, weighing in at less than 3 lb and supporting weights up to 250 lb.

We've seen some interesting prostheses over the years, from 3D-printed legs to devices for kids with superhero aesthetics. A project from researchers at the Johns Hopkins University is a little different, providing a prosthesis to help women with lower limb amputations to walk in high heels. It's an effort that could have a huge positive impact on peoples' lives, from female veterans to the fashion conscious.

According to the researchers, the new solution represents the first prosthesis designed to play nice with fashionable footwear for women, allowing the user to pop on a pair of heels up to a height of four inches (10 cm).

Creating a device that's capable of that wasn't the easiest task, with the need to adjust to different positions and heights without slipping and causing instability. It also needed to be light, and be capable of supporting a fair bit of weight. On a more basic level, it needed to be slender and aesthetically pleasing so as to comfortably fit women's shoes.

Balancing these requirements involved a combination of mathematical calculations and trial and error tests, all working toward finding a comfortable compromise between strength, flexibility and weight.

The researchers investigated numerous builds, and even toyed with the idea of putting a balloon in the heel to provide springy feedback to the user – a concept that was eventually scrapped. They also experimented with titanium plates and carbon fiber as a base material for the prosthesis, but found them ultimately to be too heavy or not strong enough.

After a great deal of trial and error, the team landed on the current design. Inside the aesthetically-pleasing plastic foot, there are two interlocking aluminum disks that open and close to provide adjustment by means of a lever on the ankle. The ankle itself is an off-the-shelf component – a hydraulic unit that provides smooth movement and flexibility. According to the researchers, the prosthesis performs admirably, weighing in at less than 3 lb (1.4 kg) and supporting weights up to 250 lb (113 kg).



The team successfully tested the device using four different pairs of shoes, including five-and-a-half inch stiletto heels, worn by seven different study participants. Three of the testers were amputees, while the other four trialed the device fitted to the bottom of their feet.

"I had a good time walking" said study participant Alexandra Capellini. "It felt stable... an adjustable ankle is useful in contexts even beyond high heels. Ballet flats, sneakers, boots, and high heels especially, all vary in height, so an adjustable ankle opens up opportunities to wear a variety of shoes."

The team plans to continue development of the prosthesis, and is working to assess whether the design might qualify for a patent.

Source: Johns Hopkins University

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SUPERSPONGE THE SIZE OF A MINIVAN FOUND NEAR HAWAII

By Mindy Weisberger, Senior Writer LiveScience, Published June 02, 2016

<http://www.foxnews.com/science/2016/06/02/supersponge-size-minivan-found-near-hawaii.html?intcmp=hpff>



A sponge the size of a minivan, the largest on record, was found in 2015 during a deep-sea expedition in Papahānaumokuākea Marine National Monument off Hawaii. (NOAA)

An unusual sponge was making waves in waters near the Hawaiian Islands — though it doesn't wear square pants and is far too big to live in a pineapple under the sea.

The massive sponge — a marine animal with no skeleton and a soft, porous body — is the largest on record, researchers reported in a study. Identified as measuring approximately 12 feet (3.5 meters) in length and 7 feet (2.1 m) in height, the minivan-size creature was discovered at a depth of 7,000 feet (2,134 m) during dives by a remotely operated vehicle (ROV) system, which was deployed from the ship Okeanos Explorer by the National Oceanic and Atmospheric Administration (NOAA).

And according to the scientists, the sponge's unusual size could suggest that it might be capable of living for thousands of years.

During the 69-day expedition, which extended from July 10 through Sept. 30, 2015, scientists investigated deep-sea ecosystems in Papahānaumokuākea Marine National

Monument and the Johnston Atoll Unit of the Pacific Remote Islands Marine National Monument.

NOAA scientists published a description of their giant discovery on May 24 in the journal *Marine Biodiversity*, saying that the sponge's dimensions exceeded those of the largest specimens reported in earlier studies.

Previously, the largest known sponges were a colony of the species *Aphrocallistes vastus*, found in shallow waters near Canada and measuring about 11 feet (3.4 m) in length and about 4 feet (1.1 m) in height.

After projecting laser beams onto the new sponge and capturing high-definition images, the researchers used image-analyzing software to approximate the animal's size.

The lone but sizable sponge was not a reef builder, the scientists noted in the study. They obtained a sample from a smaller specimen in a nearby location, which they suspected to be the same species as the giant sponge. But those were the only individuals of this type of sponge that the scientists encountered in the 18 ROV dives that were completed during the expedition.

There is much about sponges' life spans that science has not yet discovered. But very large sponges living in shallow waters have been estimated to live for more than 2,300 years, which hints that this giant — "and presumably old" — specimen could be equally long-lived, according to the study authors.

Sponges filter seawater, and an enormous individual such as this one likely plays an important role in preserving its ecosystem. Its discovery emphasizes the necessity of exploring deep-water environments, and how much still remains to be learned from them, the scientists said in the study.

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KING TUT'S DAGGER BLADE MADE FROM METEORITE, STUDY CONFIRMS

Weapon was made by hammering in 14th century BC, 600 years before iron smelting developed in Egypt

By Emily Chung, CBC News Posted: Jun 01, 2016

<http://www.cbc.ca/news/technology/king-tut-dagger-1.3610539>



The gold mask of King Tutankhamun is seen alongside a dagger found in the wrapping of his mummy in a composite image. The dagger is now confirmed to be made of iron from a meteorite. (Associated Press/Daniela Comelli)

A famous dagger found in the wrapping of Egyptian King Tutankhamun's mummy was made with iron from a meteorite, a study confirms.

An analysis of the dagger's blade led by Daniela Comelli, a professor of materials science at the Polytechnic University of Milan in Italy, showed that it contains 10 per cent nickel and 0.6 per cent cobalt, the researchers report in the journal *Meteoritics and Planetary Science*.

The analysis was conducted using a technique called X-ray fluorescence, which identifies different elements from the characteristic colours of X-ray light they give off when hit with higher-energy X-rays. Then they compared the composition of the dagger's blade with that of 11 metallic meteorites and found it to be very similar.



The dagger has an iron blade and a gold handle and sheath. A new analysis of the iron shows that it has a similar composition to known metallic meteorites. (Daniela Comelli/Polytechnic University of Milan)

The dagger was found by archeologist Howard Carter in 1925, three years after he discovered King Tut's tomb. The dagger was in the wrapping surrounding the right thigh of the boy king's mummy. It had a decorated gold handle with a pommel of rock crystal, and the iron blade was protected with a gold sheath decorated with a pattern of lilies on one side, feathers on the other, and a jackal's head, the researchers reported.

The dagger dates back to the 14th century BC and is one of very few iron artifacts ever found from the ancient Egyptian culture, which isn't thought to have developed iron smelting until the 8th century BC — later than neighbouring countries, Comelli told CBC News in an email.

'HIGH MANUFACTURING QUALITY'

"The problem with iron working is related to its high melting point (1,538 C). Because of it, early smiths couldn't heat ore enough to extract iron and couldn't forge the iron into weapons," she wrote.

A 355-pound iron meteorite from Campo del Cielo crater field in Argentina. Iron meteorites typically contain about 10 per cent nickel and less than one per cent cobalt, like King Tut's dagger blade. (Darryl Pitt, The Macovich Collection/Associated Press)

Earlier iron objects were typically ornamental or ceremonial and made of meteoritic iron that was considered more valuable than gold, the researchers wrote.

It was shaped by hammering, Comelli said. King Tut's dagger had been suspected to have been made with that type of iron, but it had not been confirmed.

"In this context, the high manufacturing quality of Tutankhamun's dagger blade is evidence of early successful iron smithing in the 14th C. BCE," the researchers wrote in their paper.



They added that the finding also provides insight into Egyptian descriptions of iron that appeared around 100 years later, which use the term "iron of the sky."

"The introduction of the new composite term suggests that the ancient Egyptians ... were aware that these rare chunks of iron fell from the sky already in the 13th C. BCE," the authors wrote.

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TINY "CHIPSAT" SPACECRAFT SET FOR FIRST FLIGHT

Launch in July will test new way to explore the solar system—and beyond

By Nicola Jones, Nature magazine on June 1, 2016

http://www.scientificamerican.com/article/tiny-chipsat-spacecraft-set-for-first-flight/?WT.mc_id=SA_SPC_20160602

On 6 July, if all goes to plan, a pack of about 100 sticky-note-sized 'chipsats' will be launched up to the International Space Station for a landmark deployment. During a brief few days of testing, the minuscule satellites will transmit data on their energy load and orientation before they drift out of orbit and burn up in Earth's atmosphere.

The chipsats, flat squares that measure just 3.2 centimetres to a side and weigh about 5 grams apiece, were designed for a PhD project. Yet their upcoming test in space is a baby step for the much-publicized Breakthrough Starshot mission, an effort led by billionaire Yuri Milner to send tiny probes on an interstellar voyage.



A rearward view of the International Space Station. Credit: NASA/Crew of STS-132

“We’re extremely excited,” says Brett Streetman, an aerospace engineer at the non-profit Charles Stark Draper Laboratory in Cambridge, Massachusetts, who has investigated the feasibility of sending chipsats to Jupiter’s moon Europa. “This will give flight heritage to the chipsat platform and prove to

people that they’re a real thing with real potential.”

The probes are the most diminutive members of a growing family of small satellites. Since 2003, researchers have launched hundreds of 10-centimetre-sided CubeSats—more than 120 last year alone. Engineer Jekan Thanga at Arizona State University in Tempe is now working on an even smaller ‘femtosatellite’, a 3-centimetre cube that he says has the technological capacity of the first CubeSats. Chipsats, which are smaller and cheaper still, are seen as disposable sensors that could be sent on suicide missions to explore hostile environments, such as Saturn’s rings.

“They’re all part of the toolbox for next-generation space missions,” says Thanga.

The upcoming chipsat test, called KickSat-2, is the second incarnation of a crowdfunding mission developed by researchers at Cornell University in Ithaca, New York. The shoebox-sized KickSat-1 spacecraft successfully launched on 18 April 2014, but it failed to deploy its cargo of 104 chipsats after a cosmic radiation burst reset the clock on its release mechanism. The craft fell out of orbit and burned up with the chipsats still in its hold.

“I was a little bummed out,” says Zachary Manchester, an aerospace engineer who built the satellites as a doctoral student in aerospace engineering at Cornell. Fortunately, enough spare parts were lying around to make a second batch relatively quickly and easily.

The chipsats, called Sprites, carry little more than a pair of 60-milliamp solar cells, a radio and an antenna. The KickSat-2 payload includes some newer Sprites that can ‘sail’ by tilting towards or away from the Sun. A current is run through a coil, turning the chip into a compass needle that aligns with Earth’s magnetic field, allowing the chipsat to control its orientation. The probes can be reprogrammed on the fly from the space station.

Sprite prototypes have already proved that they can survive the rigours of space. In 2011, three chipsats were attached to the outside of the space station. They were still working when scientists retrieved them in 2014.

That commercial electronics are good enough to survive space's vacuum and extreme temperatures is a "pretty big deal", says Mason Peck, an aerospace engineer who leads Cornell's chipsat team. But on a flight into deep space, chipsat electronics would face a high risk of damage from radiation. "There are some clear paths to radiation hardening, but it's expensive," says Peck. "And that's not the point. You don't want to make an exquisite satellite. You just launch a million; if only 1% survive then that's fine. You put statistics on your side."

There is plenty of science that Sprites can do closer to home. Peck says that the tiny satellites could be used to verify models of how small bits of debris behave in the upper atmosphere. Like feathers on Earth, the small, flat objects would be heavily affected by drag. "We're not very good at modelling that," says Peck. Another potential project would be to use Sprites to make a high-spatial-resolution map of Earth's magnetic field.

"That would be really useful," agrees Jeffrey Love, a geophysicist with the US Geological Survey in Denver, Colorado, who studies Earth's magnetism. "Ideally you'd want to be measuring it everywhere all the time. This could be a step in that direction."

For the long-term interstellar goal, chipsats will need much better laser-communication capacity. That should be possible, say Peck and Manchester, who are both on the Breakthrough Starshot advisory committee.

"We have gone a long way towards proving we can have a functional tiny craft," says Peck.

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STEM CELL TREATMENT REAWAKENS LIMBS IN WHEELCHAIR-BOUND STROKE VICTIM

Nick Lavars June 2, 2016

<http://www.gizmag.com/stem-cell-treatment-stroke/43665/>

While new tools have emerged to help rehabilitation along, the road back to a healthy life after suffering a stroke can be a long and challenging one. In research that could one day significantly cut recovery times for victims of these debilitating brain injuries, scientists have injected modified stem cells into the brains of patients and brought about substantial improvements to motor function, with one even regaining control of her limbs and leaving her wheelchair behind.

Around 15 million people suffer a stroke each year, according to the World Stroke Organization. The majority of these are classed as ischemic, which means that a clot has formed in a vessel carrying blood to a section of the brain to cut off its supply.

Immediate treatment to dissolve the clot in an ischemic stroke will boost the chances of a full recovery, but with only three or four hours to get to a hospital to have the clot-busting drugs administered, many victims miss this critical window and wind up sustaining lifelong disabilities.

In search of a way to improve the lives of these sufferers, scientists at Stanford University conducted a trial involving 18 stroke victims and mesenchymal stem cells, which are natural precursors to muscle fat, bone and tendon tissues, and can mature into multiple

types of specialized cells in the body. These cells were modified to boost their ability to restore brain function.



Stroke victim Sonia Olea Coontz says her limbs woke up after being treated with modified stem cells (Credit: Mark Rightmire/Stanford University)

The average age of the patients was 61 and all had experienced their first strokes between six months and three years earlier. They were conscious throughout the process but placed under light anesthesia, with the scientists drilling a small hole through their skulls and injecting the stem cells into different locations at the periphery of the affected areas. The patients were sent home the next day, but were monitored with blood tests, clinical assessments and brain imaging thereafter.

These observations found that the patients showed significant improvements, which continued even up to 12 months after the procedure. The team says this is likely a result of the factor secreted by the cells soon after the injections into the stroke site, which brought about lasting regeneration of nearby tissue.

"We know these cells don't survive for more than a month or so in the brain," says Gary Steinberg, chair of neurosurgery at Stanford Medicine. "Yet we see that patients' recovery is sustained for greater than one year and, in some cases now, more than two years."

Improvements made by the patients are described as substantial, but particularly impressive were those made by Sonia Olea Coontz, who had lost function completely of her right arm and partially of her right leg. This left her walking with a limp and often using a wheelchair to get around, but the treatment led to her regaining mobility in her limbs and leaving her wheelchair behind.

"After my surgery, they woke up," she said.

The patients scores on common metrics of stroke recovery were vastly improved, with one making an 11.4-point gain on the Fugl-Meyer test, which is designed to measure ones' movement deficits. Aside from passing headaches after the surgery, no patients showed side effects that could be attributed to the stem cells.

"This was just a single trial, and a small one," says Steinberg. "It was designed primarily to test the procedure's safety. But patients improved by several standard measures, and their improvement was not only statistically significant, but clinically meaningful. Their ability to move around has recovered visibly. That's unprecedented. At six months out from a stroke, you don't expect to see any further recovery."

The team says that the promising results indicate that other neurodegenerative conditions and brain injuries could benefit from the approach. Steinberg is now setting up a randomized, double-blinded trial that will involve 156 chronic stroke patients to further explore its effectiveness.

The research was published in the journal Stroke.

Source: Stanford University

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APPALACHIAN COAL ASH RICHEST IN RARE EARTH ELEMENTS

by Staff Writers, Durham NC (SPX) May 31, 2016

http://www.spacedaily.com/reports/Appalachian_coal_ash_richest_in_rare_earth_elements_999.html

The Roxboro Steam Station, a four-unit, 2,422-megawatt coal-fired Duke Energy plant in Semora, N.C., is one of the largest power plants in the United States. It began operation in 1966, with additions in 1973 and 1980. Image courtesy Heileen Hsu-Kim, Duke University.



A study of the content of rare earth elements in U.S. coal ashes shows that coal mined from the Appalachian Mountains could be the proverbial golden goose for hard-to-find materials critical to clean energy and other emerging technologies. In the wake of a 2014 coal ash spill into North Carolina's Dan River from a ruptured Duke Energy drainage pipe, the question of what to do with the nation's aging retention ponds and future coal ash waste has been a highly contested topic.

One particularly entrepreneurial idea is to extract so-called "critical" rare earth elements such as neodymium, europium, terbium, dysprosium, yttrium and erbium from the burned coal. The Department of Energy has identified these globally scarce metals as a priority for their uses in clean energy and other emerging technologies. But exactly how much of these

elements are contained in different sources of coal ash in the U.S. had never been explored.

Researchers from Duke University measured the content of rare earth elements in samples of coal ash representing every major coal source in the United States. They also looked at how much of these elements could be extracted from ash using a common industrial technique.

The results, published online on May 26 in the journal *Environmental Science and Technology*, showed that coal from the Appalachian Mountains contains the most rare earth elements. However, if extraction technologies were cheap enough, there are plenty of rare earth elements to be found in other sources as well.

"The Department of Energy is investing \$20 million into research on extraction technologies for coal wastes, and there is literally billions of dollars' worth of rare earth elements contained in our nation's coal ash," said Heileen Hsu-Kim, the Mary Milus Yoh and Harold L. Yoh, Jr. Associate Professor of Civil and Environmental Engineering at Duke.

"If a program were to move forward, they'd clearly want to pick the coal ash with the highest amount of extractable rare earth elements, and our work is the first comprehensive study to begin surveying the options," Hsu-Kim said.

The researchers took coal ash samples from power plants located mostly in the American Midwest that burn coal sourced from all over the country, including the three largest sources: the Appalachian Mountains, southern and western Illinois, and the Powder River Basin in Wyoming and Montana.

The content of rare earth elements was then tested using hydrofluoric acid, which is much stronger and more efficient than industrial methods, but is too hazardous to use on a large scale.

The results showed that ash collected from Appalachian Mountain coal has the highest amount of rare earth elements at 591 milligrams per kilogram (or parts per million). Ash from Illinois and the Powder River Basin contain 403 mg/kg and 337 mg/kg, respectively.

The researchers then used a common industrial extraction technique featuring nitric acid to see how much of the rare earth elements could be recovered. Coal ash from the Appalachian Mountains saw the lowest extraction percentages, while ash from the Powder River Basin saw the highest.

Hsu-Kim thinks this might be because the rare earth elements in the Appalachian Mountain coal ash are encapsulated within a glassy matrix of aluminum silicates, which nitric acid doesn't dissolve very well.

"One reason to pick coal ash from the Appalachian Mountains would be for its high rare earth element content, but you'd have to use a recovery method other than nitric acid," said Hsu-Kim, who also holds an appointment in Duke's Nicholas School of the Environment.

"For any future venture to begin an extraction program, the recovery method will need to be tailored to the specific chemistry of the coal ash being used."

The Duke researchers also tried "roasting" the coal ash with an alkali agent before dissolving it with nitric acid. Even though the process hadn't been optimized for recovery purposes, the tests showed a marked improvement in extraction efficiency.

"The reagents we used are probably too expensive to use on an industrial scale, but there are many similar chemicals," said Hsu-Kim. "The trick will be exploring our options and developing technologies to drive the costs down. That way we can tap into this vast resource that is currently just sitting around in disposal ponds."

Research Report: "Trends in the Rare Earth Element Content of U.S.-Based Coal Combustion Fly Ashes," Ross K. Taggart, James C. Hower, Gary S. Dwyer and Heileen Hsu-Kim. Environmental Science and Technology, May, 26 2016. DOI: 10.1021/acs.est.6b00085

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AMPUTEE GAMER HAS A FUTURISTIC LIMB THAT INCLUDES A PHONE CHARGER, TORCH, AND A DRONE

By: Nidhi Goyal, June 5th, 2016

http://www.industrytap.com/amputee-gamer-futuristic-limb-includes-phone-charger-torch-even-drone/36871?utm_source=Industry+Tap&utm_campaign=3001bdd078-Industry+Tap+Volume+3186+6+2016&utm_medium=email&utm_term=0_05d6224fe0-3001bdd078-44103165



Image courtesy Daily Mail

James Young, a passionate gamer, met with a horrible accident on May 18, 2012, when he fell under a train. Although saved from death, he damaged his left arm, and his lower left leg was severed.

Despite his injuries, James refused to give up, and gradually he adapted to use one hand only while playing games.

Now, a Konami developer and publisher of the Metal Gear Solid titles is working with a leading prosthesis artist Sophie De Oliveira Barata and a technical team to outfit James with a bespoke limb. This is inspired by the new PlayStation 4 game Metal Gear Solid V's protagonist Snake.



Image courtesy Daily Mail

More about this futuristic limb:

Sophie gave the limb a personalized look. It is made by using a 3D printer. It is designed to pick up even the tiniest objects like a coin using the 'commands' sent by the shoulder muscles communicating with the sensors. James said, "It gives me a hand – and not a device. It's soft, but firm, so it's really nice to shake!"

It also features a laser light, a torch, a USB port, a watch, and even a drone, which is fixed on a panel on the outside of the shoulder.

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From: Stephanie Osborn

THREE FACTS PROVE CLIMATE ALARM IS A SCAM

By Larry Bell, Tuesday, 31 May 2016

<http://www.newsmax.com/LarryBell/climate-global-warming-ipcc/2016/05/31/id/731497/#ixzz4AMSljZZv>



(Dimitry Rukhlenko / Dreamstime)

1988 was a barn-burner year for climate alarmists. Then Senator Al Gore's steamy congressional hearing trumpeted a planet on fire, and the U.N. Intergovernmental Panel on Climate Change (IPCC) was created to produce pseudo-scientific evidence blaming it on unfair capitalist industrial prosperity-spawned CO2 emissions.

Canadian Environment Minister Christine Stewart explained the real cause for urgency. She told editors and reporters of the Calgary Herald, "No matter if the science of global warming is all phony . . . climate change [provides] the greatest opportunity to bring about justice and equality in the world."

Stewart was wrong. Consequences of that phony science upon environmental and energy regulatory policies matter a great deal. So let's consider some inconvenient facts.

1. NO RECENT WARMING DESPITE HIGHER CO2

First, no one I know “denies” that climate changes, both warmer and colder, and for better and worse. Not so very long ago, U.S. cooling of about 1.3 degrees Fahrenheit between 1945 and 1975 prompted The New York Times and other major news publications to headline “experts” trumpeting the arrival of a new ice age.

During “modern times” the global climate has been warming in fits and starts since the last “little ice age” (not a true ice age) ended about 200 years ago. Yet apart from entirely natural 1998 and 2015 ocean El Nino spikes, satellite and weather balloon measurements show no statistically-significant global warming for nearly two decades.

U.S. surface records obtained from the most reliable thermometer stations — those not corrupted by local “heat island” influences such as instrument relocations, urban developments or other man-made changes — show no significant warming over the past 80 years. There have been more all-time U.S. cold records than heat records since the 1940s.

Based upon the most reliable land surface data (UK Hadley Center, or “HADCRUT”), the average annual planetary warming between 1850 and 2015 is virtually imperceptible . . . and certainly not “dangerous.”

2. EXTREME CLAIMS PROVEN EXTREMELY WRONG

Contrary to prevalent fear-mongering, sea levels have been rising at a constant rate of barely 7 inches per century without any measured acceleration. Even the latest 2013 IPCC report states; “It is likely that GMSL [Global Mean Sea Level] rose between 1920 and 1950 at a rate comparable to that observed between 1993 and 2010.”

Periodic Arctic warming cycles have been reported by whalers and explorers dating back centuries. Alpine glaciers at Glacier National Park have been receding since the little ice age ended. (Incidentally, polar bear populations are now at a record high.)

As for the sensationalized melting of the West Antarctic Ice Sheet, a British Antarctic Survey reported that this is “within the natural range of climate variability” over the past 300 years, and that “more dramatic isotopic warming (and cooling) trends occurred in the mid-19th and 18th centuries.” Overall, the Antarctic ice mass has been steadily growing since first recorded by NASA satellites in 1979. The 2013-2014 expanses exceeded all previous measurements.

Regarding that “extreme weather” we’ve been warned about, no category 3-5 hurricanes have struck the U.S. coast since October 2005, setting a record lull since 1900. Both NOAA and the IPCC have admitted that there has been no increase in the severity or frequency of droughts, floods, thunderstorms, or tornadoes in decades. Nor has the number of U.S. wildfires increased.

3. INCONVENIENT CONFESSIONS FROM IPCC AUTHORITIES

So how much confidence should we place upon IPCC objectivity to guide regulatory policies? Consider but a couple of statements from key inside sources in their own words.

As written in a 2007 journal Nature article by Kevin Trenberth, a lead author of 2001 and 2007 IPCC reports: "None of the [global climate simulation] models used by the IPCC are initialized to the observed state, and none of the climate states in the models correspond even remotely to the current observed state."

Trenberth associate Tom Wigley of the National Center for Atmospheric Research wrote in an internal email: "Mike [Mann], the [report] Figure you sent is very deceptive . . . there has been a number of dishonest presentations of model results by individual authors and by IPCC."

Ottmar Edenhofer, lead author of the IPCC's Fourth Assessment Report (2007), summed up the situation quite clearly. Speaking in 2010, he advised: "One has to free oneself from the illusion that international climate policy is environmental policy. Instead, climate change policy is about how we redistribute de facto the world's wealth."

Or as U.N. climate chief Christina Figueres candidly remarked, the true aim of the recent Paris climate conference was "to change the [capitalist] economic development model that has been reigning for at least 150 years, since the Industrial Revolution."

No, none of this global warming (aka, "climate change") alarmism is based upon objective science. It never was.

Larry Bell is an endowed professor of space architecture at the University of Houston where he founded the Sasakawa International Center for Space Architecture (SICSA) and the graduate program in space architecture. He is the author of "Scared Witless: Prophets and Profits of Climate Doom"(2015) and "Climate of Corruption: Politics and Power Behind the Global Warming Hoax" (2012).

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From: "Mike Williamson" mzmadmike@gmail.com

ANTIBIOTICS THAT KILL GUT BACTERIA ALSO STOP GROWTH OF NEW BRAIN CELLS

Cell Press, May 19, 2016

<https://www.sciencedaily.com/releases/2016/05/160519130105.htm>

Summary:

Antibiotics strong enough to kill off gut bacteria can also stop the growth of new brain cells in the hippocampus, a section of the brain associated with memory, reports a new study in mice. Researchers also uncovered a clue to why -- a type of white blood cell seems to act as a communicator between the brain, the immune system, and the gut.

Antibiotics strong enough to kill off gut bacteria can also stop the growth of new brain cells in the hippocampus, a section of the brain associated with memory, reports a study in mice published May 19 in Cell Reports. Researchers also uncovered a clue to why-- a type of white blood cell seems to act as a communicator between the brain, the immune system, and the gut.



Prolonged antibiotic treatment might impact brain function, Credit: © adimas / Fotolia

"We found prolonged antibiotic treatment might impact brain function," says senior author Susanne Asu Wolf of the Max-Delbrueck-Center for Molecular Medicine in Berlin, Germany. "But probiotics and exercise can balance brain plasticity and should be considered as a real treatment option."

Wolf first saw clues that the immune system could influence the health and growth of brain cells through research into T cells nearly 10 years ago. But there were few studies that found a link from the brain to the immune system and back to the gut.

In the new study, the researchers gave a group of mice enough antibiotics for them to become nearly free of intestinal microbes. Compared to untreated mice, the mice who lost their healthy gut bacteria performed worse in memory tests and showed a loss of neurogenesis (new brain cells) in a section of their hippocampus that typically produces new brain cells throughout an individual's lifetime. At the same time that the mice experienced memory and neurogenesis loss, the research team detected a lower level of white blood cells (specifically monocytes) marked with Ly6Chi in the brain, blood, and bone marrow. So researchers tested whether it was indeed the Ly6Chi monocytes behind the changes in neurogenesis and memory.

In another experiment, the research team compared untreated mice to mice that had healthy gut bacteria levels but low levels of Ly6Chi either due to genetics or due to treatment with antibodies that target Ly6Chi cells. In both cases, mice with low Ly6Chi levels showed the same memory and neurogenesis deficits as mice in the other experiment who had lost gut bacteria. Furthermore, if the researchers replaced the Ly6Chi levels in mice treated with antibiotics, then memory and neurogenesis improved.

"For us it was impressive to find these Ly6Chi cells that travel from the periphery to the brain, and if there's something wrong in the microbiome, Ly6Chi acts as a communicating cell," says Wolf.

Luckily, the adverse side effects of the antibiotics could be reversed. Mice who received probiotics or who exercised on a wheel after receiving antibiotics regained memory and neurogenesis. "The magnitude of the action of probiotics on Ly6Chi cells, neurogenesis, and cognition impressed me," she says.

But one result in the experiment raised more questions about the gut's bacteria and the link between Ly6Chi and the brain. While probiotics helped the mice regain memory, fecal transplants to restore a healthy gut bacteria did not have an effect.

"It was surprising that the normal fecal transplant recovered the broad gut bacteria, but did not recover neurogenesis," says Wolf. "This might be a hint towards direct effects of antibiotics on neurogenesis without using the detour through the gut. To decipher this we might treat germ free mice without gut flora with antibiotics and see what is different."

In the future, researchers also hope to see more clinical trials investigating whether probiotic treatments will improve symptoms in patients with neurodegenerative and psychiatric disorders. "We could measure the outcome in mood, psychiatric symptoms, microbiome composition and immune cell function before and after probiotic treatment," says Wolf.

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From: "Christina Cowan" cowan1028@earthlink.net

SMALLER CHIPS MAY DEPEND ON VACUUM TUBE TECHNOLOGY

By JOHN MARKOFF, JUNE 5, 2016

http://www.nytimes.com/2016/06/06/technology/smaller-chips-may-depend-on-technology-from-grandmas-radio.html?emc=eta1&_r=0

Gordon Moore, an Intel co-founder, holding a silicon wafer in 2005. Moore's Law foresaw the rate of increase in computing power. Credit Paul Sakuma/Associated Press

PASADENA, Calif. — The future of computing may be in its past.

The silicon transistor, the tiny switch that is the building block of modern microelectronics, replaced the vacuum tube in many consumer products in the 1970s. Now as



shrinking transistors to even more Lilliputian dimensions is becoming vastly more challenging, the vacuum tube may be on the verge of a comeback.

In a darkened laboratory here, two stories beneath the California Institute of Technology campus, two students stare through the walls of a thick plastic vacuum chamber at what they hope will be the next small thing — a computer chip made from circuits like vacuum tubes whose dimensions are each roughly one-thousandth the size of a red blood cell.

At stake is the future of what electronic engineers call scaling, the ability to continue to shrink the size of electronic circuits, which is becoming harder to do as they become as small as viruses.

It has been more than half a century since the physicist Richard Feynman predicted the rise of microelectronics, noting “there’s plenty of room at the bottom.” He used the phrase in 1959 when he speculated about engineering with individual atoms. Several years later, Gordon Moore, co-founder of Intel, wrote that the number of transistors that could be etched into silicon wafers would double at regular intervals for the foreseeable future.

Now, however, there is growing evidence that space, if still available, is increasingly at a premium. Progress is slowing down. The time between each new chip generation is stretching out, and the cost of individual transistors, although infinitesimal, is no longer falling. The tiny transistors also bedevil chip designers because as they get smaller, they generate unwanted heat.

For Axel Scherer, who heads the Nanofabrication Group at Caltech, that means going back to the future. With his students Max Jones and Daniil Lukin, he is pursuing what is in effect an ultrasmall vacuum tube as a candidate to replace the transistor. In their laboratory here, they have fabricated circuits that function like vacuum tubes but are a millionth the size of that 100-year-old technology.

“Computer technologies seem to work in cycles,” said Alan Huang, a former electrical engineer for Bell Laboratories. “Some of the same algorithms that were developed for the last generation can sometimes be used for the next generation.”

The last time researchers explored vacuum tubes was in the 1990s, when they were a promising option for building flat-panel displays. The technology failed to take off, however, because of cheaper and more efficient liquid crystal displays.

“The vacuum tube comes back about every decade,” Dr. Scherer said with a laugh.

And for decades, that has been the story of vacuum tubes: There has always been a better option. Transistors replaced vacuum tubes because they were more compact, did not generate skin-burning heat and did not need a vacuum — the absence of atmosphere made it possible for electrons to jump between positively and negatively charged elements.

The vacuum tubes the Caltech researchers are looking at are nothing like the bulky objects that hummed in the old family radio and even early computers. Both transistors and vacuum tubes — the British called the devices valves — control the flow of electricity, but they do so differently.

The researchers have created a tiny tube formed from metal and capable of turning on and off the flow of electrons between four even smaller probes, which under an electron microscope appear like the tips of four ballpoint pens almost touching one another.

The Achilles' heel of today's transistors is the smaller they get, the more they leak electrons. In modern computer chips, as much as half of the power consumed is lost to electrons leaking from transistors that are only dozens of atoms wide. Those electrons waste energy and generate heat.

In contrast, Dr. Scherer's miniature vacuum tube switches perform a jujitsu move by using the same mechanism that causes leakage in transistors — known by physicists as quantum tunneling — to switch on and off the flow of electrons without leakage. As a result, he believes that modern vacuum tube circuits have the potential to use less power and work faster than today's transistor-based chips.

“Effects that are currently problems in scaling are precisely those that we would like to use for switching in these next-generation devices,” Dr. Scherer said, noting that while there are efforts to redesign semiconductor-based transistors around the tunneling effect, his approach is significantly simpler.

Vacuum tubes are one of a range of ideas that engineers are looking at as they work to create chips that can do more while using less power. Other promising approaches include exotic materials such as carbon nanotubes and even microscopic mechanical switches that can be opened and closed just like an electronic gate.

The Caltech researchers returned to the idea of vacuum tubes several years ago after they had begun experimenting with the idea of making ultrasmall incandescent light bulbs no larger than a modern transistor that would be bright enough to be seen by the naked eye from across a room.

The group previously worked in research areas like quantum dots, nanoscale structures now used in television displays to produce precise colors, and optoelectronics, a field that explores the use of lasers in electronic circuits. But they decided to look for new research areas that were less crowded with competitors.

Today, semiconductor companies like Intel are making silicon chips with minimum dimensions between 10 and 20 nanometers. (A strand of DNA is roughly 2.5 nanometers in diameter.) Once the industry shrinks below 10 nanometers, Dr. Scherer expects that researchers will be surprised by the behavior of silicon at such atomic dimensions.

For one thing, silicon emits light below 10 nanometers, he said. More significantly, it also becomes remarkably elastic as it becomes that small.

“It's a different material, and it gives you this different behavior,” he said. He sees the future in other materials and in old ideas that would be made new again.

In contrast to silicon, a semiconductor, which can either conduct or insulate, depending on how it is chemically modified, Dr. Scherer's tubes can be made from a range of conducting metals, such as tungsten, molybdenum, gold and platinum. This will be an advantage because it will significantly simplify the tiny switches at the atomic scale.

Dr. Scherer does not think the tiny tube will immediately replace the transistor, but the possibility of applications in space and aviation has caught the attention of Boeing, which is financing the research. Such specialty chips might be ready commercially before the end of the decade.

“Ten years ago, silicon transistors could meet all of our demands,” he said. “In the next decade, that will no longer be true.”

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ABSOLUTELY & TOTALLY POLITICALLY INCORRECT & AS FAR TO THE RIGHT AS YOU CAN GO!

From: “Tim Bolgeo” tbolgeo@comcast.net

WATCH: HILLARY REFUSES SAY RIGHT TO BEAR ARMS IS A ‘CONSTITUTIONAL RIGHT’

by PAM KEY5 Jun 20165,688

<http://www.breitbart.com/video/2016/06/05/watch-hillary-refuses-say-right-to-bear-arms-is-a-constitutional-right/>

Sunday on ABC’s “This Week,” Democratic presidential front-runner Hillary Clinton refused to say conclusively the Second Amendment is a constitutional right and that it “is subject to reasonable regulations.”

Partial transcript as follows:

STEPHANOPOULOS: Let’s talk about the Second Amendment. As you know Donald Trump has been out on the stump talking about the Second Amendment saying you want ti abolish the Second Amendment. I know you reject that but a specific question, do you believe an individual’s right to bear arms is a Constitutional right, that it’s not linked to service in a militia?

CLINTON: I think that for most of our history there was a nuanced reading of the Second Amendment until the decision by the late Justice Scalia and there was no argument until then that localities and states and the federal government had a right as we do with every Amendment to impose reasonable regulations. So I believe we can have commonsense gun safety measures consistent with the Second Amendment. And, in fact, what I have proposed is supported by 90% of the American people and more than 75% of responsible gun owners. So that is exactly what I think is Constitutionally permissible. And once again, you have Donald Trump just making outright fabrications accusing me of something that is absolutely untrue. But I’m going to continue to speak out for comprehensive background check, closing the gun show loophole, closing the online loophole, closing the so-called Charleston loophole, reversing the bill that Senator Sanders voted for and I voted against giving immunity from liability to gun makers and sellers. I think all of that can and should be done and it is in my view consistent with the Constitution.

STEPHANOPOULOS: And the Heller decision also says there can be some restricts but that’s not what I asked. Do you believe their conclusion an individual’s right to bear arms is a Constitutional right?

CLINTON: If it is a Constitutional right, then it like every other Constitutional right is subject to reasonable regulations. And what people have done with that decision is to take it as far as they possibly can and reject what has been our history from the very beginning of the republic where some of the earliest laws were about firearms. So I think it's important to recognize that reasonable people can say as i do responsible gun owners have a right — I have no objection to that — but the rest of the American public has a right to require certain kinds of regulatory, responsible actions to protect everyone else.”

Follow Pam Key on Twitter @pamkeyNEN

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From: “Jim Woosley” <Jimwoosley@aol.com>

INTEL SOURCE: IG REPORT UPS PRESSURE ON DOJ TO SEEK CRIMINAL CHARGES AGAINST CLINTON

By Catherine Herridge, Pamela K. Browne, Published June 01, 2016, FoxNews.com
<http://www.foxnews.com/politics/2016/06/01/intel-source-ig-report-ups-pressure-on-doj-to-seek-criminal-charges-against-clinton.html>

THE VIDEO OF THIS REPORT IS AVAILABLE AT THE WEBSITE.

The recently released State Department inspector general report, which found Hillary Clinton broke government rules with her personal email use, increases "the likelihood and pressure" for the Justice Department to pursue criminal charges, an intelligence source familiar with the FBI investigation told Fox News.

"It is very harmful to her and increases the likelihood and pressure on DOJ to indict," said the source, who was not authorized to speak on the record. "[The IG report] is not evidence in itself, but it clears up confusion [about] Department of State rules and makes the IG a witness, and the people they interviewed, to her computer antics being done without permission."

The ongoing FBI criminal probe -- investigating Clinton's emails practices as secretary of state -- is focused on whether the more than 2,100 classified emails discovered on her server constitute a violation of federal code, including the Espionage Act's 18 USC 793, known as the "gross negligence" statute. FBI Director James Comey plans to make a recommendation based on the evidence, and if the findings merit criminal charges, the decision to prosecute ultimately rests with Attorney General Loretta Lynch.

The 83-page inspector general's report, released last week, concluded that Clinton and her team consistently broke government rules for email and record-keeping. The decision to use a personal, unsecured server exclusively for government business had the effect of moving classified information outside secure government channels.

Fox News first reported in November 2015 that another statute, 18 USC 1001, also known as the "false statements statute," was under FBI consideration. This section pertains to

"materially false" statements given either in writing, orally or through a third party to a federal officer. Each felony violation is subject to five years in prison.

"[The] report will be useful as rebuttal, potential evidence in 18 USC 1001 charges and establishing aspects of 18 USC 793," the source said.

Asked about the conflict between the IG report's findings and Clinton's continued insistence that her practices were in line with her predecessors', the source noted the candidate's press releases and media interviews on the issue "don't count," legally speaking, in determining whether false statements were made: "They can be used to show a pattern of deceit but not the basis of a charge."

Meanwhile, an investigator with the conservative watchdog group Judicial Watch said Wednesday they are considering whether to go back to a federal judge regarding a deposition last week with longtime Clinton aide Cheryl Mills.

The group is considering whether to try to compel Mills to answer questions about Clinton IT special Bryan Paligano, who managed the Clinton server.

Pagliano, a central figure in the FBI probe who was granted immunity in a deal with the Justice Department late last year, has been described to Fox News as a "devastating witness" because he has provided information allowing investigators to knit together the emails with other evidence, including images of Clinton on the road as secretary of state.

The cross-referencing of evidence could help investigators pinpoint potential gaps in the email record.

Yet seven lawyers -- four representing the Justice and State Departments, along with Mills' personal attorneys -- objected more than 200 times during Friday's five-hour deposition, effectively blocking Mills' responses to questions about Pagliano's role.

"The details concerning Mr. Pagliano's employment status -- whether he was an agent of the Clintons, whether he was an employee of the State Department, the details about what that shift was and how it was conducted, whom Mr. Pagliano reported to in the State Department -- those are all unanswered questions by Ms. Mills," Judicial Watch Director of Research and Investigations Chris Farrell said.

"We may have to go back to the court to have the judge compel Ms. Mills to answer those questions."

While Clinton did not cooperate with the State Department inspector general and his investigators, she has maintained that she is willing to talk with the FBI -- although she told MSNBC on Tuesday the bureau has not yet scheduled an interview.

In a weekend memo to Clinton donors, campaign chairman John Podesta said Clinton acknowledges the server was a "mistake," and "what she thought would be a convenient way to communicate with family, friends and colleagues by using one email account...has turned out to be anything but convenient."

Podesta said the report confirms Clinton's email account was well-known by many State Department officials and there is no evidence of a "breach of her email server."

A congressional source briefed on the IG report earlier told Fox that hacking was outside the scope of State Department investigators and they reached no conclusions about a compromise.

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SOCIALISM FOR THE UNINFORMED

By Thomas Sowell, Posted on May 31, 2016 by Thomas Sowell

<http://www.ammoland.com/2016/05/socialism-for-the-uninformed/#ixzz4AQs3Uf00>

USA – -(Ammoland.com)- Socialism sounds great. It has always sounded great. And it will probably always continue to sound great.

It is only when you go beyond rhetoric, and start looking at hard facts, that socialism turns out to be a big disappointment, if not a disaster.

While throngs of young people are cheering loudly for avowed socialist Bernie Sanders, socialism has turned oil-rich Venezuela into a place where there are shortages of everything from toilet paper to beer, where electricity keeps shutting down, and where there are long lines of people hoping to get food, people complaining that they cannot feed their families.

With national income going down, and prices going up under triple-digit inflation in Venezuela, these complaints are by no means frivolous. But it is doubtful if the young people cheering for Bernie Sanders have even heard of such things, whether in Venezuela or in other countries around the world that have turned their economies over to politicians and bureaucrats to run.

The anti-capitalist policies in Venezuela have worked so well that the number of companies in Venezuela is now a fraction of what it once was. That should certainly reduce capitalist “exploitation,” shouldn’t it?

But people who attribute income inequality to capitalists exploiting workers, as Karl Marx claimed, never seem to get around to testing that belief against facts — such as the fact that none of the Marxist regimes around the world has ever had as high a standard of living for working people as there is in many capitalist countries.

Facts are seldom allowed to contaminate the beautiful vision of the left. What matters to the true believers are the ringing slogans, endlessly repeated.

When Senator Sanders cries, “The system is rigged!” no one asks, “Just what specifically does that mean?” or “What facts do you have to back that up?”

In 2015, the 400 richest people in the world had net losses of \$19 billion. If they had rigged the system, surely they could have rigged it better than that.

But the very idea of subjecting their pet notions to the test of hard facts will probably not even occur to those who are cheering for socialism and for other bright ideas of the political left.

How many of the people who are demanding an increase in the minimum wage have ever bothered to check what actually happens when higher minimum wages are imposed? More often they just assume what is assumed by like-minded peers — sometimes known as “everybody,” with their assumptions being what “everybody knows.”

Back in 1948, when inflation had rendered meaningless the minimum wage established a decade earlier, the unemployment rate among 16-17-year-old black males was under 10 percent. But after the minimum wage was raised repeatedly to keep up with inflation, the unemployment rate for black males that age was never under 30 percent for more than 20 consecutive years, from 1971 through 1994. In many of those years, the unemployment rate for black youngsters that age exceeded 40 percent and, for a couple of years, it exceeded 50 percent.

The damage is even greater than these statistics might suggest. Most low-wage jobs are entry-level jobs that young people move up out of, after acquiring work experience and a track record that makes them eligible for better jobs. But you can't move up the ladder if you don't get on the ladder.

The great promise of socialism is something for nothing. It is one of the signs of today's dumbed-down education that so many college students seem to think that the cost of their education should — and will — be paid by raising taxes on “the rich.”

Here again, just a little check of the facts would reveal that higher tax rates on upper-income earners do not automatically translate into more tax revenue coming in to the government. Often high tax rates have led to less revenue than lower tax rates.

In a globalized economy, high tax rates may just lead investors to invest in other countries with lower tax rates. That means that jobs created by those investments will be overseas.

None of this is rocket science. But you do have to stop and think — and that is what too many of our schools and colleges are failing to teach their students to do.

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From: "Tom Carpenter" tjej@epbfi.com

Two high school students present a pretty darn good argument for why we need the convention of states to go forward and take our country back from Washington DC.

WATCH: LOUISIANA HIGH SCHOOL STUDENT EXPLAINS OUR MASSIVE NATIONAL DEBT

Posted by Convention of States Project on May 31, 2016

Last week Louisiana became the eighth state to pass the Convention of States application, due in large part to the excellent testimony from Louisiana supporters like these high school students.

If only our President had this kind of grasp of the Constitution...

http://www.conventionofstates.com/watch_louisiana_high_school_student?utm_source=Convention+of+States+Project&utm_campaign=f645b113a6-6_4_16_COS_Weekly_Round_Up&utm_medium=email&utm_term=0_45196125c1-f645b113a6-218650801

The June 8th, 2016 Edition of THE REVENGE OF HUMP DAY!

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