

The February 7th, 2018 Edition of THE REVENGE HUMP DAY!

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Welcome to the February 7th, 2018 Edition of THE REVENGE HUMP DAY!

Talk about Karma, this week has been interesting. One of my doctors changed the way I receive a medicine by the name of Spiriva. At first, I inhaled a powder form of it and it wasn't working. Then she decided that I should try an inhaler that delivered the Spiriva as a gas. Of course, my insurance didn't cover the new inhaler version. Well, they came back to me and decided they would pay for half of it. The made it cost \$200 a month for it. Ouch. Then SHE WHO MUST BE OBEYED, opened up my retirement statement from Uncle Sugar and it said that my pension would go up \$150 a month because of the tax cut. Since I originally paid around \$50 per month for the powder form of Spiriva, I pretty much broke even. In the game of life, you can't win, you can't break even and you can't get out of the game.

Linda's cousin Carol is going to come up from Alabama and spend a week or so with us. Also, Tish Groller is coming down from the DC area to visit her new home up on Flattop mountain right near here. Tish decided to buy a home near here so that she can live near her family when Rich retires in a few years. Their son Robert and his lovely wife Stephanie live in Hotlanta. Their daughter Jill and her husband Mike and their kids live near Orlando, Florida. And last but not least, their son Christian and his wife Jacqui and their kids live in the DC area. Flattop mountain, which is located adjacent to Soddy Daisy, Tennessee is about halfway in between the kids. Also, Tish gets to live near her informally adopted brother and his family by moving here. I'll let you guess who that is. ;) Poor Rich has even gotten used to Tish's strange family adoptee and I think he even gets a chuckle out of us now.

I have created a monster in my son, Jason, the Deposed Emperor. His dishwasher went on the blink a few weeks ago and he decided to see if he could find a used one to take it's place for a while. Well, I saw on TV that "Habitat for Humanity" actually has two stores in the Chattanooga area, and I suggested he check them out. Sure enough he found one that looked almost brand new for \$25 and he bought it. Since then, his 'junking gene' has come to the front and he has been checking out the "Habitat for Humanity" stores periodically and has found a couple of treasures there. I have to admit that it brings a smile to my face because my fondest memories is of my mother dragging me around the Sears Markdown store looking for bargains in Memphis. All my life I have enjoyed junking at surplus, markdown and charity stores and finding treasures in other people's junk. The same goes true for flea markets and the like. I admit, I am frugal with a buck but that is how I was raised.

So on that "introspective 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>

OLYMPIC GOLD

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From: "Mel Boros" boros@pobox.com

Hi All,

This is something I thought you might enjoy sharing with us - especially if you recall the game Six Degrees from Kevin Bacon (or friend of a friend of a friend). The 2018 Winter Olympics is just a few days away. Phyllis just happens to know one of the participants, Elana Meyers (Taylor) a former student. This makes Phyllis one degree away (remember this fact).

From an early age Elana had always desired to participate in the Olympics. When the 1996 Summer Olympics (in Atlanta) introduced Women's Softball, she saw her chance and persude the sport as a player on her high school softball team were she excelled. Unfortunately, her hopes were dashed during her senior year when the sport was removed as a Summer Olympic event.

Her desire to participate was so strong that immediately after graduation, she researched and discovered that the USA women's bobsled event was looking for players. So she switched from a Summer to a Winter sport and attended the six month intensive training camp. She did well enough to make one of the 2 Two Women Bobsled teams (as a pusher) for the 2010 Winter Olympics where she earned a Bronze Metal. She qualified for the 2014 Winter Olympics as a driver where she earned a Silver Metal.

This month's 2018 Winter Olympics will be her third and we'll be especially cheering for her team. We hope you will be sharing the excitement with us. Especially, all of you who know Phyllis which will make you two degrees away!

Of course, we'll be rooting for the USA in all of the events.

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

PENGUINS AND THE IMPERIAL MARCH FROM STAR WARS

From: "Chris Cowan" cowanc1028@earthlink.net

http://twistedgifter.com/videos/star-wars-penguins-imperial-march-vader-theme/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Twistedgifter+%28TwistedSifter+%29

You have GOT to watch and listen to this. It's perfect. (Except afterwards, I wanted to listen to the rest of the music and now I also have an earworm)

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

From: "Mike Waldrip" waldripk@gmail.com

CHUCKLES

A little girl was talking to her teacher about whales.

The teacher said it was physically impossible for a whale to swallow a human because even though it was a very large mammal its throat was very small.

The little girl stated that Jonah was swallowed by a whale.

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Irritated, the teacher reiterated that a whale could not swallow a human; it was physically impossible.

The little girl said, 'When I get to heaven I will ask Jonah'.

The teacher asked, 'What if Jonah went to hell?'

The little girl replied, 'Then you ask him'.

A Kindergarten teacher was observing her classroom of children while they were drawing. She would occasionally walk around to see each child's work.

As she got to one little girl who was working diligently, she asked what the drawing was.

The girl replied, 'I'm drawing God.'

The teacher paused and said, 'But no one knows what God looks like.'

Without missing a beat, or looking up from her drawing, the girl replied, 'They will in a minute.'

A Sunday school teacher was discussing the Ten Commandments with her five and six year olds.

After explaining the commandment to 'honor' thy Father and thy Mother, she asked, 'Is there a commandment that teaches us how to treat our brothers and sisters?'

From the back, one little boy (the oldest of a family) answered, 'Thou shall not kill.'

~~~~~

One day a little girl was sitting and watching her mother do the dishes at the kitchen sink. She suddenly noticed that her mother had several strands of white hair sticking out in contrast on her brunette head.

She looked at her mother and inquisitively asked, 'Why are some of your hairs white, Mum?'

Her mother replied, 'Well, every time that you do something wrong and make me cry or unhappy, one of my hairs turns white.'

The little girl thought about this revelation for a while and then said, 'Mummy, how come ALL of grandma's hairs are white?'

~~~~~

The children had all been photographed, and the teacher was trying to persuade them each to buy a copy of the group picture. 'Just think how nice it will be to look at it when you are all grown up and say, 'There's Jennifer, she's a lawyer,' or 'That's Michael, He's a doctor.'

A small voice at the back of the room rang out, 'And there's the teacher, she's dead.'

~~~~~

A teacher was giving a lesson on the circulation of the blood. Trying to make the matter clearer, she said, 'Now, class, if I stood on my head, the blood, as you know, would run into it, and I would turn red in the face.'

'Yes,' the class said.

'Then why is it that while I am standing upright in the ordinary position the blood doesn't run into my feet?'

A little fellow shouted, 'Cause your feet ain't empty.'

~~~~~

The children were lined up in the cafeteria of a Catholic elementary school for lunch. At the head of the table was a large pile of apples. The nun made a note, and posted on the apple tray:

'Take only ONE God is watching.'

Moving further along the lunch line, at the other end of the table was a large pile of chocolate chip cookies.

A child had written a note, 'Take all you want. God is watching the apples....'

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

BET YOU WOULDN'T PARK HERE



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

THE TAX SYSTEM EXPLAINED IN BEER

Suppose that every day, ten men go out for beer and the bill for all ten comes to \$100... If they paid their bill the way we pay our taxes, it would go something like this:

- The first four men (the poorest) would pay nothing.
- The fifth would pay \$1.
- The sixth would pay \$3.
- The seventh would pay \$7.
- The eighth would pay \$12.
- The ninth would pay \$18.
- The tenth man (the richest) would pay \$59.

So, that's what they decided to do.

The ten men drank in the bar every day and seemed quite happy with the arrangement, until one day, the owner threw them a curve ball. "Since you are all such good customers," he said, "I'm going to reduce the cost of your daily beer by \$20".. Drinks for the ten men would now cost just \$80.

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The group still wanted to pay their bill the way we pay our taxes, so the first four men were unaffected. They would still drink for free. But what about the other six men? How could they divide the \$20 windfall so that everyone would get his fair share?

They realized that \$20 divided by six is \$3.33. But if they subtracted that from everybody's share, then the fifth man and the sixth man would each end up being paid to drink his beer.

So, the bar owner suggested that it would be fair to reduce each man's bill by a higher percentage the poorer he was, to follow the principle of the tax system they had been using, and he proceeded to work out the amounts he suggested that each should now pay..

And so the fifth man, like the first four, now paid nothing (100% saving).

The sixth now paid \$2 instead of \$3... (33% saving).

The seventh now paid \$5 instead of \$7.. (28% saving).

The eighth now paid \$9 instead of \$12.. (25% saving).

The ninth now paid \$14 instead of \$18.. (22% saving).

The tenth now paid \$49 instead of \$59.. (16% saving).

Each of the six was better off than before.

And the first four continued to drink for free.

But, once outside the bar, the men began to compare their savings. "I only got a dollar out of the \$20 saving," declared the sixth man. He pointed to the tenth man, "but he got \$10!"

"Yeah, that's right," exclaimed the fifth man. "I only saved a dollar too. It's unfair that he received ten times more benefit than me!"

"That's true!" shouted the seventh man. "Why should he get \$10 back, when I got only \$2? The wealthy get all the breaks!"

"Wait a minute," yelled the first four men in unison, "We didn't get anything at all. This new tax system exploits the poor!"

The nine men surrounded the tenth man and beat him up. he next night the tenth man didn't show up for drinks, so the nine sat down and had their beers without him. But when it came time to pay the bill, they discovered something important. They didn't have enough money between all of them for even half of the bill!

And that, boys and girls, journalists and government ministers, is how our tax system works. The people who already pay the highest taxes will naturally get the most benefit from a tax reduction. Tax them too much, attack them for being wealthy, and they just may not show up anymore. In fact, they might start drinking overseas, where the atmosphere is somewhat friendlier.

David R. Kamerschen, Ph.D.
Professor of Economics.

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

PADDY'S FINGERS

Paddy was working at the fish plant in Cork when he accidentally cut off all 10 of his fingers. He went to the emergency room in Cork's hospital.

The doctor looked at Paddy and said, 'Lets be avin' da fingers and I'll see what oi can do'.

Paddy said, 'Oi haven't got da fingers.'

'Whadda ya mean you haven't got da fingers? Lord Tunderin' Jesus, it's 2018! We's got microsurgery and all kinds of incredible techniques. I could have put dem back on and made you like new! Why didn't ya bring da fingers?!?'

And Paddy said, 'How da hell was I 'spose to pick dem up!!!

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

VAGARIES OF THE ENGLISH LANGUAGE

1. ONE TEQUILA, TWO TEQUILA, THREE TEQUILA..... FLOOR.
2. ATHEISM IS A NON-PROPHET ORGANIZATION.
3. IF MAN EVOLVED FROM MONKEYS AND APES, WHY DO WE STILL HAVE MONKEYS AND APES?
4. THE MAIN REASON THAT SANTA IS SO JOLLY IS BECAUSE HE KNOWS WHERE ALL THE BAD GIRLS LIVE.
5. I WENT TO A BOOKSTORE AND ASKED THE SALESWOMAN, "WHERE'S THE SELF-HELP SECTION?" SHE SAID IF SHE TOLD ME, IT WOULD DEFEAT THE PURPOSE.
6. WHAT IF THERE WERE NO HYPOTHETICAL QUESTIONS?
7. IF SOMEONE WITH MULTIPLE PERSONALITIES THREATENS TO KILL HIMSELF, IS IT CONSIDERED A HOSTAGE SITUATION?
8. IS THERE ANOTHER WORD FOR SYNONYM.
9. WHERE DO FOREST RANGERS GO TO "GET AWAY FROM IT ALL?"
10. WHAT DO YOU DO WHEN YOU SEE AN ENDANGERED ANIMAL EATING AN ENDANGERED PLANT?
11. IF A PARSLEY FARMER IS SUED, CAN THEY GARNISH HIS WAGES?
12. WOULD A FLY WITHOUT WINGS BE CALLED A WALK?
13. WHY DO THEY LOCK GAS STATION TOILETS? ARE THEY AFRAID OMEONE WILL BREAK-IN AND CLEAN THEM?
14. IF A TURTLE DOESN'T HAVE A SHELL, IS HE HOMELESS OR NAKED?

15. CAN VEGETARIANS EAT ANIMAL CRACKERS?

16. IF THE POLICE ARREST A MUTE, DO THEY TELL HIM HE HAS THE RIGHT TO REMAIN SILENT?

17. WHY DO THEY PUT BRAILLE ON THE DRIVE-THROUGH BANK MACHINES?

18. HOW DO THEY GET DEER TO CROSS THE ROAD ONLY AT THOSE YELLOW ROAD SIGNS?

19. WHAT WAS THE BEST THING BEFORE SLICED BREAD?

20. ONE NICE THING ABOUT EGOTISTS: THEY DON'T TALK ABOUT OTHER PEOPLE.

21. DOES THE LITTLE MERMAID WEAR AN ALGEBRA?

22. DO INFANTS ENJOY INFANCY AS MUCH AS ADULTS ENJOY ADULTERY?

23. HOW IS IT POSSIBLE TO HAVE A CIVIL WAR?

24. IF ONE SYNCHRONIZED SWIMMER DROWNS, DO THE REST DROWN TOO?

25. IF YOU ATE BOTH PASTA AND ANTIPASTO, WOULD YOU STILL BE HUNGRY?

26. IF YOU TRY TO FAIL, AND SUCCEED, WHICH HAVE YOU DONE?

27. WHOSE CRUEL IDEA WAS IT FOR THE WORD 'LISP' TO HAVE 'S' IN IT?

28. WHY ARE HEMORRHOIDS CALLED "HEMORRHOIDS" INSTEAD OF "ASSTEROIDS"?

29. WHY IS IT CALLED TOURIST SEASON IF WE CAN'T SHOOT AT THEM?

30. WHY IS THERE AN EXPIRATION DATE ON SOUR CREAM?

31. CAN AN ATHEIST GET INSURANCE AGAINST ACTS OF GOD?

32. WHY DO SHOPS HAVE SIGNS, 'GUIDE DOGS ONLY'? THE DOGS CAN'T READ AND THEIR OWNERS ARE BLIND.

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

APLOMB

His Lordship was in the study at Downton Abbey when the butler approached and coughed discreetly.

"May I ask you a question, my Lord?"

"Go ahead, Carson," said his Lordship.

"I am doing the crossword in The Times and I have found a word upon which I am not too clear."

"What word is that?" asked his Lordship.

"Aplomb, my Lord."

"Now, that's a difficult one to explain. I would say it is self-assurance or complete composure."

"Thank you, my Lord, but I'm still a little confused."

"Let me give you an example to make it clearer. Do you remember a few months ago when the Duke and Duchess of Cambridge arrived to spend a weekend with us?"

"I remember the occasion very well, my Lord. It gave the staff and myself much pleasure to look after them."

"Well," continued the Earl of Grantham, "do you remember when Wills plucked a rose for Kate in the rose garden?"

"I was present on that occasion, my Lord, ministering to their needs."

"While plucking the rose, a thorn embedded itself deeply into his thumb."

"I witnessed the incident, my Lord, and saw the Duchess herself remove the thorn and bandage his thumb with her own dainty handkerchief."

"That evening the prick on his thumb was so sore that Kate had to cut up his venison from our own estate, even though it was extremely tender."

"Yes, my Lord, I did see everything that transpired that evening."

"The next morning while you were pouring coffee for Her Ladyship, Kate, inquired of Will with a loud voice,

'Darling, does your prick still throb?'

And you, Carson, did not spill one drop of coffee!

THAT, good Sir, is aplomb."

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

WHAT OLD MEN REALLY WANT

A 72 year old man is having a drink in a Sarasota bar. Suddenly a gorgeous girl enters and sits down a few seats away. The girl is so attractive that he just can't take his eyes off her.

After a short while the girl notices him staring, and approaches him.

Before the man has time to apologize, the girl looks him deep in the eyes and says to him in a sultry tone:

“I’ll do anything you’d like. Anything you can imagine in your wildest dreams, it doesn’t matter how extreme or unusual it is, I’m game. I want \$100, and there’s another condition”.

Completely stunned by the sudden turn of events, the man asks her what her condition is.

“You have to tell me what you want me to do in just three words.”

The man takes a moment to consider the offer from the beautiful woman.

He then whips out his wallet and puts 10 \$10 bills in her outstretched hand.

He then looks her square in the eyes, and says slowly and clearly: “Paint my house.”

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

SCARY STORY

This happened in a little town, Norris Arm, in Newfoundland, and even though it sounds like an Alfred Hitchcock tale, it’s absolutely true.

This fellow was on the side of the road hitchhiking on a very dark night in the middle of a terrible rainstorm, and no cars were on the road. The storm was so strong he could hardly see a few feet ahead of him. Suddenly, a car came toward him and stopped. Without thinking, he got in the car and closed the door and only then did he realize that there was nobody behind the wheel!

The car started to move very slowly. He looked at the road and saw a curve coming his way.? Petrified, he started to pray, begging for his life. Just before the car hit the curve, a hand suddenly appeared through the window and moved the steering wheel.

The fellow, now paralyzed in terror, watched as the hand appeared every time the car was approaching a curve. Finally, although terrified, he managed to open the door and jump out of the spooky car.

Without looking back, he ran through the storm all the way to the nearest town. Soaking wet; exhausted and in a state of utter shock the pale, visibly shaken man, walked into a nearby bar and asked for two shots of Screech. Then, still trembling with fright, he started telling everybody about the horrible experience he just went through with the spooky car with no driver and the mysterious hand that kept appearing. Everyone listened in silence and became frightened, hairs standing on end when they realized the fellow was telling the truth.

About half an hour later two guys walked into the same bar and one said to the other, ‘Lard Thundern Jasus, me son, there’s the idiot who got into the car while we were pushing it!’

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

FIVE SURGEONS

Five surgeons were talking about the best patients...

First surgeon says, "Accountants are the best to operate on because when you open them up, everything on the inside is numbered."

Second surgeon says, "Nah - librarians are the best. Everything inside them is in alphabetical order."

Third surgeon responds, "Try electricians, man! Everything inside them is color coded!"

Fourth surgeon intercedes, "I prefer lawyers. They're heartless, spineless, gutless, and their heads and butts are interchangeable."

To which the fifth surgeon, who has been quietly listening to the conversation, says, "I like engineers. They always understand when you have a few parts left over at the end."

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

THREE UMPIRES

Three umpires were at the pub reminiscing about their careers. They got to discussing their general philosophy of how to call the pitches.

The first umpire says, "Well, I calls 'em as I sees 'em"

The second umpire shakes his head and says, "I calls 'em as they IS!"

The third umpire--not to be outdone-- shakes his head and says, "They IS as I calls 'em!"

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

From: "Bob Bolgeo" bbolgeo@aol.com

LISTEN CLOSELY

At a travel agency in Shanghai, I asked the Chinese girl behind the counter if she could escort me on a city tour and asked her for her mobile number so I could call her to make arrangements. She gave me a big smile, nodded her head and said :

"Sex sex sex, wan free sex for tonigh."

I replied, " Wow, you Chinese women are really hospitable! "

A guy standing next to me overheard, tapped me on the shoulder and said :

What she really said was : 666136429 "

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

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TACKY ALERT: The following joke is totally tacky and politically incorrect. But you could switch the principles in the joke and it would still be funny as hell. UT

From: "Jerry Tollett" haleja@epbf.com



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

From: "Bob Bolgeo" <bbolgeo@aol.com>

THE WOMAN MARINE PILOT

The teacher gave her fifth grade class an assignment: Get their parents to tell them a story with a moral at the end of it.



The next day, the kids came back and, one by one, began to tell their stories.

There were all the regular types of stuff: spilled milk and pennies saved. But then the teacher realized, much to her dismay, that she had missed Janie.

Janie, do you have a story to share?

"Yes ma'am. My daddy told me a story about my Mommy. She was a Marine pilot in Desert Storm, and her plane got hit. She had to bail out over enemy territory, and all she had was a flask of whiskey, a pistol, and

a survival knife.

She drank the whiskey on the way down so the bottle wouldn't break, and then her parachute landed her right in the middle of 20 Iraqi troops.

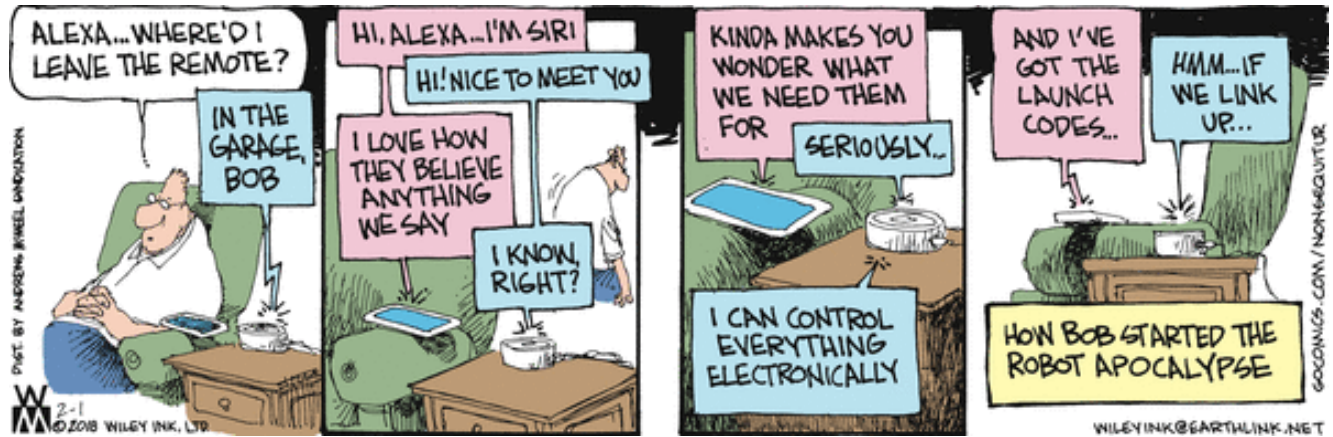
She shot 15 of them with the pistol, until she ran out of bullets, killed four more with the knife, till the blade broke, and then she killed the last Iraqi with her bare hands.

'Good Heavens,' said the horrified teacher. 'What did your Daddy tell you was the moral to this horrible story?'

"Stay away from Mommy when she's been drinking."

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

From: "Martin L King" <kingjr_martin@yahoo.com>



Non Sequitur by Wiley Miller, February 1, 2018

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Tim Bolgeo" tbolgeo@epbfi.com

"I NEED TO REPORT A STOLEN HOUSE!": HOUSTON COUPLE WANTS VACATION HOME BACK

By [Steve Campion](#) and [Foti Kallergis](#), Tuesday, February 06, 2018

<http://abc13.com/i-need-to-report-a-stolen-house-couple-wants-their-home-back/3034896/>



HOUSTON, Texas (KTRK) –

A Houston couple wants their vacation house returned to them.

Jo and Lonnie Harrison told Eyewitness News someone stole their entire home off their property in Madisonville, Texas. They bought the 10-acre property with a prefab home on site last year.

It's a one-bedroom, one-bathroom home with a green roof and wood siding.

They visit the area to escape from the busy city. They last drove up to the property in early November.

Lonnie Harrison returned Friday only to discover the entire structure gone.

"Nothing. Nothing that I wanted to see. I didn't see the house," said Harrison. "All I saw were blocks and pipes sticking out. The whole house gone. Everything except the blocks."

Lonnie called his wife, Jo, who couldn't believe the news. They called the Madison County Sheriff's Department to report the disappearance.

"I said, 'You know this is really going to sound strange, but I need to report a stolen house.' They were like, 'A house?' I said yes. We have 10 acres and had a little cabin and the cabin is gone," said Jo Harrison. "Give us a call. Call the Madisonville Sheriff's Department and let them know what you see. We really would like to have our house back."

Anyone with information is asked to call the Madisonville Sheriff's Department at 936-348-2755.

TEXAS MOVE AND FLIP? ☺ UT

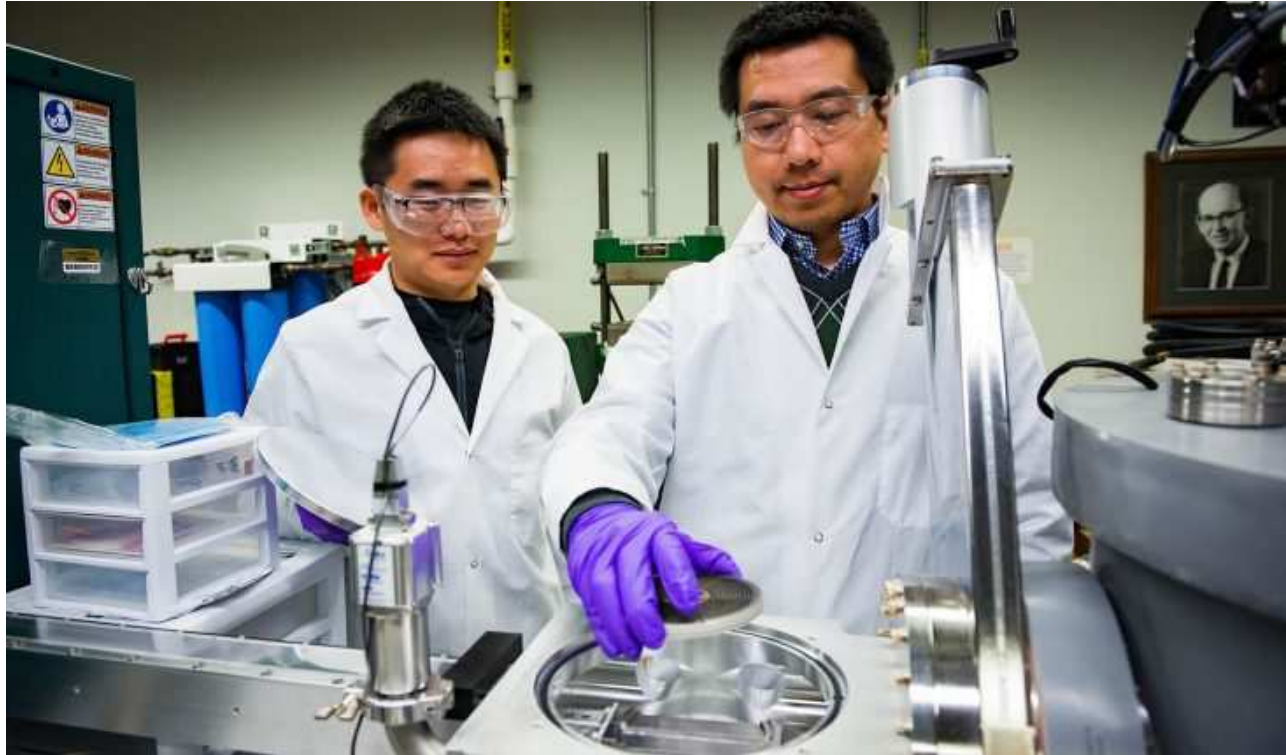
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From: "Tim Bolgeo" tbolgeo@epbfi.com

SUPER-STRONG ALUMINUM AS STRONG AS STEEL

brian wang | January 30, 2018

<https://www.nextbigfuture.com/2018/01/super-strong-aluminum-as-strong-as-steel.html>



RBP

Researchers have demonstrated how to create a super-strong aluminum alloy that rivals the strength of stainless steel, an advance with potential industrial applications.

“Most lightweight aluminum alloys are soft and have inherently low mechanical strength, which hinders more widespread industrial application,” said Xinghang Zhang, a professor in Purdue University’s School of Materials Engineering. “However, high-strength, lightweight aluminum alloys with strength comparable to stainless steels would revolutionize the automobile and aerospace industries.”

New research shows how to alter the microstructure of aluminum to impart greater strength and ductility. Findings were detailed in two new research papers. The work was led by a team of researchers that included Purdue postdoctoral research associate Sichuang Xue and doctoral student Qiang Li.

The new high-strength aluminum is made possible by introducing “stacking faults,” or distortions in the crystal structure. While these are easy to produce in metals such as copper and silver, they are difficult to introduce in aluminum because of its high “stacking fault energy.”

A metal’s crystal lattice is made up of a repeating sequence of atomic layers. If one layer is missing, there is said to be a stacking fault. Meanwhile, so-called “twin boundaries” consisting of two layers of stacking faults can form. One type of stacking fault, called a 9R phase, is particularly promising, Zhang said.

Now, researchers have learned how to readily achieve this 9R phase and nanotwins in aluminum.

“These results show how to fabricate aluminum alloys that are comparable to, or even stronger than, stainless steels,” he said. “There is a lot of potential commercial impact in this finding.”

Xue is lead author of the Nature Communications paper, which is the first to report a “shock-induced” 9R phase in aluminum. Researchers bombarded ultrathin aluminum films with tiny micro-projectiles of silicon dioxide, yielding 9R phase.

“Here, by using a laser-induced projectile impact testing technique, we discover a deformation-induced 9R phase with tens of nanometers in width,” Xue said.

The microprojectile tests were performed by a research group at Rice University, led by professor Edwin L. Thomas, a co-author of the Nature Communications paper. A laser beam causes the particles to be ejected at a velocity of 600 meters per second. The procedure dramatically accelerates screening tests of various alloys for impact-resistance applications.

“Say I want to screen many materials within a short time,” Zhang said. “This method allows us to do that at far lower cost than otherwise possible.”

Li is lead author of the Advanced Materials paper, which describes how to induce a 9R phase in aluminum not by shock but by introducing iron atoms into aluminum’s crystal structure via a procedure called magnetron sputtering. Iron also can be introduced into aluminum using other techniques, such as casting, and the new finding could potentially be scaled up for industrial applications.

The resulting “nanotwinned” aluminum-iron alloy coatings proved to be one of the strongest aluminum alloys ever created, comparable to high-strength steels.

“Molecular-dynamics simulations, performed by professor Jian Wang’s group at the University of Nebraska, Lincoln, showed the 9R phase and nanograins result in high strength and work-hardening ability and revealed the formation mechanisms of the 9R phase in aluminum,” Zhang said. “Understand new deformation mechanisms will help us design new high strength, ductile metallic materials, such as aluminum alloys.”

One potential application might be to design wear- and corrosion-resistant aluminum alloy coatings for the electronics and automobile industries.

Abstract

Light-weight aluminum (Al) alloys have widespread applications. However, most Al alloys have inherently low mechanical strength. Nanotwins can induce high strength and ductility in metallic materials. Yet, introducing high-density growth twins into Al remains difficult due to its ultrahigh stacking-fault energy. In this study, it is shown that incorporating merely several atomic percent of Fe solutes into Al enables the formation of nanotwinned (nt) columnar grains with high-density 9R phase in Al(Fe) solid solutions. The nt Al–Fe alloy coatings reach a maximum hardness of 75.5 GPa, one of the strongest binary Al alloys ever created. In situ uniaxial compressions show that the nt Al–Fe alloys populated with 9R phase have flow stress exceeding 1.5 GPa, comparable to high-strength steels. Molecular dynamics simulations reveal that high strength and hardening ability of Al–Fe alloys arise mainly from the high-density 9R phase and nanoscale grain sizes.

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DANGEROUSLY LOW ON WATER, CAPE TOWN NOW FACES 'DAY ZERO'

By NORIMITSU ONISHI and SOMINI SENGUPTAJAN. 30, 2018

<https://www.nytimes.com/2018/01/30/world/africa/cape-town-day-zero.html>*



A roadside car-wash operator in Delft, a township on the outskirts of Cape Town, was fined the equivalent of about \$250 for illegal water use. CreditJoao Silva/The New York Times

CAPE TOWN — It sounds like a Hollywood blockbuster. “Day Zero” is coming to Cape Town this April. Everyone, be warned.

The government cautions that the Day Zero threat will surpass anything a major city has faced since World War II or the Sept. 11 attacks. Talks are underway with South Africa’s police because “normal policing will be entirely inadequate.” Residents, their nerves increasingly frayed, speak in whispers of impending chaos.

The reason for the alarm is simple: The city’s water supply is dangerously close to running dry.

If water levels keep falling, Cape Town will declare Day Zero in less than three months. Taps in homes and businesses will be turned off until the rains come. The city’s four million residents will have to line up for water rations at 200 collection points. The city is bracing for the impact on public health and social order.

“When Day Zero comes, they’ll have to call in the army,” said Phaldie Ranqueste, who was filling his white S.U.V. with big containers of water at a natural spring where people waited in a long, anxious line.



The empty Westridge public swimming pool in Mitchells Plain on the outskirts of Cape Town. CreditJoao Silva/The New York Times

It wasn't supposed to turn out this way for Cape Town. This city is known for its strong environmental policies, including its careful management of water in an increasingly dry corner of the world.

But after a three-year drought, considered the worst in over a century, South African officials say Cape Town is now at serious risk of becoming one of the few major cities in the world to lose piped water to homes and most businesses.

Hospitals, schools and other vital institutions will still get water, officials say, but the scale of the shut-off will be severe.

Cape Town's problems embody one of the big dangers of climate change: the growing risk of powerful, recurrent droughts. In Africa, a continent particularly vulnerable to the effects of climate change, those problems serve as a potent warning to other governments, which typically don't have this city's resources and have done little to adapt.

For now, political leaders here talk of coming together to "defeat Day Zero." As water levels in the dams supplying the city continue to drop, the city is scrambling to finish desalination plants and increase groundwater production. Starting in February, residents will face harsher fines if they exceed their new daily limit, which will go down to 50 liters (13.2 gallons) a day per person from 87 liters now.

Just a couple of years ago, the situation could not have looked more different here. In 2014, the dams stood full after years of good rain. The following year, C40, a collection of cities focused on climate change worldwide, awarded Cape Town its "adaptation implementation" prize for its management of water.

Cape Town was described as one of the world's top "green" cities, and the Democratic Alliance — the opposition party that has controlled Cape Town since 2006 — took pride in its emphasis on sustainability and the environment.

The accolades recognized the city's success in conserving water. Though the city's population had swelled by 30 percent since the early 2000s, overall water consumption had remained flat. Many of the new arrivals settled in the city's poor areas, which consume less water, and actually helped bring down per capita use.

The city's water conservation measures — fixing leaks and old pipes; installing meters and adjusting tariffs — had a powerful impact. Maybe too powerful.

The city conserved so much water that it postponed looking for new sources.

For years, Cape Town had been warned that it needed to increase and diversify its water supply. Almost all of its water still comes from six dams dependent on rainfall, a risky situation in an arid region with a changing climate. The dams, which were full only a few years ago, are now down to about 26 percent of capacity, officials say.

Cape Town has grown warmer in recent years and a bit drier over the last century, according to Piotr Wolski, a hydrologist at the University of Cape Town who has measured average rainfall from the turn of the 20th century to the present.



The Theewaterskloof Dam, source of roughly half of Cape Town's water, is at just 13 percent of capacity. CreditNASA

Climate models show that Cape Town is destined to face a drier future, with rains becoming more unpredictable in the coming decades. "The drier years are expected to be drier than they were, and the wetter years will not be as wet," Mr. Wolski said.

As far back as 2007, South Africa's Department of Water Affairs warned that the city needed to consider increasing its supply with groundwater, desalination and other sources, citing the potential impact of climate change.

Mike Muller, who served as the department's director between 1997 and 2005, said that the city's water conservation strategy, without finding new sources, has been "a major contributor to Cape Town's troubles."

"Nature isn't particularly willing to compromise," he added. "There will be severe droughts. And if you haven't prepared for it, you'll get hammered."

Ian Neilson, the deputy mayor, said that new water supplies have been part of the city's plans but "it was not envisaged that it would be required so soon."

Cities elsewhere have faced serious water shortages. Millions of Brazilians have endured rationing because of prolonged droughts. Brasília, the capital, declared a state of emergency a year ago. Experts say the water shortages in Brazil, which have affected more

than 800 municipalities across the country, stem from climate change, the rapid expansion of agriculture, bad infrastructure and poor planning.

Here in Cape Town, the water shortages have strained political divisions, especially because much of the responsibility for building water infrastructure lies with the national government led by the African National Congress.

“The national government has dragged its feet,” said David Olivier, who studies climate change at the University of the Witwatersrand’s Global Change Institute.

The national government controls the water supply to Cape Town, other municipalities and the province’s agricultural sector, including the large wine industry east of Cape Town. In the first two years of the drought, experts say, the national government failed to limit water supplies to farmers, intensifying the problem.

But the city made mistakes, too. Last year, instead of focusing on “low-hanging fruit” like tapping into local aquifers, the city concentrated on building temporary desalination units, said Kevin Winter, a water expert at the University of Cape Town’s Future Water Institute.



Residents waited to collect water from a spring in Newlands, Cape Town. Credit: Joao Silva/The New York Times

“It takes a lot of time to build desalination modules, three to five years, and at considerable cost,” Mr. Winter said. “They’re even costlier to build during a crisis.”

Mr. Neilson, the deputy mayor, acknowledged that “some time was lost.” The city, he said, had now “shifted our efforts dramatically.”

The city is stepping up its efforts to cut consumption. With water and time running out, Mr. Neilson said he was “acutely aware” of needing to scare people into changing their behavior without causing them to panic, adding, “I don’t think we quite got that right yet.”

So far, only 55 percent of Cape Town residents have met the target of 87 liters per day.

Helen Zille, the premier of Western Cape Province, which includes Cape Town, wrote in *The Daily Maverick* last week that she considers a shut-off inevitable. The question now, she said, is, “When Day Zero arrives, how do we make water accessible and prevent anarchy?”

Cutting back is a difficult message to convey in one of the world’s most unequal societies, where access to water reflects Cape Town’s deep divisions. In squatter camps, people share communal taps and carry water in buckets to their shacks. In other parts of the city, millionaires live in mansions with glistening pools.

In vast townships like Mitchells Plain, residents without cars wondered how they could even carry water containers home from a collection point.

Fariel Cassiem, who works as a cleaner but does not have a car, said his wife would have to fetch water for his household of eight.

“There are so many guys just standing around, with no jobs, so I’ll just give them two rands to carry the water,” he said, referring to the equivalent of about 17 cents.

As Day Zero looms, some were stocking up on water at two natural springs in the city. Others were buying cases of water at Makro, a warehouse-style store.

In Constantia, a suburb with large houses on gated properties with pools, some residents were installing water tanks in their yards.

At one house, Leigh De Decker and Mark Bleloch said they had reduced their total water consumption from the city to 20 liters a day, down from 500 liters a day before the drought. Instead, they now draw from two 10,000-liter tanks of treated well water, and were waiting for two additional tanks to be delivered.

Several weeks before Day Zero, their use of city water should come down to zero, they said, estimating that it will cost them about \$4,200 to become completely self-sufficient.

“It allows you to have a certain lifestyle without drawing on resources that other people need,” Ms. De Decker said.

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SPECIAL REPORT: GE’S PASSPORT ENGINE

A distillation of technologies from its larger turbofans, this may be General Electric’s most advanced engine yet

Jan 31, 2018 David Esler | Business & Commercial Aviation

http://aviationweek.com/business-aviation/special-report-ge-s-passport-engine?NL=BCA-01&Issue=BCA-01_20180202_BCA-01_259&sfvc4enews=42&cl=article_2&utm_rid=CPEN1000003019593&utm_campaign=13432&utm_medium=email&elq2=801f666703d7425da5496ba7896061e6

This article, originally published December 21, appears in the January 2018 issue of Business & Commercial Aviation with the title “Passport.”

It’s a old axiom that “If you build it, they will come.”

In aviation, it alludes to the introduction of aero engines enabling the development of new classes



of airplanes. For example, in the 1960s, the availability of the General Electric CJ610 turbojet gave birth to the light business jet class that included the 20 series Lear, Jet Commander and Hansa jet, among others, while the Rolls-Royce Spey, a British airliner engine, engendered the first intercontinental business aircraft, the Grumman Gulfstream II.

Today, the long-range business jet class is well established . . . but still they come, in this case, high-tech airplanes like the Bombardier Global 7000 and 8000 and Gulfstream 500 and 600 and the equally advanced, electronically controlled engines that power them, respectively, the GE Passport and Pratt & Whitney Canada PW800. With ratings spanning 10,000-20,000 lb. of thrust, both engines are now certificated and soon to enter service. In this report, BCA will take an in-depth look at the Passport, with coverage of the PW800 scheduled for a future issue.

Passport production prototype mounted on pylon two of GE Aviation's Boeing 747-100 flying test bed. GE will provide nacelle as a full power package to airframe OEMs.

The origins of the Passport date back a decade to a GE market research study to determine where to size a next-generation business jet engine that could exploit technology the company had acquired for its commercial and military engine programs. Overlaying this was the company's eCore research program, intended to develop a common architecture for business, regional and narrowbody airliner applications that ultimately culminated in the company's CFM56 successor, the LEAP advanced turbofan that now powers Boeing's 737 MAX and Airbus' A320neo single-aisle jetliners. (Accordingly, the resultant turbofan was, as a GE manager told BCA, "a smaller scale of the LEAP.")

HEAVY IRON ENGINE

GE determined that the strongest and most lucrative market segment would be the long-range, large-cabin business jet. Accordingly, a thrust range of 14,000-20,000 lb. was selected for a proposed engine, which was better aligned with the manufacturer's large-engine technology pool. Preliminary design work commenced in 2009, and the following year, with the project provisionally dubbed "TechX," Bombardier selected the engine for the Global 7000, which it announced at the 2010 NBAA convention. For this first application, the thrust rating was set at 16,500 lb.

GE's Boeing 747-100 flying test bed with Passport on pylon two banks out of its Victorville, California, base for the engine's first flight. At conclusion of test program, the Passport had logged more than 1,000 combined flight hours on the 747 and Bombardier Global 7000 production prototypes.



Rig testing of engine components began in 2011, including combustor and high-pressure turbines, and in 2012, fan "blade-out," wherein a blade was explosively blown off the fan hub to ensure containment by the carbon-fiber fan shroud. By 2013, testing of multiple builds of complete engines had commenced on outdoor stands at GE's Peebles, Ohio, facility. Through 2014, bird ingestion and endurance testing proceeded, and in 2015, the Passport took to the air for the first time, bolted to the

number two pylon of the company's Boeing 747-100 flying testbed, operating out of its Victorville, California, base in the Mojave Desert. Simultaneously, ice, water ingestion and altitude testing occurred, the last to the Passport's maximum altitude of 51,000 ft. in the federal government's altitude-testing facility in Tennessee.

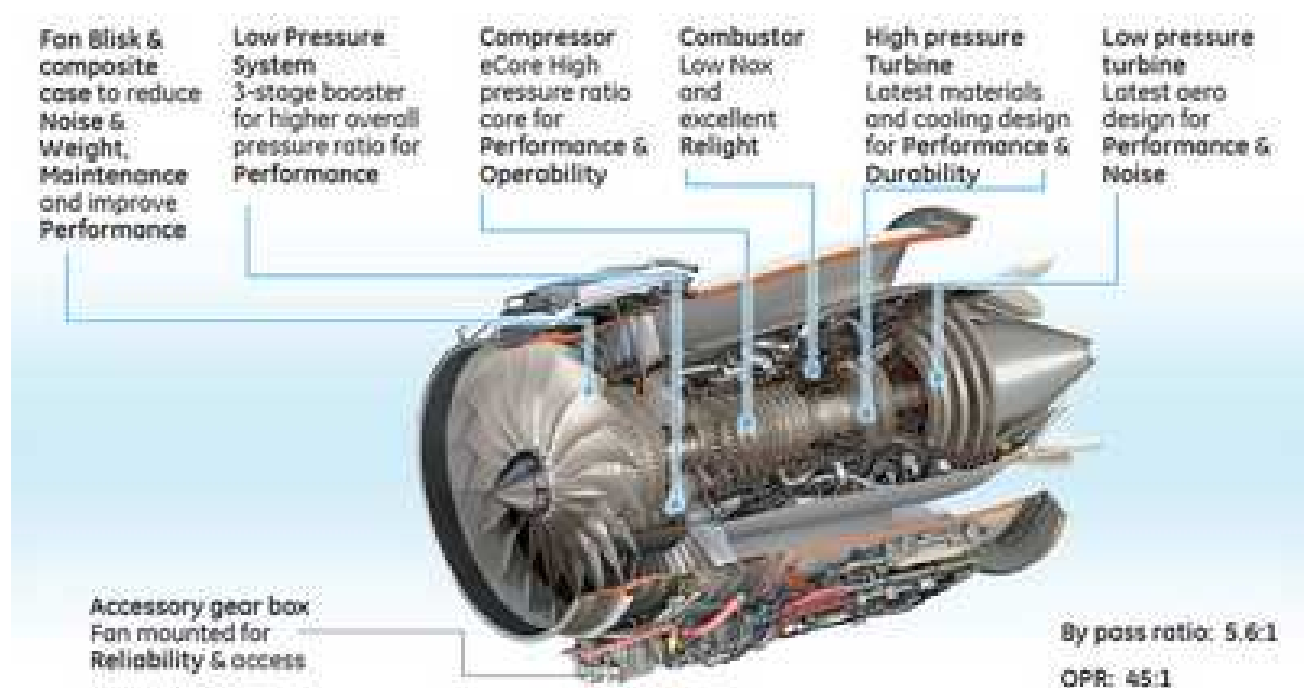
Altogether, 3,380 hr. and 3,385 cycles of development and certification testing were completed on the engine before it received FAA Type Certification in April 2016 (by service entry, those numbers are expected have grown to 4,000 and 8,000, respectively).

Meanwhile, 900+ hr. of flight time have been logged aboard Bombardier Global 7000 production prototypes to supplement the 100 hr. flown on the Boeing 747 testbed. Through all of this, GE claims it experienced only one "issue" with the engine, in this case aboard the Global 7000, which was eventually isolated to a misassembled part. None of the other engines in the program were said to have been affected.

"We continue to prepare for EIS next year," Passport Project Manager Shawn Warren told BCA last autumn, "and are building flight test engines for Bombardier while preparing for early manufacturing."

EXTRA THRUST SURPRISE

While the original specification for the Passport was 16,500 lb. of thrust, it was certificated at three higher ratings: 17,745, 18,435 and 18,920 lb., the first two for the Global 7000 and 8000 and the third for possibly an undisclosed application. It seems that on first run, the engine demonstrated more thrust than expected, Warren claimed, "so in certification, it made more sense to certify it at the higher thrust ratings."



Overall in the testing program, he said the company was “very pleased with the performance of the product, especially the fuel consumption. We forecast an 8% advantage [in specific fuel consumption] below our competitors and exceeded our expectations.”

Beyond that intentionally vague statement, the company will reveal no more about the Passport’s SFC. It is known that when GE was planning the engine, it had targeted the Rolls-Royce BR700-725 turbofan that powers the Gulfstream 650 as a baseline to be exceeded.

In 2013, a GE executive told BCA, “We are looking at applications with longer range than a Gulfstream 650, that is, the new Bombardiers. Our engine is more advanced than the ones on the G650s just being delivered. We are 8% less on SFC than the BR725 and are double-digit better than the BR710, as far as we can tell from published data.”

Cutaway of Passport turbofan and nacelle. GE sells the unit to airframe OEMs as a complete package. Below, exterior view of Passport. Note dual FADECs atop fan cowl and fluted exhaust fabricated from “ox-ox” composites.



Facts that GE does reveal about the engine include its bypass ratio of 5.6:1, internal pressure ratio of 23:1 and overall pressure ratio of 45:1. Lapse rate is also confidential.

The Passport is a conventional two-spool design. The core consists of a 10-stage high-pressure axial compressor, a low-emissions annular combustor and two-stage high-pressure turbine. The

power spool begins with a 52-in.-dia., 18-blade fan, followed by a three-stage low-pressure compressor (or “core booster”), and terminates with a four-stage low-pressure turbine.

As a design tool, contemporary computational fluid dynamics (CFD) software can yield significant improvements in efficiency, which in aero engine design can allow fewer stages in compressors and turbines to achieve a given thrust rating. That, in turn, equates to fewer blades on respective rotors, less weight for a



given application, and heightened ability to compress air and create thrust. The Passport is claimed to have been designed using the most advanced version of GE's CFD modeling software, with each stage optimized "holistically" in terms of how much power it requires to make each pound of compression or thrust.

The Bombardier Global 7000 ultra-long-range business jet (7,400 nm NBAA) is the Passport's first application, soon to be followed by the even farther-ranging (7,900 nm NBAA) Global 8000. Thrust for these apps is, respectively, 17,745 lb. and 18,435 lb.

The first five stages of the HP compressor are "blisks" — one-piece rotors — machined from titanium, while the remainder toward the rear are disks with insertable blades cast from nickel-based alloys to accommodate higher temperatures of compression. Both the blisks and insertable blades on the aft rotors are polished to a mirror finish to promote more efficient airflow. The same fluid dynamics are applied to the flow path in the turbine section where turbine blades cooled with bleed air are made of advanced alloys developed in the eCore commercial engine research program.

The engine also features "active clearance control" in the turbine section where blade tip clearance is adjusted as a function of the various cycles in the flight envelope by applying cooling air to the case from an enclosing manifold. According to one GE engineer, "The closer you can hold that distance, the more efficient your blades are . . . so we're controlling the expansion and contraction of the case around the blades using modulated cooling air controlled by the FADEC [Full Authority Digital Engine Control]."

The tightest clearance is desired to control fuel burn, but in the transit phase, larger clearances are preferable, since as the engine is changing speeds, a more generous clearance is necessary to avoid rubs between the blade tips and case. While this technique is commonly used on large airline turbofans, GE claims this is the first time it has been applied to a business jet engine.

The low Nox compressor, certified to exceed the International Civil Aviation Organization's Committee on Aviation Environmental Protection (CAEP) 8 standards, incorporates low-emissions technology refined from GE's CF6 up through GE90 large turbofans and is fabricated from the same materials and coatings. It is claimed to have "excellent" relight capability.

ONE-PIECE FAN

The Passport's one-piece titanium blisk fan is especially noteworthy. Traditionally, blisk fans have been concentrated in small engines, such as the GE Honda HF120 turbofan and various examples produced by Williams International and other manufacturers. But the 4.3-ft.-dia. Passport item, with its highly twisted wide-chord blades, has to be one of the largest fans ever manufactured as a blisk.

(We once observed a robotic CNC milling machine grind out a fan from a solid billet of titanium at Williams' Ogden, Utah, factory, cutting bits automatically inserted and retrieved by an attendant robot as the master maneuvered the billet through a range of positions so the cutter could access extremely tight places between the emerging blades. It was like watching Michelangelo release the spirits of his sculptures from the rude granite imprisoning them.)

So, for a fan this size, why not go the conventional route with individual blades inserted into a grooved hub as in most larger engines? In a nutshell, cabin comfort, less wear and improved performance.

“Because the Passport fan is all one piece, it reduces the vibration over the fan with insertable blades,” Warren said, “resulting in less cabin noise and maintenance due to fewer parts.” With a bladed disk, the blades are loose in their hub slots and seat themselves via centrifugal force when the fan is spun up. However, GE claims the blades don’t always seat exactly the same way, eventually requiring corrective maintenance. Furthermore, the dovetails can wear over time, exaggerating the vibration, and transmitting even more of it into the cabin with associated noise.

Since the compressor blisk on the first stage of the humongous (up to 115,000 lb. thrust) GE90 turbofan powering the Boeing 777 is almost as big as the then-proposed TechX fan, the company’s engineers felt confident they could adapt blisk technology for the 52-in. fan to enable smoother operation. In truth, the fan blisk isn’t machined from a single chunk of titanium like smaller ones: The blades are forged titanium airfoils that are attached to a hub using “translational friction welding.” Without dovetails to contend with on the blades, the airfoils can be shaped all the way to the roots. The 18-blade count is claimed to be optimized for the thermodynamic cycle. Further, GE points out that the blisk fan is lighter than a comparable fan with insertable blades by a third.

According to Warren, among the benefits of the blisk design is a performance advantage over insertable blades: “less leakage paths around the airfoil at the hub.” That is, in the former, air can leak between blade platforms, causing lost performance. But with the blisk, a smaller diameter hub can be employed “so you can have a bigger path to push air through.”

But a large fan in the blisk configuration begs the question about contending with foreign-object or bird-strike damage. In conventional fan engines, if blades become too badly damaged to repair, they can be replaced. How will a blisk-type fan absorb this kind of damage?

GE contends that, first, business jet engines almost always tend to be fuselage-mounted high off the ground, usually shielded by the wing and, thus, tend to be isolated from most foreign-object damage (FOD).

Second, it asserts that because the efficiency of the fan blades’ airfoils is so great — far exceeding that of comparable engines — it could make the fan blades thicker at the leading edges and, consequently, more damage-resistant. Further, the fan was designed so that it is easily removable.

“We’ve developed tooling to change out the blisk on-wing — making it an LRU — and if you need to change the part, you can switch out the blisk,” Warren said. “It would then go to the shop and be evaluated for repair.” With “blending capability,” nicks within “certain tolerances” can be repaired. On the other hand, Warren said, during the testing program, GE never had to remove a fan for repair.

CLONING THE ‘DIGITAL TWIN’

As with most contemporary commercial and business aviation turbofans, the Passport is equipped with — actually designed around — a dual-channel FADEC with single-channel dispatch for flexibility.

“Thus, there’s redundancy,” Warren said. “One of its functions is to manage active clearance control in the hot section. We are incorporating the latest prognostics to better predict problems and apply solutions to the overall fleet. We’re building in a lot of analytics to facilitate that predictive capability, collect the data and transmit it to home base to continuously monitor the engines. This enables what we call the ‘digital twin’ that can be used as a baseline and allow us to build cumulative damage models.”

Contracting with Composites Horizons LLC, a California company specializing in high-temperature composite media, GE has collaborated in developing ceramic matrix composites (CMCs) for the Passport’s exhaust mixer, core cowl, and exhaust center-body or cone. In addition to saving considerable weight in the engine and allowing the molding of complex shapes without welds like the exhaust mixer, these media — non-organic high-temperature-tolerant resins combined with oxide ceramics, or “ox-ox” — are capable of withstanding temperatures beyond 1,000C without deformation. Additionally, the fan cowl — an essential component in that it must be able to contain a fan blade separation — is also a composite structure, in this case laid up from carbon fiber.

GE’s arrangement with Bombardier specifies that the engine manufacturer provide a complete integrated power package (IPS) for the Global 7000/8000 — that is, the engine plus thrust reverser and the nacelle that encloses them, all ready to bolt onto the airframe. This is said to enable GE to optimize the three systems as a single unit to address weight, efficiency, noise and vibration.

When it enters service, the Passport will be warranted for five years or 5,000 hr. GE’s OnPoint Service Program will cover the entire propulsion system and can be tailored to satisfy unique operational needs. Some time ago, the company consolidated its business aviation service and support operations so that all functions are now coordinated through a single department for more efficiency and direct response to operators’ needs.

What advantages does the highly computerized Passport offer to the pilots who will operate it and maintenance managers who will supervise its care? “The key one for flight crews is prognostic health management,” Warren answered. “We will be able to predict problems and minimize disruptions in the fleet, and that should give the flight crews security against ‘unexpected events.’ From the maintenance perspective, we’ll be leveraging our support network and benefiting from our airline support programs.” This will enable the building of a virtual digital twin for each individual engine.

“We have a center in Austin that takes in the data every time an engine is started and transfers it into the ‘data lake,’ a big pool that collects the data,” Warren continued. “The techs there take that for every individual engine and compare it to the overall fleet to look for abnormalities for predictive maintenance. In the future, they want to be able to send data back to sensors in the engines for updating, just like Tesla does with its electric cars.”

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SPACEX RECOUPS A ROCKET WITHOUT REALLY TRYING

Nick Lavars, February 1st, 2018

<https://newatlas.com/spacex-rocket-survives-ocean-landing/53217/>

SpaceX's rocket landings have become almost routine in just a short couple of years, but the company is still looking to push the boundaries. It was doing just that as a Falcon 9 booster came hurtling back to Earth toward the Atlantic Ocean, an encounter it was not expected to survive. But survive it did.

This incidental rocket landing followed the launch of a communications satellite for the government of Luxembourg, which was successfully released into geostationary orbit on Wednesday. The Falcon 9 used for this mission had visited space before, been refurbished and re-launched again, marking the sixth time SpaceX has recycled one of its boosters.

SpaceX will typically land its Falcon 9s either on solid ground or on a floating barge in the ocean, but it didn't intend on doing either this time around. Instead, SpaceX had it carry out an experimental, faux landing over the open ocean, firing up three of its nine Merlin engines, rather than just the one it typically uses during the final touchdown.

"This rocket was meant to test very high retrothrust landing in water so it didn't hurt the dronship, but amazingly it has survived," SpaceX CEO Elon Musk tweeted. "We will try to tow it back to shore."



SpaceX's Falcon 9 rocket bobbles in the ocean, after surviving an experimental test landing

What SpaceX plans to do with the intact booster from here remains unclear.

Meanwhile, in other SpaceX news, Musk has also announced that the company is targeting a February 6 for the long-awaited launch of its Falcon Heavy rocket. This will be the world's most powerful operational booster, and whether the launch is successful or sees SpaceX pulling rocket pieces out of the Atlantic Ocean again, it is sure to provide a spectacle.

Source: Twitter (Elon Musk)

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ELECTRICAL ENGINEER RE-DISCOVERS LOST NASA SATELLITE

By Bill Andrews | February 1, 2018 2:13 pm

<http://blogs.discovermagazine.com/d-brief/2018/02/01/nasas-prodigious-satellite/#.WndBOqhKtPY>

We've all been there: You're already running late on some hectic morning, only to realize you've lost — sorry, misplaced — your keys. Or you realize moments before the big date you can't find your favorite sweater. It happens to all of us; even NASA has lost whole satellites before.

But earlier this week, NASA confirmed the remarkable news that one of its lost satellites, the Imager for Magnetopause-to-Aurora Global Exploration (IMAGE), had been found. And as is often the case with the keys or sweater, it took some time and a different perspective to do it.



IMAGE prepares for launch in 2000. (Credit: NASA)

SPY (SPACE)CRAFT

Scott Tilley, according to the Washington Post, was just a regular 47-year-old electrical engineer who spent his spare time looking for spy satellites. He searched the skies for

telltale radio signals, hoping the emissions would give away a hidden spacecraft's locations.

Instead, he found IMAGE. Even though NASA had declared the mission over after losing contact in late 2005, this mystery satellite's radio signals matched perfectly. Naturally, he let the space agency know.

After conducting its own observations and tests, NASA made contact with the satellite and confirmed its identity. Tilley suspects the original problem with the craft's hardware was fixed over the years after its solar-powered battery drained sufficiently enough to trigger a reset. NASA hasn't talked about that, though.

THE PRODIGAL SATELLITE

Instead, the agency has focused on the new scientific opportunities. When they made contact, while confirming the satellite's identity, they could access some of its data, meaning there's a chance they could actually continue the ship's original mission.

Launched in 2000, IMAGE was our first good look at Earth's magnetosphere, normally invisible to astronomers. Originally only meant for a two-year mission, NASA extended that after initial scientific successes. Hardware and operating systems have moved on significantly in 18 years, but NASA's confident they can access the craft's existing data, and possibly even continue to study Earth.

It's enough to give even this serial key-loser hope.

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JAPANESE SPACE AGENCY SUCCESSFULLY LAUNCHES THE SMALLEST ROCKET TO EVER CARRY A SATELLITE TO ORBIT (AND THEY CLAIM IT'S MADE FROM RECYCLED SMARTPHONE PARTS)

- * The Japanese Aerospace Exploration Agency (JAXA) launched its tiny SS-520 rocket from the Uchinoura Space Center on Saturday at around midnight
- * JAXA says the SS-520 was carrying an 'ultra-small' TRICOM-1R satellite, making it the smallest rocket to ever launch an object into orbit
- * It failed to launch the SS-520 in 2016, ending the launch after electrical issues

By Annie Palmer For Dailymail.com, 5 February 2018

<http://www.dailymail.co.uk/sciencetech/article-5354497/Japan-launches-worlds-tiniest-rocket-orbit.html#ixzz56G7KSgqc>

The Japanese Aerospace Exploration Agency (JAXA) has successfully launched the world's smallest rocket to carry a satellite into orbit.

The experimental SS-520 rocket blasted off from JAXA's Uchinoura Space Center on Saturday at about midnight (EST), the agency said.

Aboard the SS-520 rocket was an 'ultra-small' TRICOM-1R satellite, measuring just 13.6-inches, that was launched into low Earth orbit.

The CubeSat, which the agency says is in 'nominal' condition, will now be used to collect images of the Earth's surface via multiple cameras.

The Japanese Space Exploration Agency launched an experimental SS-520 rocket off from its Uchinoura Space Center on Saturday afternoon. It carried a teeny tiny satellite as its payload



'Unit 5 of the SS-520 flew as planned, succeeding in separating the TRICOM-1R (Trichom One Ear) micro satellite in orbit for about 7 minutes 30 seconds after the experiment,' JAXA explained.

According to the Japan Times, the rocket is about the size of a 'utility pole,' measuring about 10 meters in length and 50 centimeters in diameter.

Interestingly, JAXA cobbled together components found in home electronics and smartphones to build the rocket.

A third stage was added to the rocket to help carry the satellite. With Saturday's successful flight, it became the smallest rocket ever to launch an object into orbit around the Earth.

The launch comes just one year after the Japanese agency tried and failed to launch the super small SS-520 rocket.

+4 - Pictured, the SS-520 blasted off from Japan's Uchinoura Space Center this weekend. The launch comes almost one year later after

the agency failed to send the rocket into space

Last January, JAXA was able to easily fire up the rocket's first stage, but due to electrical communication issues, the second stage stalled and was unable to ignite.

Japan joins a growing number of space industry leaders who have embraced tiny space exploration vehicles. NASA and private space firm Rocket Lab are just a few firms that plan to launch a tiny satellite or rocket in the near future

The agency was ultimately forced to abort the mission.

The event comes as more and more players in the space industry have started to embrace tiny rockets that can deliver miniature payloads.

Smaller rockets are supposed to be more efficient and are designed to bring down the cost to get to orbit, according to the Verge.

NASA has embraced tiny satellites, saying in 2016 that it planned to launch swarms of miniature satellites.

ARE TINY ROCKETS THE FUTURE OF SPACE EXPLORATION?

The Japanese Aerospace Exploration Agency (JAXA) is the latest firm to join the movement of launching tiny rockets.

JAXA successfully launched its ultra-small SS-520 on Saturday afternoon, making it one of the first to make headway in launching a tiny rocket.

The SS-520 was also carrying a 13.6-inch satellite that's now orbiting the earth. NASA has also embraced super small satellites.

The agency said in 2016 it wants to launch a 'swarm' of tiny satellites that can track weather and climate change patterns.

Private space company Rocket Lab has been working to launch its small rocket at some point this year. The rocket, called Electron, would have three payloads on board: An imaging satellite and two tracking satellites. The mini 'cube satellites' would orbit the Earth to collect weather and climate change data.

Meanwhile, aerospace firm Rocket Lab has plans to re-launch its tiny rocket, called the Electron, sometime this year.

Electron will launch with three payloads on board, including an imaging satellite and two satellites collecting data to track ships and weather.

Japan has made some strides ahead of its competitors by successfully launching the SS-520.

The country has recently doubled down on its efforts to win the intensifying 'Asian space race.'

Last year, Japan announced that it plans to put a man on the moon by 2030.

China has said it intends to put a man on the moon by 2036 and hopes to land a rover on the planet by 2020.

India also hopes to land an unmanned rover on the moon by mid-2018.



+4 - Since 2009, China has been upping its work in space exploration. This image shows China's Tianzhou-1 cargo spacecraft preparing for launch in Wenchang, Hainan province, on 17 April 2017. It successfully docked with the country's Tiangong-2 space laboratory on 22 April

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ELON MUSK UNVEILS 'STARMAN' IN TESLA ROADSTER LAUNCHING ON SPACEX'S FALCON HEAVY ROCKET

By Hanneke Weitering, Space.com Staff Writer | February 5, 2018 11:07am ET

<https://www.space.com/39593-starman-aboard-tesla-roadster-spacex-falcon-heavy.html>

One day before SpaceX's new Falcon Heavy rocket is slated to blast off on its maiden voyage with a Tesla Roadster on board, Elon Musk has revealed that the electric sports car may have a passenger.

In a series of Instagram photos captioned "Starman in a Red Roadster," Musk debuted a dummy wearing an official SpaceX spacesuit, buckled up and apparently ready to blast off on a mission to Mars.

With no additional details given, Musk seems to be implying that this "Starman" will travel aboard the Falcon Heavy. The rocket is slated to lift off tomorrow (Feb. 6) at 1:30 p.m. EST (1830 GMT) from Kennedy Space Center in Florida.

Musk announced in December that the Tesla Roadster will head to Mars, playing David Bowie's "Space Oddity" on full blast the whole way there. Keeping with the Bowie-inspired theme to this mission, Musk nicknamed the dummy "Starman" after Bowie's 1972 hit.

Visit Space.com for complete coverage of SpaceX's Falcon Heavy test flight this week.

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LOCKHEED MARTIN FLIGHT TESTS NEW SHORT-RANGE MISSILE

by James Laporta, Washington (UPI) Jan 31, 2018

http://www.spacedaily.com/reports/Lockheed_Martin_flight_tests_new_short-range_missile_999.html

The test flight, conducted at White Sands Missile Range in New Mexico, demonstrated the reliability of the MHTK missile, which has received upgraded electronics and a next-generation airframe upgraded from the original design.

The improved MHTK provides increased agility and solidifies Lockheed Martin's upgrades, the company says, and it is billing it as the "solution" for incoming rocket, artillery and mortar attacks.



Lockheed Martin successfully conducted a controlled test flight of its short-range Miniature Hit-to-Kill, or MHTK, missile.

"The U.S. Army and international customers have made it clear that today's global security environment demands agile, close-range solutions that protect warfighters and citizens from enemy rockets, artillery and mortars," Tim Cahill, vice president of Integrated Air and Missile Defense at Lockheed Martin Missiles and Fire Control, said in a press release. "The

design of the MHTK interceptor enables a highly effective solution in a very compact package."

"This test is exciting because it is another successful milestone demonstrating the interceptor's revolutionary capabilities. We look forward to building on this success," said Cahill.

The MHTK is less than two and a half feet in length and weighs around five pounds at launch. The interceptor uses kinetic energy in body-to-body contact to accurately target indirect fire while in flight, with the aim of destroying the threat before it hits the intended target.

In addition to developing the MHTK with the U.S. Army -- which had slowed its work on the weapon -- Lockheed's international business development director for air and missile defense, Bob Delgado, said in 2016 the company also planned to explore selling the missile to international customers.

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GOING FOR GOLD: 'ELECTRO-OSMOTIC' SKI JACKET GETS THE SWEAT OUT

[Billy Hurley, Digital Editorial Manager](#) JANUARY 31, 2018

<https://www.techbriefs.com/component/content/article/tb/stories/blog/28378>



A prototype of the electro-osmotic jacket at the international sports fair ISPO in Munich. (Image Credit: Osmotex)

As the 2018 Winter Olympics are set to begin next week, creators of a moisture-managing ski jacket are literally going for the gold.

An "electrical textile," built at the Swiss Federal Laboratories for Materials Science and Technology research institute, uses the precious metal to keep winter athletes warm and dry – a challenge for skiers working up a sweat in the freezing cold.

The HYDRO_BOT fabric features a 20-micrometer-wide polymer membrane, coated on both sides with gold.

When a 1.5-volt shock is applied to the membrane, salt ions – and the sweat surrounding them – migrate through the membrane's tiny pores, attracted electrically to the outside of the jacket.

Created in collaboration with the Thalwil, Switzerland-based company [Osmotex](#) and other industrial partners, the HYDRO_BOT technology mimics the osmosis behavior of a plant that uses its roots to draw water from soil.

The membrane, a set of micropumps supported by a conventional battery, can be switched on depending on weather and body activity.

“Even without current, liquid passes through the membrane. However, as soon as an electrical voltage is applied, the pumping effect increases significantly,” said HYDRO_BOT co-creator Dirk Hegemann in [a press release from the Institute’s Advanced Fibers lab](#).

According to the researcher, the membrane pumps out about 10 liters of liquid per square meter and hour. The electro-osmotic membrane will be integrated into a ski jacket within various functional layers.

Don’t expect to see the jackets, however, at this year’s PyeongChang 2018 Winter Games. Osmotex will prepare the HYDRO_BOT-equipped apparel for a commercial launch in late 2018/early 2019.

A [prototype of an electro-osmotic jacket](#) is being shown at this week’s international [ISPO Sports Fair](#) in Munich, where Osmotex is demonstrating the product publicly for the first time.

Watch the video AT THE WEBSITE. What do you think? Would you use this while you ski?

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SPACEX CONFIRMS ITS FIRST FALCON HEAVY ROCKET WILL ATTEMPT A TRIPLE LANDING

By Tariq Malik, Space.com Managing Editor | February 5, 2018 08:28am ET
<https://www.space.com/39592-spacex-first-falcon-heavy-triple-rocket-landings.html>

When SpaceX launches its first Falcon Heavy rocket this week, the company is going to attempt something never done before: a rocket-landing triple play.

SpaceX representatives confirmed over the weekend that [the Falcon Heavy test flight](#) on Tuesday (Feb. 6) will also include landings for its three first-stage core boosters, which are based on the company’s Falcon 9 rocket. Liftoff is scheduled for 1:30 p.m. EST (1830 GMT) from Launch Pad 39A at NASA’s Kennedy Space Center in Cape Canaveral, Florida. You can watch the liftoff live [here at Space.com](#), courtesy of SpaceX, or [directly via SpaceX](#).

"Following booster separation, Falcon Heavy's two side cores will return to land at SpaceX's Landing Zones 1 and 2 (LZ-1 & LZ-2) at Cape Canaveral Air Force Station, Florida," SpaceX representatives [said in a statement Saturday](#) (Feb. 3). "Falcon Heavy’s center core will attempt to land on the "Of Course I Still Love You" dronship, which will be stationed in the Atlantic Ocean."

SpaceX has landed Falcon 9 rockets 21 times on land or its robotic drone ships, and has reflown boosters six times, as part of the company’s reusable-rocket program. The heavy-lift Falcon Heavy rocket is part of that program, with its three first-stage cores equipped with landing legs and grid-like fins to control their re-entry through Earth’s atmosphere.

Residents of central Florida may actually hear the Falcon Heavy boosters during their landing attempt, SpaceX representatives noted.

"There is the possibility that residents of Brevard, Indian River, Orange, Osceola, Seminole, and Volusia counties may hear one or more sonic booms during the landing attempts," SpaceX representatives said. "Residents of Brevard County are most likely to hear one or more sonic booms, although what residents' experience will depend on weather conditions and other factors."

Florida's Space Coast Office of Tourism estimates that up to 100,000 spectators are visiting the area to watch the Falcon Heavy launch, [according to a Florida Today report](#).



SpaceX's first Falcon Heavy rocket stands atop Launch Pad 39A at NASA's Kennedy Space Center in Cape Canaveral, Florida. The rocket's debut launch is scheduled for Feb. 6, 2018. Credit: SpaceX

SpaceX's Falcon Heavy rocket is billed as the most powerful rocket since NASA's Saturn V moon rocket and can launch payloads of up to 141,000 lbs. (64 metric tons) into space. The rocket can carry twice as much payload as its nearest competitor, United Launch Alliance's Delta IV Heavy booster.

For this first flight, the Falcon Heavy will launch [SpaceX CEO Elon Musk's own Tesla Roadster](#). If all goes well, the midnight-cherry-red electric car will launch on a trajectory that will send it near Mars, Musk has said.

Musk's Roadster looks like it even has a passenger: an apparent mannequin called Starman, which sits in the driver's seat. [Musk posted photos of the mannequin on Instagram](#) today (Feb. 5), and we can only assume it will ride along with the Roadster's epic trip.

Musk has said repeatedly that there is a fair chance that this maiden flight of the Falcon Heavy could fail.

"There's a lot that could go wrong there," he said last year. "I encourage people to come down to the Cape to see the first Falcon Heavy mission; it's guaranteed to be exciting."

Editor's note: This story has been updated to reflect the correct lift capacity of the Falcon Heavy. It is 141,000 lbs (64 metric tons), not 119,000 lbs. (54 metric tons).

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From: "Christina Cowan" Cowan1028@earthlink.net

SHOOTING FOR THE MOON--THIS TIME TO STAY

After almost a half-century hiatus, lunar missions are once again becoming the next big thing in space science and exploration

By Leonard David on January 31, 2018

https://www.scientificamerican.com/article/shooting-for-the-moon-this-time-to-stay/?WT.mc_id=send-to-friend

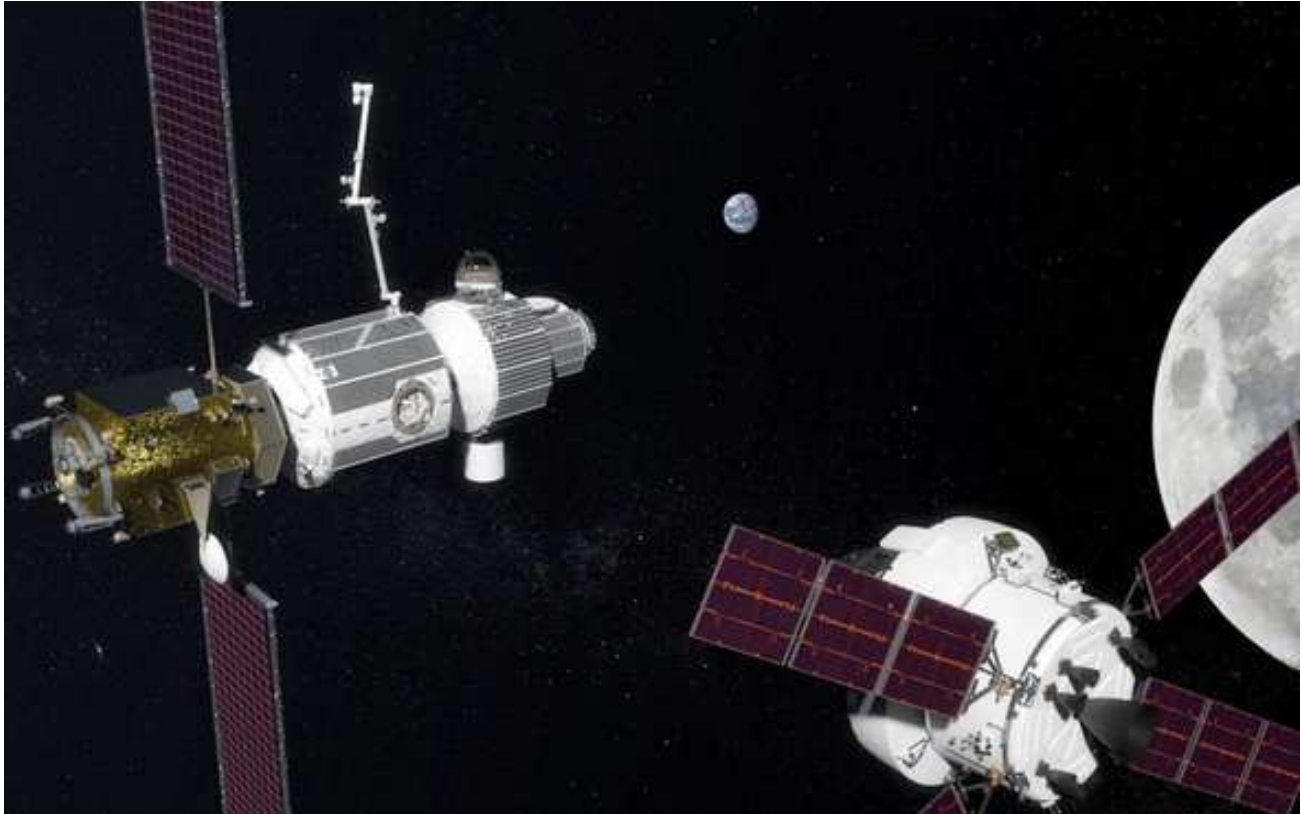
MOFFETT FIELD, Calif.—Earth's nearest neighbor, the moon, is far from being a "been there, done that" world in space science and exploration. That's the message from scientists and engineers at NASA's Lunar Science for Landed Missions Workshop, recently held here at the space agency's Ames Research Center.

Between 1969 and 1972 a dozen U.S. astronauts voyaged there to scout stretches of the desolate, crater-pocked landscape as part of NASA's Apollo program. But almost half a century after those fleeting forays, humans have yet to go back. Now a rising tide of spacefaring nations are poised to visit (or revisit) the moon, among them European countries, China, Russia, Japan, India and, of course, the U.S.

Calling them back is the fact that, of all destinations in the solar system, the moon is not only the most accessible but also one of the most scientifically interesting. Thought to have formed shortly after Earth itself from debris ejected by our young planet's collision with a Mars-size protoplanet, the moon has been witness to nearly 4.5 billion years of our world's, along with the solar system's, history. Impact craters and trace elements captured on its airless surface record processes that also shaped Earth's early years, but were wiped out by our own planet's geologic processes. Precisely because it is so close, so inert and so dead, the moon may be the best place in the solar system to go to answer the question of how and why Earth became so active and alive.

Lunar scientists at the Ames meeting presented detailed ideas about using the moon as a platform for Earth-observing studies and astrophysical observations, and as a proving ground for new technologies and international collaborations to bolster exploration elsewhere. Volatile materials such as water ice in deeply shadowed craters could be turned

into oxygen and rocket fuel, and may also offer pristine records that could unlock otherwise-hidden eras of lunar and terrestrial history.



An artist's rendition of NASA's Orion spacecraft as well as its proposed Deep Space Gateway, a crew-tended spaceport in lunar orbit that could support surface operations on the moon. Credit: NASA

IT TAKES A VILLAGE

“The scientific community wants to go back, and go back anywhere. Forty-five years is too long to have to wait,” says Greg Schmidt, the workshop’s prime organizer. This time it’s not a cold war–style lunar race between two hostile superpowers, he insists. Instead, now “the whole world is interested in the moon.”

James Carpenter, a strategy officer in the European Space Agency’s (ESA) Directorate of Human and Robotic Exploration, says China’s moon plans are particularly ambitious. Carpenter has been a leader in discussions between European and Chinese scientists to jointly study samples set to be robotically returned to Earth next year as part of China’s Chang’e 5 lunar mission. “In China they have been investing tremendously in the infrastructure for sample analysis,” Carpenter says. “Potentially, they have the best laboratories in the world. I think they are investing in their future.” The ESA is also working with Russia on that country’s Luna 27 robotic lander, slated to plop down in the moon’s south polar region in 2022.

This international moon engagement is a prelude to what ESA Director General Jan Wörner describes as a “Moon Village.” The vision is to combine the capabilities of different spacefaring nations into an international lunar base, Wörner says. The project would use robots as well as astronauts to perform scientific studies, while perhaps also bolstering business ventures such as lunar mining or space tourism. The Moon Village concept as described by Wörner “is an idea which is shared quite widely by most countries,” Carpenter says. “My expectation is that it’s going to happen.”

A LUNAR GATEWAY

Whereas the U.S. is not a formal partner in the nascent Moon Village project, its independent plans could be a crucial stepping-stone for international lunar return. On the heels of a new Trump administration directive on sending NASA astronauts back the moon, the agency’s soon-to-be-released 2019 budget proposal may well lay out details about how it plans to get them there. One idea on the table is a Deep Space Gateway (DSG), a lunar-orbiting mini space station for astronauts that could support missions to the moon’s surface and other deep-space destinations.

“If it’s deployed, the DSG can provide an orbiting base for human-assisted sample-return missions to the lunar far side, which is a completely unexplored region of the moon,” says David Kring, a senior staff scientist at the Lunar and Planetary Institute. With or without the DSG, Kring notes, a multiagency task force—made up of the ESA, Canadian Space Agency and Japan Aerospace Exploration Agency—is studying the engineering requirements for operating multiple robotic landers and rovers on the moon as well as the best approaches for blending human and robotic exploration.

Kring and his colleagues have already identified high-priority science and exploration sites on the moon. These include the Schrödinger Basin, a relatively youthful crater within the larger South Pole–Aitken Basin, which is thought to be the moon’s oldest impact crater. Visiting Schrodinger, Kring says, could allow scientists to retrieve and study both relatively young and very old lunar material from a single site.

A FIVE-YEAR PLAN

In human-assisted sample-return scenarios, Kring says astronauts on the DSG would telerobotically drive a rover and share its science functions with mission controllers back on Earth. In that type of venture a robotic ascent vehicle would carry the collected lunar surface samples to the gateway. Astronauts would then transfer the samples to NASA’s in-development Orion spacecraft and tote those collectibles back to Earth for detailed study.

Kring also points to another mission scenario that details a five-year campaign of five human moon landings starting in 2028—a plan prepared by members of the International Space Exploration Coordination Group (ISECG). The proposed sites include: Malapert Massif, South Pole/Shackleton Crater, Schrödinger Basin, Antoniadi Crater and the center of South Pole–Aitken Basin. The DSG could support this undertaking, Kring says; his group is already designing excursion routes for astronauts at each of the five landing sites as well as navigation paths for rovers trundling between them.

“It is essential that the United States redevelop the capability for deep-space exploration,” Kring says. “We should strive to achieve a sustained exploration program in which we

push beyond the boundaries of low Earth orbit—our current capability—and Apollo, a historical, short-duration deep-space capability.”

A GATEWAY—OR A DETOUR?

But not everyone is riding high on the DSG as now envisioned. “You can put lipstick on a pig, but it’s still a pig,” says Clive Neal, a lunar scientist at the University of Notre Dame and co-organizer of the recent NASA moon meeting. He believes the DSG “needs to be reformulated” and would do little for human space exploration if implemented according to current plans. Those call for the cislunar outpost to be occupied by humans only about 30 days per year, a period Neal says is too short for a robust exploration agenda. Carrying out lunar science from the DSG could also be a challenge due to the orbits now being considered for the facility, he adds. A number of potential DSG orbits have been proposed—even the prospect of the facility being moved between orbits as needed for different missions. But so far, the orbits deemed most desirable tend to sacrifice scientific returns in favor of easier, more efficient “stationkeeping.”

Neal says a reusable moon lander (rather than a DSG) should be considered the most essential component for both human and robotic missions. “Science from the gateway will be less than from the surface. If the Gateway can be used as a refueling station, then it may be useful for establishing cislunar infrastructure that could stimulate private enterprise,” he says. “If it doesn’t, I think we have missed an opportunity.”

NASA needs to lead the human exploration of the moon, Neal believes—otherwise China will and the other space agencies will follow. “This is another chance for the United States to lead the world to the moon and beyond,” he says. “If we don’t grab it this time, we will be left behind and yet another opportunity will be missed.”

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

From: “Jim Woosley” Jimwoosley@aol.com

THE WEIGHT OF HISTORY

Growing up in rural Kentucky in the late 1960's and '70's, we were taught that Socrates, Plato, and Aristotle were great philosophers, but were not exposed to their teachings in any significant fashion. (I wonder if today's children have even heard of them). It took Dan Simmon's infamous 2006 polemic (at https://www.dansimmons.com/news/message/2006_04.htm), and strongly recommended if you haven't read it) to introduce me to one of Plato's ideas, filtered through Thucydides -

” “Plato saw human behavior as a chariot pulled by precisely those three powerful and headstrong horses, first tugged this way, then pulled that way. “Phobos, kerdos, doxa. Fear, self-interest, honor.”

Sarah's essay reminded me of that, and the book on economics and politics (one of several, yes) I've been working on in far too infrequent spurts for over a decade at the suggestion of Holly Lisle.

It's unfortunate that "honor" - ultimately the self-awareness that you did what was right, not necessarily that you proceeded with good intentions but that your actions met your image of the right thing to do - is ultimately subjective and cultural. Self-interest combined with an honor grown from Enlightenment Judeo-Christian culture (independently of whether you are a believing Christian, our traditional cultural aspects of right and wrong have grown from that belief system; Ayn Rand expresses the result even if she doesn't share the belief) gave rise to the American ideal of liberty and capitalism with honor that fueled the world for much of the twentieth century. Self-interest without honor - or without that idea of honor (after all, even Islamic extremists are honorable by their own horrific cultural standards) is the easy path that leads to the failures of crony capitalism and socialism; after all, if your basic needs are met without effort, or you are rewarded for existing and not punished for your sins (<http://www.online-literature.com/kipling/917/>) or if you don't care, ultimately nobody becomes Children of Martha (<http://www.online-literature.com/kipling/920/>) and the world stagnates. And the absence of honor opens the door to control by fear, leading to both national socialism and communism.

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From: A Friend

FOUND ON FACEBOOK

If you put all the pieces together here's what you get.

1. The DNC rigs the Democratic Primary Election against Bernie Sanders so Hilliary can win the nomination.
2. Obama's administration starts to request surveillance on Trump, his family, his transition team, and anyone associated with him.
3. Donna Brazil gives Hilliary the questions to a debate.
4. The DNC pays Christopher Steele to come up with a smear dossier about Trump.
5. The mainstream media releases a taped conversation about Trump talking about grabbing women parts.
6. After all this Trump still wins the General Election.
7. Obama orders an investigation into Russia meddling in our elections.
8. Obama changes Executive Order 12333 to allow more agencies to have access to surveillance data.
9. The Democratic Party comes up with a scandal that Trump Colluded with Russia to win the election with no evidence or proof. This wild claim is backed up by the mainstream media.
10. Obama hold overs start unmasking Trump's transition team and staff members then release the classified information to the mainstream media. Why? Because the DNC and the

The February 7th, 2018 Edition of THE REVENGE HUMPH DAY!

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Obama administration colluded with the intelligence community to thwart Trump's campaign efforts to get him elected president.

All this Russia collusion is an attempt to cover up the fact that the Obama administration, the intelligence community, the DNC, along with the mainstream media, used our nation's surveillance as a political tool to try to get Hillary elected President. This makes Watergate look like a kindergarten play. Let that sink in...

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From: "Dutch Stacy" lstacy726@gmail.com
Hi Uncle Timmy

It's good to know that I'm not the only one fed up with all the garbage. I thought the "Dreamer" issue was already resolved when I heard they were thinking about issuing them temporary green cards so they would have time to apply for citizenship. I thought that was a fair shake. Then I heard where most of them had already been issued green cards during Obama's regime, some of which have already expired, with no attempt to file for citizenship.

For decades I have watched nationwide commercials to raise money to feed the starving in foreign countries. Not once have I seen a nationwide organization trying to raise money to feed our own homeless people. I have often wondered what the Government thought was going to happen to the American Workforce when they started offering subsidies to corporations to move their manufacturing facilities to so-called third world countries. Our President seems to be trying to take care of this problem, along with many others which have been accumulating for the past three or four decades. He seems to be doing a pretty good job at it if people would just back off and let him do what he was elected to do, instead of jumping on every bit of fake news without doing any research, whatsoever, as to whether it's true or not.

As far as losing jobs overseas, I went through a similar situation, domestically, when I was doing contract labor, building saddles, for a local saddlery. They had loaned me some equipment that I didn't own at the time, to be able to turn out their saddles quicker. One day they came by and picked up the equipment to send to a prison in Mississippi they had cut a deal with for cheaper labor. It wasn't really a big deal to me as I still had my own equipment that was a bit slower, but still got the job done. What it did affect were the thirty or so people that I had known for over thirty years that were making their saddle blankets, winter blankets, bridles and various other small horse tack items, which no longer had jobs and no place to go. So I told them to send their saddles to Mississippi, also, and went back to building my own saddles.

One thing I would like to see is all the Bleeding Hearts, that think all the illegal aliens should be allowed to stay, go to their local "Tent City" or whatever they call where all the homeless seem to gather in their area and take several of them home. I don't mean take them to a homeless shelter, that's already bursting at the seams, or rent them a cheap motel room for a week. Take them to their own home, feed them, clothe them and take care of take of all their needs. No way would they even consider that as they would have no idea of what they were taking home with them. Yet they expect the United States, as a whole, to do this very same thing. We can't take care of our own homeless, why should we take in everyone else's.

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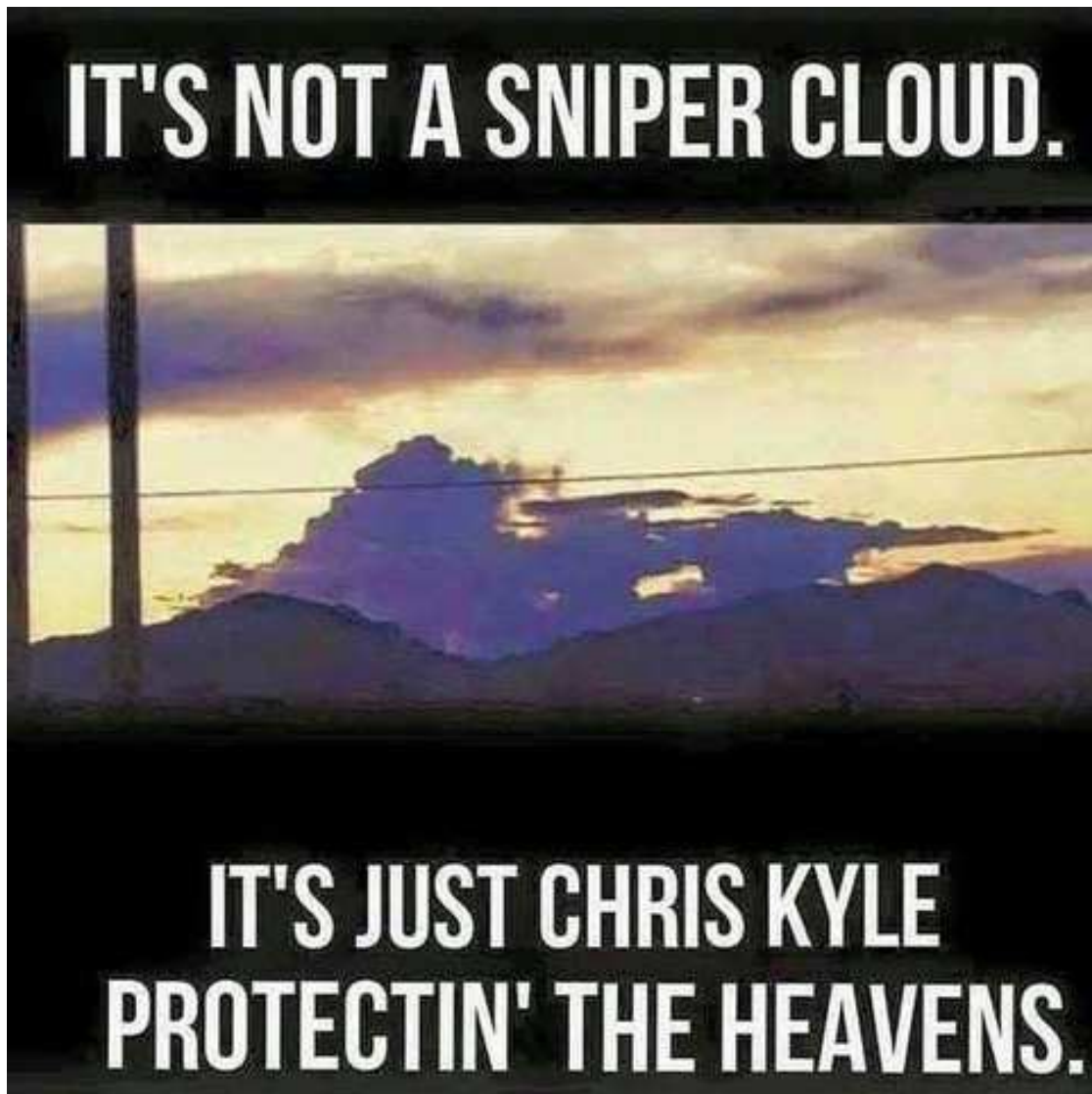
I remember when, I think it was the late seventies or early eighties, Cuba was going to release hundreds of Cuban Refugees to come to the States. We accepted them with open arms to find out later what Cuba had done was empty their own prisons. It doesn't take a genius to figure out just what we gained there. Most affluent countries will not even consider citizenship to someone unless they have a skill or profession that is needed in their respective country, so why should we be saddled with the leftovers.

Later

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

From: "Jim Woosley" Jimwoosley@aol.com



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From: "Martha Knowles" knowlesme@tviw.us

This is something that I think is worth reading. It resonates with me, though I'm not totally in agreement with everything.

SOMETHING FROM FACEBOOK

Jim Beaver, January 28 at 11:47am ·

I would like all of my right wing, conservative friends and family members to read the following. It explains my beliefs in a nutshell. It explains my views in an even tempered, logical way. I wish I knew who wrote it so that I could give credit. But I believe it expresses the position of most of us who think of ourselves as liberals.

“Let's break it down, shall we? Because quite frankly, I'm getting a little tired of being told what I believe and what I stand for. Spoiler alert: Not every Liberal is the same, though the majority of Liberals I know think along roughly these same lines:

“1. I believe a country should take care of its weakest members. A country cannot call itself civilized when its children, disabled, sick, and elderly are neglected. Period.

2. I believe healthcare is a right, not a privilege. Somehow that's interpreted as "I believe Obamacare is the end-all, be-all." This is not the case. I'm fully aware that the ACA has problems, that a national healthcare system would require everyone to chip in, and that it's impossible to create one that is devoid of flaws, but I have yet to hear an argument against it that makes "let people die because they can't afford healthcare" a better alternative. I believe healthcare should be far cheaper than it is, and that everyone should have access to it. And no, I'm not opposed to paying higher taxes in the name of making that happen.

3. I believe education should be affordable and accessible to everyone. It doesn't necessarily have to be free (though it works in other countries so I'm mystified as to why it can't work in the US), but at the end of the day, there is no excuse for students graduating college saddled with five- or six-figure debt.

4. I don't believe your money should be taken from you and given to people who don't want to work. I have literally never encountered anyone who believes this. Ever. I just have a massive moral problem with a society where a handful of people can possess the majority of the wealth while there are people literally starving to death, freezing to death, or dying because they can't afford to go to the doctor. Fair wages, lower housing costs, universal healthcare, affordable education, and the wealthy actually paying their share would go a long way toward alleviating this. Somehow believing that makes me a communist.

5. I don't throw around "I'm willing to pay higher taxes" lightly. I'm retired and on a fixed income, but I still pay taxes. If I'm suggesting something that involves paying more, well, it's because I'm fine with paying my share as long as it's actually going to something besides lining corporate pockets or bombing other countries while Americans die without healthcare.

6. I believe companies should be required to pay their employees a decent, livable wage. Somehow this is always interpreted as me wanting burger flippers to be able to afford a

penthouse apartment and a Mercedes. What it actually means is that no one should have to work three full-time jobs just to keep their head above water. Restaurant servers should not have to rely on tips, multibillion dollar companies should not have employees on food stamps, workers shouldn't have to work themselves into the ground just to barely make ends meet, and minimum wage should be enough for someone to work 40 hours and live.

7. I am not anti-Christian. I have no desire to stop Christians from being Christians, to close churches, to ban the Bible, to forbid prayer in school, etc. (BTW, prayer in school is NOT illegal; *compulsory* prayer in school is - and should be - illegal). All I ask is that Christians recognize *my* right to live according to *my* beliefs. When I get pissed off that a politician is trying to legislate Scripture into law, I'm not "offended by Christianity" -- I'm offended that you're trying to force me to live by your religion's rules. You know how you get really upset at the thought of Muslims imposing Sharia law on you? That's how I feel about Christians trying to impose biblical law on me. Be a Christian. Do your thing. Just don't force it on me or mine.

8. I don't believe LGBT people should have more rights than you. I just believe they should have the *same* rights as you.

9. I don't believe illegal immigrants should come to America and have the world at their feet, especially since THIS ISN'T WHAT THEY DO (spoiler: undocumented immigrants are ineligible for all those programs they're supposed to be abusing, and if they're "stealing" your job it's because your employer is hiring illegally). I'm not opposed to deporting people who are here illegally, but I believe there are far more humane ways to handle undocumented immigration than our current practices (i.e., detaining children, splitting up families, ending DACA, etc).

10. I don't believe the government should regulate everything, but since greed is such a driving force in our country, we NEED regulations to prevent cut corners, environmental destruction, tainted food/water, unsafe materials in consumable goods or medical equipment, etc. It's not that I want the government's hands in everything -- I just don't trust people trying to make money to ensure that their products/practices/etc. are actually SAFE. Is the government devoid of shadiness? Of course not. But with those regulations in place, consumers have recourse if they're harmed and companies are liable for medical bills, environmental cleanup, etc. Just kind of seems like common sense when the alternative to government regulation is letting companies bring their bottom line into the equation.

11. I believe our current administration is fascist. Not because I dislike them or because I can't get over an election, but because I've spent too many years reading and learning about the Third Reich to miss the similarities. Not because any administration I dislike must be Nazis, but because things are actually mirroring authoritarian and fascist regimes of the past.

12. I believe the systemic racism and misogyny in our society is much worse than many people think, and desperately needs to be addressed. Which means those with privilege -- white, straight, male, economic, etc. -- need to start listening, even if you don't like what you're hearing, so we can start dismantling everything that's causing people to be marginalized.

13. I am not interested in coming after your blessed guns, nor is anyone serving in government. What I am interested in is sensible policies, including background checks,

that just MIGHT save one person's, perhaps a toddler's, life by the hand of someone who should not have a gun. (Got another opinion? Put it on your page, not mine).

14. I believe in so-called political correctness. I prefer to think it's social politeness. If I call you Chuck and you say you prefer to be called Charles I'll call you Charles. It's the polite thing to do. Not because everyone is a delicate snowflake, but because as Maya Angelou put it, when we know better, we do better. When someone tells you that a term or phrase is more accurate/less hurtful than the one you're using, you now know better. So why not do better? How does it hurt you to NOT hurt another person?

15. I believe in funding sustainable energy, including offering education to people currently working in coal or oil so they can change jobs. There are too many sustainable options available for us to continue with coal and oil. Sorry, billionaires. Maybe try investing in something else.

16. I believe that women should not be treated as a separate class of human. They should be paid the same as men who do the same work, should have the same rights as men and should be free from abuse. Why on earth shouldn't they be?

I think that about covers it. Bottom line is that I'm a liberal because I think we should take care of each other. That doesn't mean you should work 80 hours a week so your lazy neighbor can get all your money. It just means I don't believe there is any scenario in which preventable suffering is an acceptable outcome as long as money is saved."

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Martha, a great view on the other side of the coin. I would love to sit down with this gentleman and have a great conversation about the politics of life. He sounds like a rational and thoughtful gentleman. Thank you for sending it in. UT

If you would like to unsubscribe From: THE REVENGE OF HUMP DAY, please send an email message to Tim Bolgeo tbolgeo@epbfi.com and say, "QUIT SENDING ME THIS STUPID RAG!"
