

The August 17th, 2016 Edition of THE REVENGE HUMP DAY!

Page 1 of 52

Welcome to the August 17th, 2016 Edition of THE REVENGE HUMP DAY!

This week I am on the road to WorldCon in Kansas City so I thought that I would give you a thumbnail sketch of my travels. On Saturday I drove from Chattanooga to the flesh pots of Tunica to meet up with Gary 'Da Fish' Shelton. Gary is a gambler so we got a free room for the night. I enjoyed the downtime in the room that evening and Gary went out to conquer the tables. When he got back I asked him how he had done, but he refused to talk about. Evidently the tables in Tunica were not very kind to the fish.

On Sunday, we picked up Randall Pass in Memphis and we all headed to Branson, MO. The last time I had been to Branson I was about 7 years old, about 60 years ago, and all that was there was a lake and some cottages where the family took their vacation. When we got in late on Sunday after driving all day through the driving rain, it was obvious that there was a lot more there than in my youth.

On Monday, Gary and I went to the Titanic Exhibit in the morning and Randall when to the Toy museum. From what we could put together, both were well while trips for us. That evening we went to Dolly Parton Dixie Stampede in Branson. The food at the show was both plentiful and good and the show was excellent. Monday was a day well spent.

On Tuesday, we headed off to Kansas City. But on the way there we stopped off in Butler, MO., the birthplace of Robert A. Heinlein. We not only saw Heinlein's birth home but we also got to tour the local library in Butler that is dedicated to the memory of Robert A. Heinlein. As highlights go, this was a biggie for me. After Butler, we headed down the highway to the Kansas City WorldCon. After we got into KC, we ate Jack Stacks Bar-B-Que Restaurant and pigged out. I'm looking forward to seeing my friends and enjoying myself for the rest of the week.

So on that "Happy 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>

R2-D2 ACTOR KENNY BAKER DIES AT 81

From: "Tim Bolgeo" tbolgeo@comcast.net

by BREITBART NEWS, 14 Aug 2016

<http://www.breitbart.com/big-hollywood/2016/08/14/r2-d2-actor-kenny-baker-dies-81/>

LONDON (AP) — Kenny Baker played the lovable droid R2-D2 in the "Star Wars" films, achieving cult status and fans' adulation without showing his face or speaking any lines.

The 3-foot 8-inch (1.1 meter) performer — a word he preferred to actor — inside the waste-bin-shaped costume has died at 81. Baker's nephew and carer, Drew Myerscough, said he found Baker dead Saturday at his home in Preston, northwest England.

Myerscough told Sky News that Baker had suffered years of breathing problems, "which he had borne very bravely." He said the affection of "Star Wars" fans around the world "kept him going, without any doubt."



“He was amazed that, even after 30-odd years, the fans still basically adored him,” Myerscough said.

Baker’s agent, Johnny Mans, confirmed his death. He said Baker was “one of the nicest guys you could ever wish to meet, and a fabulous and talented performer.”

Mark Hamill, the “Star Wars” series’ Luke Skywalker, tweeted: “Goodbye #KennyBaker A lifelong loyal friend-I loved his optimism & determination. He WAS the droid I was looking for!” — a reference to a famous line from the first film.

Actor Ewan McGregor, who played Obi-Wan Kenobi in three “Star Wars” movies, tweeted: “So sorry to hear about this. It was lovely working with Kenny.”

Born to a music-loving family in the central England city of Birmingham on Aug 24, 1934, Baker started performing at 16 as part of a troupe called “Burton Lester’s Midgets.”

Baker told The Associated Press in 1985 that Burton had asked him “What can you do?” I said I could roller skate, ride a bike and whistle. I joined them and did all that, and conjuring tricks, played drums and comedy routines as well.”

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 3 of 52

Baker later worked as a DJ and circus clown, and as half a comedy-musical duo called the Mini-Tones with Jack Purvis, who also appeared in the “Star Wars” films.

Fame came when he was cast as the actor inside R2-D2’s cylindrical robot costume in 1977’s “Star Wars.”

“I worked the levers,” he told the AP.

Baker said he initially turned down the part. In an interview on his website, he said he told director George Lucas “I don’t want to be stuck in a robot, what for, for goodness sake?”

Eventually, he said he told Lucas, “I’ll help you out.”

Even though R2-D2’s dialogue amounted only to beeps and whistles, the droid and his lanky friend C-3PO became two of the series’ most beloved characters.

Baker returned for “The Empire Strikes Back” and “Return of the Jedi,” and reprised the role in three prequels released between 1999 and 2005.

Despite their onscreen rapport, Baker and Anthony Daniels, who played the protocol droid C-3PO, weren’t close. Baker accused Daniels of being snobbish; Daniels was once quoted by Britain’s Daily Mirror as saying Baker “might as well be a bucket.”

Baker also appeared in films including “The Elephant Man,” “Time Bandits,” “Willow” and “Labyrinth.”

Baker’s wife Eileen died in 1993. The couple had two sons.

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SHERLOCK HOLMES AND THE MUMMY’S CURSE A SILVER FALCHION AWARD FINALIST!

From: Stephanie Osborn

My book, *Sherlock Holmes and the Mummy’s Curse*, released Nov 2015 by Pro Se Productions, is a SILVER FALCHION AWARD FINALIST! The Silver Falchions are awarded each year by the Killer Nashville mystery convention, loosely affiliated with the southeastern regional division of MWA and Sisters in Crime!



I AM EXCITED!!!!!!

CONGRATULATION STEPHANIE ON A WELL DESERVED RECOMMENDATION FOR AN AWARD ON YOUR BOOK. UT

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SUICIDE SQUAD REVIEW FROM HOWARD TAYLER

From: “Jim Woosley” Jimwoosley@aol.com

Suicide Squad

Monday August 8, 2016 • Howard Tayler

<http://www.schlockmercenary.com/blog/suicide-squad/>



I kind of really liked Suicide Squad. I've seen many of the negative reviews, and I can see what people are complaining about, but their reasons for disliking the film weren't reasons for me to complain. For me, the film's weaknesses were kind of ordinary, like a grass allergy, rather than epic, like Zod's allergy to kryptonite¹.

It's a dark film, which seems pretty appropriate given the tragic (and trigger-level disturbing) origin stories of characters like Harley Quinn and Diablo. While the audience is left with little room to question whether or not the mission is a righteous one, we're given plenty of space to wind up as we cast aspersions at the folks making the decisions.

And I'm fine with that. The real world is full of damaged people, the walking wounded outnumbering the blissfully unscathed by a large margin. In Suicide Squad we are given archetypes who show us our damaged selves, and who

reach past at least some of their pain to do what little good remains within their reach. And in case that's a little too deep an analysis, the film is also pretty cool to watch.

My biggest complaint is that the trailers for Suicide Squad pitched me a cross between Leverage and Guardians of the Galaxy. The film falls short of that by quite a bit. I liked the film, but it's not really the one they advertised.

There's a nice teaser halfway through the credits. And when I say "nice," it has some of the most memorable dialog of the entire film.

¹I tweeted most of that paragraph before putting it in the blog.

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The top 10 audiobooks on Audible.com

From Larry Correia's Facebook Page

By The Associated Press, Aug. 9, 2016 5:05 PM EDT

<http://bigstory.ap.org/article/9cedd4af5a3f4577a5f64daab641d8b6/top-10-audiobooks-audiblecom>

Audible.com best-sellers for week ending August 5:

Fiction

1. Harry Potter and the Sorcerer's Stone by J.K. Rowling, narrated by Jim Dale (Pottermore from J.K. Rowling)

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 5 of 52

2. **The Flood Girls** by Richard Fifeild, narrated by Kathleen Early (Blackstone Audio, Inc.)
3. **Crowned and Dangerous** by Rhys Bowen, narrated by Katherine Kellgren (Audible Studios)
4. **Truly Madly Guilty** by Liane Moriarty, narrated by Caroline Lee (Macmillan Audio)
5. **The Underground Railroad (Oprah's Book Club)** by Colson Whitehead, narrated by Bahni Turpin (Random House Audio)
6. **Dark Matter** by Blake Crouch, narrated by Jon Lindstrom (Random House Audio)
7. **Monster Hunter Memoirs: Grunge** by Larry Correia and John Ringo, narrated by Oliver Wyman (Audible Studios)
8. **The God's Eye View** by Barry Eisler, narrated by the author (Brilliance Audio)
9. **The Last of the Mohicans** by James Fenimore Cooper, narrated by Larry McKeever (Recorded Books)
10. **Forty Thieves** by Thomas Perry, narrated by Peter Berkrot (HighBridge, a Division of Recorded Books)

Nonfiction

1. **Into the Magic Shop: A Neurosurgeon's Quest to Discover the Mysteries of the Brain and the Secrets of the Heart** by James R. Doty MD, narrated by Dan Woren (Blackstone Audio, Inc.)
2. **American Pain: How a Young Felon and His Ring of Doctors Unleashed America's Deadliest Drug Epidemic** by John Temple, narrated by Charlie Thurston (Tantor Audio)
3. **The Element: How Finding Your Passion Changes Everything** by Ken Robinson, narrated by the author and Lou Aronica (Tantor Audio)
4. **The Power of Habit: Why We Do What We Do in Life and Business** by Charles Duhigg, narrated by Mike Chamberlain (Random House Audio)
5. **Ego is the Enemy** by Ryan Holiday, narrated by the author (Tim Ferris Audio)
Ego is the Enemy by Ryan Holiday, narrated by the author (Tim Ferris Audio)
6. **How to Win Friends and Influence People** by Dale Carnegie, narrated by Andrew Macmillan (Simon & Schuster Audio)
7. **How to Stop Procrastination & Get More Done in Less Time!** by Graham Bianco, narrated by Christian Erickson (Graham Bianco Publishing)
8. **Liars: How Progressives Exploit Our Fears for Power and Control** by Glenn Beck, narrated by Jeremy Lowell (Simon & Schuster Audio)
9. **Alexander Hamilton** by Ron Chernow, narrated by Scott Brick (Brilliance Audio)

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 6 of 52

10. Grit: The Power of Passion and Perseverance by Angela Duckworth, narrated by the author (Simon & Schuster Audio)

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CALLING FOR HELP FROM ANTHROPOLOGISTS AND LINGUISTS ON ROHD!

From: "Robert G Kennedy III, PE" robot@ultimax.com

If you are a Southeastern SF reader (you must be, otherwise why are you getting Uncle Timmy's fanzine?) who happens to be an anthropologist or linguist in your day job (broadly defined), please reach out to me <robot@ultimax.com>. I have a long-lead activity you might be interested in. If you know like minds who aren't on this distribution, you can invite them to ping me, too.

Robert G Kennedy III, PE

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

From: "Mike Waldrip" waldripk@gmail.com

Dinner and Dreams

A man is dining in a fancy restaurant and there is a gorgeous redhead sitting at the next table. He has been checking her out since he sat down, but lacks the nerve to talk to her.

Suddenly she sneezes, and her glass eye comes flying out of its socket towards the man. He reflexively reaches out, grabs it out of the air, and hands it back.

Oh my, I am so sorry," the woman says as she pops her eye back in place. "Let me buy your dinner to make it up to you," she says.

They enjoy a wonderful dinner together, and afterwards, they go to the theater followed by drinks. They talk, they laugh, she shares her deepest dreams and he shares his. She listens. After paying for everything, she asks him if he would like to come to her place for a nightcap and stay for breakfast. They had a wonderful, wonderful time.

The next morning, she cooks a gourmet meal with all the trimmings. The guy is amazed! Everything had been SO incredible! "You know, "he said, "you are the perfect woman. Are you this nice to every guy you meet? "

"No," she replies. "You just happened to catch my eye."

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WHO KNEW?

As the rich man gets out of his Rolls Royce outside the golf club, he accidentally drops a golf tee on the ground.

"Oi mister you droppped sumfink" says the local urchin.

"Thank you young man", says the golfer as he picks it up.

"What is it?"

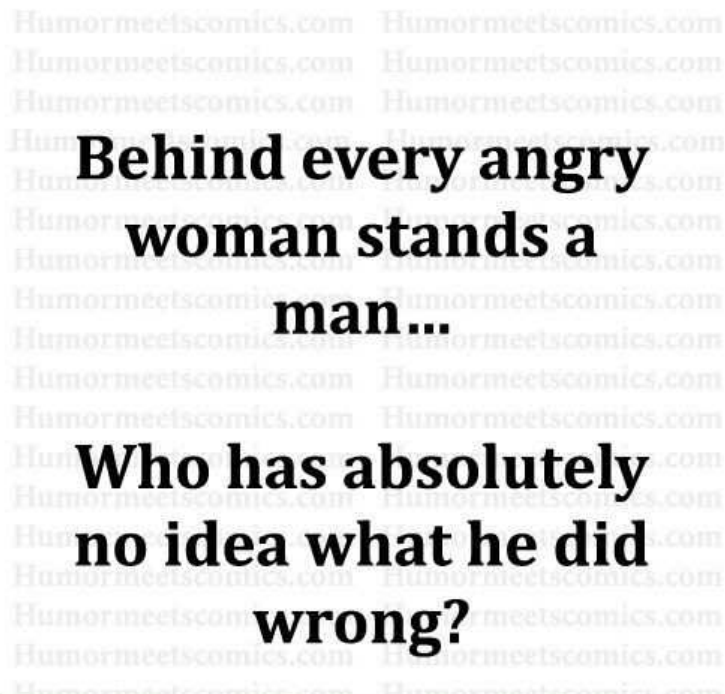
"It's a tee."

"What's it for?"

"It's for putting your balls on when you drive off".

"Wow, those Rolls Royce's have everything don't they?"

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www.facebook.com/Humormeetscomics2

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

HOW YOU CAN TELL WHEN IT'S GOING TO BE A ROTTEN DAY

You wake up face down on the pavement.

You put your bra on backward and it fits better.

You call Suicide Prevention and they put you on hold.

You see a "60 Minutes" news team waiting in your office.

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 8 of 52

Your birthday cake collapses from the weight of the candles.

Your son tells you he wishes Anita Bryant would mind her own business.

You want to put on the clothes you wore home from the party and there aren't any.

You turn on the news and they're showing emergency routes out of the city.

Your twin sister forgot your birthday.

You wake up and discover your waterbed broke and then realize that you don't have a waterbed.

Your car horn goes off accidentally and remains stuck as you follow a group of Hell's Angels on the freeway.

Your wife wakes up feeling amorous and you have a headache.

Your boss tells you not to bother to take off your coat.

The bird signing outside your window is a buzzard.

You wake up and your braces are locked together.

Your walk to work and find your dress is stuck in the back of your pantyhose.

You call your answering service and they tell you it's none of your business.

Your blind date turns out to be your ex-wife.

Your income tax check bounces.

You put both contact lenses in the same eye.

Your pet rock snaps at you.

Your wife says, "Good morning, Bill" and your name is George.

You wake up from a coma and find out Donald Trump and Hilary Clinton are the presidential candidates.

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

A LONDON LAWYER AND AN IRISH COP

A London lawyer runs a stop sign and gets pulled over by an Irish cop. He thinks that he is smarter than the cop because he is a lawyer from LONDON and is certain that he has a better education than any Irish cop. He decides to prove this to himself and have some fun at the Irish cop's expense!

Irish cop says, "License and registration, please."

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 9 of 52

London Lawyer says, "What for?"

Irish cop says, "Ye didnae come to a complete stop at the stop sign."

London Lawyer says, "I slowed down, and no one was coming."

Irish cop says, "Ye still didnae come to a complete stop. License and registration, please"

London Lawyer says, "What's the difference?"

Irish cop says, "The difference is, ye huvte come to complete stop, that's the law. License and registration, please!"

London Lawyer says, "If you can show me the legal difference between slow down and stop, I'll give you my license and registration and you give me the ticket.

If not, you let me go and don't give me the ticket."

Irish cop says, "Sounds fair. Exit your vehicle, sir."

The London Lawyer exits his vehicle.

The Irish cop takes out his baton and starts beating the living "you know what" out of the lawyer and says, "Daeye want me to stop or just slow down?"

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TACKY ALERT: THE FOLLOWING IS POLITICALLY TACKY BUT FUNNY.

Donald and Hillary Go Into A Bakery

Donald and Hillary Go Into A Bakery on the Campaign Trail. As soon as they enter the bakery, Hillary steals three pastries and puts them in her pocket.

She says to Donald, "See how clever I am? The owner didn't see anything and I don't even need to lie. I will definitely win the election."

The Donald says to Hillary, "That's the typical dishonesty you have displayed throughout your entire life, trickery and deceit. I am going to show you an honest way to get the same result."

Donald goes to the owner of the bakery and says, "Give me a pastry and I will show you a magic trick."

Intrigued, the owner accepts and gives him a pastry.

Trump swallows it and asks for another one.

The owner gives him another one.

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 10 of 52

Then Donald asks for a third pastry and eats that, too.

The owner is starting to wonder where the magic trick is and asks, "What did you do with the pastries?"

Trump replies, "Look in Hillary's pocket"...

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Attitude



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CAN'T WIN

She was pulling weeds in the garden on a hot summer day when her husband came outside to ask what they were having for dinner.

Irritated by the thought of him sitting in the air conditioned house while she worked away in the garden, she said, "I can't believe you're asking me about food right now! Pretend I'm out of town and make dinner yourself!"

So he went back in the house and fixed himself a big steak, baked potato, garlic bread, and a tall beer.

His wife came in just as he was finishing and asked, "Where's my dinner?"

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 11 of 52

Huh? he replied, "I thought you were out of town."

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From: "RAY BELOATE" beerman@rittermail.com

My New Reality ...

It seems that lately my life has been getting more complicated, and I want to thank those of you who are brave enough to still associate with me regardless of what I have become.

The following is a recap of my current identity:

I was born a white male, which makes me a racist.

I am a fiscal and moral conservative, which makes me a fascist.

I am heterosexual, which makes me a homophobe.

I am non-union, which makes me a traitor to the working class and an ally of big business.

I am a Christian, which makes me an infidel.

I am older than 65 and retired, which makes me a useless old man.

I think and I reason; therefore I doubt much that the main stream media tells me, which makes me a reactionary.

I am proud of my heritage and our inclusive American culture, which makes me a xenophobe.

I value my safety and that of my family; therefore I appreciate the police and the legal system, which makes me a right-wing extremist.

I believe in hard work, fair play, and fair compensation according to each individual's merits, which makes me anti-socialist.

I acquired a good education without student loans and no debt at graduation, which makes me some kind of odd underachiever.

I believe in the defense and protection of the homeland by all citizens, which makes me a militarist.

Please help me come to terms with this, because I'm not sure who I am anymore!

Newest problem – I'm not sure which bathroom I should use.

I RECEIVED THIS FROM A FRIEND AND I HONESTLY THINK THAT IT SUMS ME UP TO A TEE. I REPRESENT EACH OF THOSE COMMENTS MADE IN THE ABOVE. UT

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

From: "Jerry Tollett" <haleja@epbfi.com>

And oldie but goodie.

THE AISLE SEAT

Two terrorists boarded a flight out of London. One took a window seat and the other sat next to him in the middle seat. Just before takeoff, a U.S. Marine sat down in the aisle seat.

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 12 of 52

After takeoff the Marine kicked his shoes off, wiggled his toes and was settling in. When the Arab in the window seat said 'I need to get up and get a coke.

'Don't get up,' said the Marine 'I'm in the aisle seat, 'I'll get it for you.' As soon as he left one of the

Arabs picked up the Marines shoe and spat in it.

When the Marine returned with the coke, the other Arab said, 'That looks good. I'd really like one too.' Again, the Marine obligingly went to fetch it.

While he was gone the other Arab picked up the Marine's other shoe and spat in it.

When the Marine returned they all sat back and enjoyed the flight.

As the plane was landing the Marine slipped his feet into his shoes

and knew immediately what had happened.

He leaned over and asked his Arab neighbors, 'Why does it have to be this way?

How long must this go on? This fighting between our nations? This hatred?

This animosity? This spitting in shoes and peeing in cokes?

THE FEW.

THE PROUD.

THE MARINES.

Semper Fi!

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

An Illegal Immigrant picks up a hooker. "Hey, how much you charge for da hour, sister?" he asks.

"\$100" she replies.

In broken English, he says, "Do you do immigrant style?"

"No" she says.

"I pay you \$200 to do immigrant style."

"No," she says, not knowing what immigrant style is.

"I pay you \$300."

"No" she says.

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 13 of 52

"I pay you \$400.

"No" she says.

So finally he says, "OK, I pay \$1,000 to do immigrant style."

She thinks, "Well, I've been in the game for over 10 years now. I've had every kind of request from weirdoes from every part of the world. How bad could immigrant style be? So she agrees and has sex with him.

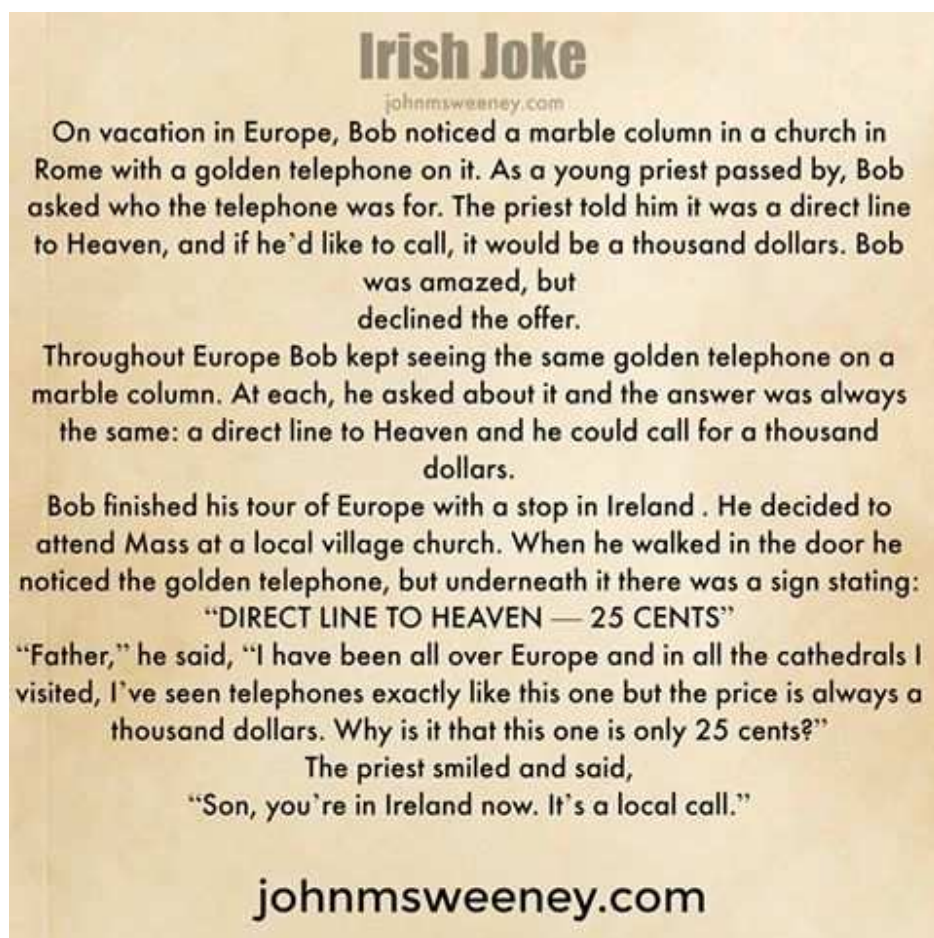
Finally, they finish.

Exhausted, the hooker turns to him and says, "Hey, I was expecting something perverted and disgusting. But that was ok. So, what exactly is immigrant style?"

The illegal immigrant replies, "You send bill to Government."

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From Wyman Cooke's Facebook Page



The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 14 of 52

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THIS PROBABLY ISN'T A JOKE AND IT COULD BE TRUE. BUT IT IS FUNNY AS HELL. UT

From: "Christina Cowan" cowan1028@earthlink.net

CC: I am so VERY glad this did not happen to me. Sometimes old tech is the best tech. Copied from somebody else's copy of a post. I took the guy's name out, in case you post it, Uncle Timmy

This is from someone named [deleted] from Little Rock AK on Facebook per the person who posted it.

"So, last week, something pretty tragic happened in our household. It's taken me until now to wrap my head around it and find the words to describe the horror. It started off simple enough - something that's probably happened to most of you.

Sometime between midnight and 1:30am, our puppy Evie pooped on our rug in the living room. This is the only time she's done this, so it's probably just because we forgot to let her out before we went to bed that night. Now, if you have a detective's mind, you may be wondering how we know the poop occurred between midnight and 1:30am. We were asleep, so how do I know that time frame?

Why, friends, that's because our Roomba runs at 1:30am every night, while we sleep. And it found the poop. And so begins the Pooptastrophe. The poohpocalypse. The pooppening.

If you have a Roomba, please rid yourself of all distractions and absorb everything I'm about to tell you.

Do not, under any circumstances, let your Roomba run over dog poop. If the unthinkable does happen, and your Roomba runs over dog poop, stop it immediately and do not let it continue the cleaning cycle. Because if that happens, it will spread the dog poop over every conceivable surface within its reach, resulting in a home that closely resembles a Jackson Pollock poop painting.

It will be on your floorboards. It will be on your furniture legs. It will be on your carpets. It will be on your rugs. It will be on your kids' toy boxes. If it's near the floor, it will have poop on it. Those awesome wheels, which have a checkered surface for better traction, left 25-foot poop trails all over the house. Our lovable Roomba, who gets a careful cleaning every night, looked like it had been mudding. Yes, mudding - like what you do with a Jeep on a pipeline road. But in poop.

Then, when your four-year-old gets up at 3am to crawl into your bed, you'll wonder why he smells like dog poop. And you'll walk into the living room. And you'll wonder why the floor feels slightly gritty. And you'll see a brown-encrusted, vaguely Roomba-shaped thing sitting in the middle of the floor with a glowing green light, like everything's okay. Like it's proud of itself. You were still half-asleep until this point, but now you wake up pretty damn quickly.

And then the horror. Oh the horror.

So, first you clean the child. You scrub the poop off his feet and put him back in bed. But you don't bother cleaning your own feet, because you know what's coming. It's inevitable, and it's coming at you like a freight train. Some folks would shrug their shoulders and get back in bed to deal with it in the morning. But you're not one of those people -you can't go to sleep with that war zone of poop in the living room.

So you clean the Roomba. You toss it in the bathtub to let it soak. You pull it apart, piece-by-piece, wondering at what point you became an adult and assumed responsibility for 3:30am-Roomba-disassembly-poop-cleanups. By this point, the poop isn't just on your hands - it's smeared up to your elbows. You already heard the Roomba make that "whirllllllllllllll-boop-hisssssssss" noise that sounds like electronics dying, and you realize you forgot to pull the battery before getting it wet. More on that later.

Oh, and you're not just using profanity - you're inventing new types of profanity. You're saying things that would make Satan shudder in revulsion. You hope your kid stayed in bed, because if he hears you talking like this, there's no way he's not ending up in prison.

Then you get out the carpet shampooer. When you push it up to the rug - the rug that started it all - the shampooer just laughs at you. Because that rug is going in the trash, folks. But you shampoo it anyway, because your wife loved that damn rug, and you know she'll ask if you tried to clean it first.

Then you get out the paper towel rolls, idly wondering if you should invest in paper towel stock, and you blow through three or four rolls wiping up poop. Then you get the spray bottle with bleach water and hose down the floor boards to let them soak, because the poop has already dried. Then out comes the steam mop, and you take care of those 25-ft poop trails.

And then, because it's 6am, you go to bed. Let's finish this tomorrow, right? The next day, you finish taking the Roomba apart, scraping out all the tiny flecks of poop, and after watching a few Youtube instructional videos, you remove the motherboard to wash it with a toothbrush. Then you bake it in the oven to dry. You put it all back together, and of course it doesn't work. Because you heard the "whirllllllllllllll-boop-hisssssssss" noise when it died its poopy death in the bathtub. But you hoped that maybe the Roomba gods would have mercy on you.

But there's a light at the end of the tunnel. After spending a week researching how to fix this damn \$400 Roomba without spending \$400 again - including refurb units, new motherboards, and new batteries - you finally decide to call the place where you bought it.

That place called Hammacher Schlemmer. They have a funny name, but they have an awesome warranty. They claim it's for life, and it's for any reason.

So I called them and told the truth. My Roomba found dog poop and almost precipitated World War III. And you know what they did? They offered to replace it. Yes, folks. They are replacing the Roomba that ran over dog poop and then died a poopy, watery death in the bathtub - by no fault of their own, of course.

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 16 of 52

So, mad props to Hammacher Schlemmer. If you're buying anything expensive, and they sell it, I recommend buying it from them. And remember - don't let your Roomba run over dog poop." iRobot Hammacher Schlemmer

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

From: "Keith A. Glass" salgak@comcast.net

. . . . imagine Morbo, moderating the Presidential Debates. . .

Pathetic Earthling Number One, Hillary Clinton . . .

Pathetic Earthling Number Two, Donald Trump. . .

. . .and Morbo's good friend, Richard Nixon.

<https://www.youtube.com/watch?v=aQPakERjJrI>

ROBOT NIXON NOW !!

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

From a number of you on Facebook



OF COURSE IT IS A FAKE, BUT IT IS FUNNY AS HELL!

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 17 of 52

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

From: "RAY BELOATE" beerman@rittermail.com

THE CHURCH THREW OUT MY COOKIES

Well, the Church removed my cookies from the cake sale.....again!!!

I don't know what their problem is.....I just used a dog bone biscuit cutter.....cut them in half and decorated them!!!

I thought they looked rather cute!!!

They have no sense of humor.



Remember, if you haven't got a smile on your face, and laughter in your heart, then you are just a sour old fart!

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

YOU JUST CAN'T MAKE THIS STUFF UP!

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 18 of 52

From: "Tim Bolgeo" tbolgeo@comcast.net

US SWIMMER RYAN LOCHTE'S FRESHLY BLEACHED HAIR TURNS GREEN IN OLYMPIC POOL

BY RICHARD INNES, 09:21, 11 AUG 2016

<http://www.mirror.co.uk/sport/row-zed/swimmer-ryan-lochtes-freshly-bleached-8606918>

Ryan Lochte clearly didn't realise that chlorine and bleached hair are NOT a good mix. You know how everyone is always going on about swimmers' bodies? How the entire planet is obsessed with the amazing torsos of the guys in the pool at the 2016 Olympics?

Well, thanks to Ryan Lochte, those of us who don't have perfect abs can now rejoice in the news these super-toned athletes don't always look so perfect.

Lochte - one of America's leading swimmers - has already won gold in Brazil, in the 4x200m freestyle relay. He could yet win another medal, in the 200m individual medley.

However, for many people, his main accomplishment at these Olympics will be making the howler that turned his hair GREEN.

How could a swimmer not know that bleaching your hair platinum blond is a VERY bad idea when you spend most of your time in a pool filled with chlorine?

Why did Ryan Lochte dye his hair platinum blonde RIGHT before Rio? Does he not know the chlorine will turn it green



Ryan Lochte's Olympic-sized hair howler

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 19 of 52

Sure enough, by the time the Games kicked off, the handsome swimmer's hair had a decidedly GREEN tinge to it:

Oh dear, Ryan Perhaps that's what Michael Phelps was laughing at here...

"Have you SEEN Ryan's do?"

Still, we can't have TOO much sympathy for the man with the greeny hair.

Even with his bizarre-looking barnet, he's still pretty damn dashing...

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

DIAMOND LABS SAY THEIRS ARE FOREVER TOO — EVEN IF THEY WERE MADE YESTERDAY

By Alina Simone, August 09, 2016 · 3:45 PM EDT

<http://www.pri.org/stories/2016-08-09/diamond-labs-say-theirs-are-forever-too-even-if-they-were-made-yesterday>

Companies like the Diamond Foundry can manufacture a high-quality diamond in about two weeks. It takes the Earth about a billion years to do it the traditional way.

I'm here to check out the latest: A diamond mine the size of a passenger van that can be controlled with an iPhone.



"This is our unit foundry, the prototype foundry for the future. It includes our growth reactors in which we hot-forge diamonds under the heat of plasma," says Martin Roscheisen, the CEO and founder of the Diamond Foundry, the man-made diamond industry's hottest new start-up.

And how long does it take to make a batch?

"About two weeks," he says.

Compare that to the 1 billion-plus years for the Earth to produce a diamond, and you get why the traditional diamond industry is up in arms.

Ever since the 1950s, companies have been manufacturing diamonds in a lab. The technology mimics nature's geological forces, using massive pressure, high temperatures, or both, to turn some form of carbon — even just carbon gas — into one of the most expensive gems on Earth. But it's only within the past several years that man-made diamonds have been able to match the top-quality stones coming out of the mines.

De Beers coined the phrase “A Diamond Is Forever” in 1947, redefining the diamond as the ultimate symbol of romance: timeless, rare and worth considerable financial pain. Today, companies like the Diamond Foundry want to convince consumers that a diamond is forever ... even if it was born yesterday.

Their pitch is based on ethics. The struggle to control Africa’s diamond market has fueled four civil wars, leaving millions dead, disfigured and displaced. It’s a human tragedy that became a cause celebre with the release of the 2006 movie "Blood Diamond."

Leonardo DiCaprio, who was nominated for an Oscar for his role in the film, is a prominent investor in the Diamond Foundry — along with 10 tech billionaires who believe technology will one day replace the world’s diamond mines and the environmental and human rights abuses that come with them.

So who wouldn’t be seduced by that kind of future?

“Leonardo DiCaprio is a rabbi taking ham sandwiches and telling everybody, ‘They’re kosher!’ What he’s doing is fundamentally, ethically wrong!” says Martin Rapaport, founder of the largest diamond-trading network in the world. Like most leaders in the industry, he sees “synthetics” as a threat, not a solution. Rapaport says buying a man-made diamond will do nothing to help impoverished diggers in Africa.

“The solution isn’t to say, ‘Hey! You million and a half diggers and the 7 million people you’re supporting, all of you go to hell. We’re going to sell synthetic diamonds!’”

Rapaport says the solution is to say to diamond mining companies, we’ll pay you a premium if you stop using child labor.

Basically, a "fair trade" diamond.

A skeptic might dismiss this as an old world industry just trying to protect its bottom line, but for Rapaport, at least, it’s personal. Seven years before the movie "Blood Diamond" hit the screens, he was touring amputee camps in Sierra Leone.

“Thousands of people. An arm. A leg. An arm and a leg. Little children. This person held out this little baby: ‘Tell them what happened to us.’ And you have to understand, my parents, they were in Auschwitz. And so I saw this and said, ‘What the hell is this? This cannot happen.’”

Rapaport has poured a lot of time and money into creating a fair trade system.

“It’s very difficult. But Development Diamond Industry is working on it. We’re working on it, other people are working on it,” he says.

But a diamond’s journey involves a long, complicated and easily corruptible supply chain, and Rapaport admits a fair trade stone is still a long way off.

Africa’s diamond-producing nations themselves are also worried about the impact of techno-diamonds. Botswana receives 40 percent of its government revenue from diamonds. Two years ago, the Botswana Institute for Development Policy Analysis issued a report on the potential impact of man-made diamonds on the national economy, concluding

that “the stakes could not be higher” when it comes to protecting the market for mined diamonds.

But when I asked Roscheisen whether the switch to man-made diamonds might end up hurting diamond diggers in countries like Botswana, he didn’t buy it.

“It’s a little bit of twisted logic because that also would justify releasing the Mexican drug leaders out of jail. After all, they employ a lot of people.”

The march of technological progress, Roscheisen believes, is unstoppable. And with that, he excused himself: Federal Express had just arrived with a custom man-made diamond ring for his girlfriend — mined in California.

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

YOU JUST CAN’T MAKE THIS STUFF UP!

From: “Keith A. Glass” salgak@comcast.net

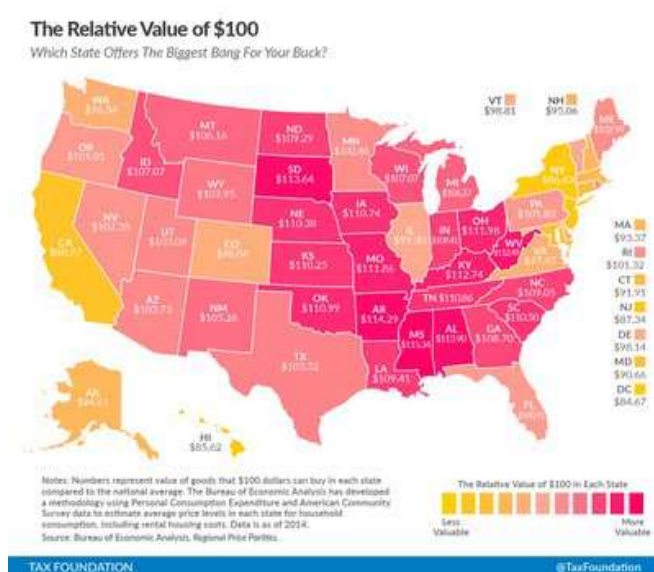
THE REAL VALUE OF \$100 IN EACH STATE

By Alan Cole, August 04, 2016

<http://taxfoundation.org/blog/real-value-100-each-state-2016>

This map shows the real value of \$100 in each state. Prices for the same goods are often much cheaper in states like Missouri or Ohio than they are in states like New York or California. As a result, the same amount of cash can buy you comparatively more in a low-price state than in a high-price state.

The Bureau of Economic Analysis has been measuring this phenomenon for two years now; it recently published its data for prices in 2014. Using this data, we have adjusted the value of \$100 to show how much it buys you in each state.



For example, Ohio is a low-price state. There, \$100 will buy you stuff that would cost \$111.98 in a state at the national average price level. You could think of this as meaning that Ohioans are, for the purposes of day-to-day living, 11 percent richer than their incomes suggest.

The states where \$100 is worth the most are Mississippi (\$115.34), Arkansas (\$114.29), Alabama (\$113.90), South Dakota (\$113.64), and West Virginia (\$112.49). In contrast, \$100 is effectively worth the least in the District of Columbia (\$84.67), Hawaii (\$85.62), New York (\$86.43), New Jersey (\$87.34), and California (\$88.97). See the table at the bottom of this post for a ranking of all

50 states.

Regional price differences are strikingly large; real purchasing power is 36 percent greater in Mississippi than it is in the District of Columbia. In other words, by this measure, if you have \$50,000 in after-tax income in Mississippi, you would have to have after-tax earnings of \$68,000 in the District of Columbia just to afford the same overall standard of living.

It's generally the case that states with higher nominal incomes also have higher price levels. This is because there is a relationship between the two: in places with higher incomes, the prices of finite resources like land get bid up. (This is especially true in cities.) But the causation also runs in the opposite direction. Places with high costs of living pay higher salaries for the same jobs. This is what labor economists call a compensating differential; the higher pay is offered in order to make up for the low purchasing power.

This relationship is important, though it is not the only thing that matters. Some states, like North Dakota, have high incomes without high prices. Adjusting incomes for price level can substantially change our perceptions of which states are truly poor or rich.

For example, Nebraskans and Californians earn approximately the same amount in dollars per capita, but after adjusting for regional price parity, Nebraskan incomes can buy more.

Nebraska Has a Higher Average Income than California after Adjusting for Purchasing Power

Real Purchasing Power of Per Capita Personal Income in California and Nebraska, 2014, Thousands of Dollars



Note: Real incomes are in thousands of chained 2009 dollars, adjusted for inflation and regional price parity.
Source: Bureau of Economic Analysis, Regional Price Parities.

This has substantial implications for public policy, which is often progressive with respect to income.

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 23 of 52

Many policies – like minimum wage, public benefits, and tax brackets – are denominated in dollars. But with different price levels in each state, the amounts aren't equivalent in purchasing power. This has some unexpected consequences; people in high price-level states like New Jersey will often pay more in federal taxes without feeling particularly rich.

STATE	REAL VALUE OF \$100	RANK	STATE	REAL VALUE OF \$100	RANK	STATE	REAL VALUE OF \$100	RANK
Mississippi	\$115.34	1	North Carolina	\$109.05	18	Florida	\$100.91	35
Arkansas	\$114.29	2	Georgia	\$108.70	19	Illinois	\$99.30	36
Alabama	\$113.90	3	Idaho	\$107.07	20	Vermont	\$98.81	37
South Dakota	\$113.64	4	Wisconsin	\$107.07	21	Delaware	\$98.14	38
Kentucky	\$112.74	5	Michigan	\$106.27	22	Colorado	\$98.04	39
West Virginia	\$112.49	6	Montana	\$106.16	23	Virginia	\$97.47	40
Ohio	\$111.98	7	New Mexico	\$105.26	24	Washington	\$96.34	41
Missouri	\$111.85	8	Wyoming	\$103.95	25	New Hampshire	\$95.06	42
Oklahoma	\$110.99	9	Arizona	\$103.73	26	Alaska	\$94.61	43
Tennessee	\$110.85	10	Texas	\$103.52	27	Massachusetts	\$93.37	44
Iowa	\$110.74	11	Utah	\$103.09	28	Connecticut	\$91.91	45
South Carolina	\$110.50	12	Maine	\$102.99	29	Maryland	\$90.66	46
Nebraska	\$110.38	13	Minnesota	\$102.46	30	California	\$88.97	47
Kansas	\$110.25	14	Nevada	\$102.35	31	New Jersey	\$87.34	48
Indiana	\$109.41	15	Pennsylvania	\$101.63	32	New York	\$86.43	49
Louisiana	\$109.41	16	Rhode Island	\$101.32	33	Hawaii	\$85.62	50
North Dakota	\$109.29	17	Oregon	\$101.01	34	District of Columbia	\$84.67	

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

WHO OWNS THE WIND? WE DO, WYOMING SAYS, AND IT'S TAXING THOSE WHO USE IT

William Yardley, william.yardley@latimes.com
<http://www.latimes.com/nation/la-na-sej-wyoming-wind-tax-snap-story.html>

Not long after it became clear that the robust winds that blow down from the Rocky Mountains and across the sea of sagebrush here could produce plenty of profit in a world that wants more renewable energy, some of the more expansive minds in the Wyoming Legislature began entertaining a lofty question:

Who owns all of that wind?

They concluded, quickly and conveniently, that Wyoming did.

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 24 of 52

Then, with great efficiency for a conservative state not traditionally tilted toward burdening the energy industry, they did something no other state has done, before or since: They taxed it.



Wind turbines spin at the Foote Creek Rim site in Carbon County, Wyo. (Michael Smith / Getty Images)

In the four years since Wyoming began taxing power generated by wind turbines, it has collected a little less than \$15 million in revenue.

No, that is not much money in a resource state rocked by the simultaneous decline in the prices of coal, oil and natural gas, a state trying to close a budget gap that could reach \$500 million.

But now, as one of the world's largest wind farms is about to begin construction here on a project aimed at providing clean electricity to nearly a million homes in California and the Southwest — potentially transforming this fossil fuel state into a major player in renewables — some powerful state lawmakers are looking to raise those taxes.

And some in the wind industry, which has long benefited from incentives and subsidies, say they are worried. The company that has spent nine years trying to build the wind project says higher taxes could further delay or even halt the plan.

“Just about every legislator we’ve met with asks us, ‘You tell us how much we can tax you before we put you out of business,’” said Bill Miller, chief executive of the Power Co. of Wyoming, which is planning the wind farm. “I just shake my head and say, ‘Zero.’”

He said the state was at risk of “taxing this project out of existence.”

Miller and others note that other states are offering incentives, and that new technology is helping states with even less wind glean more electricity from it. Wyoming, they say, is in no position to impose new taxes that could make it less competitive.

In their view, the tax increase is more about politics — Wyoming lashing out at clean energy as payback for federal policy aimed at scaling back the coal industry on which the state has always relied.

Supporters of the tax increase say that the company is posturing — that Wyoming's abundant winds are the renewable equivalent of its high-quality Powder River Basin coal. They point to studies showing that Wyoming eventually could provide half of the wind power in the nation, but they also emphasize that it likely will not provide anywhere near the jobs and other benefits fossil fuels have. Fully built out, the project called the Chokecherry and Sierra Madre would create fewer than 150 jobs.

They also say Wyoming doesn't necessarily need clean energy, much less the turbines that harness it. Giant towers would line the horizon for decades to come, altering the state's wide-open spaces more fundamentally than drilling rigs or even vast surface coal mines.

“The benefits of wind are disproportionately on the West Coast, and the costs of wind are disproportionately in Wyoming — and I mean the social costs,” said Cale Case, a state senator and economist who serves on the Legislature's revenue committee. “This tiny reflection of the impacts back here, I think it's just kind of a fair trade.”

California is indeed the “primary market” for the Chokecherry and Sierra Madre project, Miller said. California, which does not provide state tax incentives for wind but also does not tax wind generation, has committed to producing half of its electricity from renewable sources by 2030, with the bulk of that expected to come from wind and solar power. Last year, turbines on large wind facilities provided 6% of the state's gross system power, according to the California Energy Commission.

The Wyoming project includes a major transmission line that would be built specifically to transport its energy to California and the Southwest. Yet Miller said his company does not have a power purchase agreement in place with California or other locations, in part because of the uncertainty created by the potential tax increase.

What a new tax might look like is unclear. The current code requires wind farms to pay \$1 per megawatt-hour produced. That has brought in about \$4 million in annual revenue in the last few years. If the Chokecherry and Sierra Madre project is built to its 3,000-megawatt capacity, revenue could triple even under the existing tax.

In May, the joint interim revenue committee asked legislative staff to draft two bills for them to consider at their meeting next month. One would raise the production tax to an unspecified level. The other would try to get wind companies to pass on the savings they receive from federal subsidies.

The latter idea is especially frustrating to supporters of the project, but Miller may have helped inspire it earlier this year when he said publicly that Chokecherry and Sierra Madre did not need the federal tax credit to be competitive. In an interview this week, Miller said he made that claim based on the presumption that the tax scheme in Wyoming would not change.

“We thought we had a fixed set of rules,” he said.

In addition to his work as CEO of the Power Co. of Wyoming, Miller also heads Transwest, which would build the new transmission line. Both are subsidiaries of the Anschutz Corp., which long has been involved in fossil fuels and owns Staples Center in Los Angeles. It is led by Philip Anschutz, a major donor to Republican candidates and conservative causes.

Miller and his colleagues have begun an assertive effort to sway local governments and the state’s business community against a higher tax. They have drafted reports showing how much tax revenue their project will generate — nearly \$1 billion over 20 years under current law. Several groups have lined up behind them.

Ray Peterson, a contractor who hopes his rig company will get work with the new wind project, wrote to the revenue committee this month to oppose any move to raise taxes further.

“We expected the Obama Administration to wage war on coal and oil as they promised,” he wrote. “What is most alarming, and completely unexpected, is realizing Wyoming state officials are willing to threaten killing the creation of new business, much needed jobs, a generous amount of tax revenue and diversification of our state’s energy dependent economy to wage war on renewable energy sources.”

Miller has met with lawmakers and Gov. Matt Mead, who has not taken a position on the proposal.

“I asked the governor if he would veto this; he would not answer me,” Miller said.

In an interview, the Republican governor said state law prevents him from threatening vetoes, but he suggested he was wary of raising taxes on wind.

“I’m not where the revenue committee is now, but I do respect that the revenue committee is trying to find revenue and looking at things,” Mead said.

He noted more than once that Anschutz expected to invest as much as \$8 billion in the project, including the wind farm and transmission line, though not all of it would be spent in Wyoming.

“That’s going to put a lot of contractors to work, and it’s certainly going to help the local communities and the state,” Mead said. “We certainly agree that every industry should pay its fair taxes, but Wyoming, now and historically, has prided itself on being very business-friendly, including fewer regulations and low taxes.”

He added, speaking of Anschutz, “For them to get their power purchasing agreements with states like California, for example, there has to be predictability and certainty of what taxes have to be paid. So I think we as a state need to be very thoughtful and cautious on this approach on new taxes.”

No major wind projects have been constructed since the tax took effect in 2012.

Robert Godby, the director for the Center for Energy, Economics and Public Policy at the University of Wyoming in Laramie, outlined several possible explanations for the stall,

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 27 of 52

including a lack of transmission capacity to get the power to market, but he said it was hard not to conclude that the uncertainty created by the tax has played a role.

Godby said the real issue Wyoming faces is much broader than how much to tax the wind. For too long, he said, the state has relied too heavily on revenue from fossil fuels. It needs to diversify and, even more daunting, to reconsider its tax code. The state has no income tax and still allows some industries to avoid sales tax.

Here in Rawlins, the seat of Carbon County, a name that now seems plenty ironic, local leaders support the wind project, but not the idea of taxing it further.

“Wyoming is a boom-and-bust state, but it’s not really because of energy prices,” said Sid Fox, the county planning director. “It’s because of our tax policy. If the state can figure that out, that might be the shining light out of this.”

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

YOU JUST CAN'T MAKE THIS STUFF UP!

From: “Tom Carpenter” tjei@epbfi.com

The World's Longest Truck - Road Train in Australia

<https://www.youtube.com/watch?v=0iFkKRh5kcM>

Pretty Cool!!

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

From: “Tim Bolgeo” tbolgeo@comcast.net

LOCKHEED MARTIN COMPLETES 60 TESTS OF LASER TURRET FOR HIGH-SPEED WARPLANES

David Szondy October 17, 2015

http://newatlas.com/lockheed-martin-tests-laser-turret-warplanes/39898/?li_source=LI&li_medium=default-widget



A green low-power laser beam passes through the turret on a research aircraft (Credit: Air Force Research Laboratory)

Last year, Lockheed Martin began

testing a new tactical laser turret for future warplanes. After 60 test flights Lockheed says the 360° capability of the turret system has been verified, moving the technology a step closer to deployment on tactical aircraft flying at near-supersonic speeds.

The tendency is to think of lasers as dead straight rods of light that cut through the air, but air is one of the laser's biggest problems. Turbulence, for example, distorts and scatters laser beams like an invisible fun house mirror. This means that at near-supersonic speeds, the turbulence effect is so bad that a laser weapon would only be able to aim straight ahead.

To prevent aerial laser weapons from becoming a 21st century version of old fighter plane machine guns, Lockheed came up with the Aero-adaptive Aero-optic Beam Control (ABC) turret. Developed for DARPA and the Air Force Research Laboratory, it uses an optical compensation system consisting of a set of deformable mirrors and aerodynamic and flow-control technology to alter the laser and compensate for turbulence. This gives the laser a 360° aiming field capability, so it can engage targets coming from any direction.

According to Lockheed, the 60 tests carried out since 2014 using a low-powered laser installed in a two-engine business jet as a cruise-speed test platform have confirmed the turret's ability to work in all directions. The findings from these tests will be used by DARPA and AFRL to write future requirements for laser weapon systems operating at near-supersonic and supersonic speeds.

"This advanced turret design will enable tactical aircraft to have the same laser weapon system advantages as ground vehicles and ships," says Doug Graham, vice president of missile systems and advanced programs, Strategic and Missile Defense Systems, Lockheed Martin Space Systems. "This is an example of how Lockheed Martin is using a variety of innovative technologies to transform laser devices into integrated weapon systems."

Source: Lockheed Martin

<S><C><I><E><N><C><E>

REVOLUTIONARY STEEL TREATMENT PAVES THE WAY FOR RADICALLY LIGHTER, STRONGER, CHEAPER CARS

Loz Blain December 10, 2015

http://newatlas.com/flash-bainite-automotive-testing/40774/?li_source=LI&li_medium=default-widget

Back in 2011, we wrote about a fascinating new way to heat-treat regular, cheap steel to endow it with an almost miraculous blend of characteristics. Radically cheaper, quicker and less energy-intensive to produce, Flash Bainite is stronger than titanium by weight, and ductile enough to be pressed into shape while cold without thinning or cracking. It's now being tested by three of the world's five largest car manufacturers, who are finding they can produce thinner structural car components that are between 30-50 percent lighter and cheaper than the steel they've been using, while maintaining the same performance in crash tests. Those are revolutionary numbers in the auto space.



Flash Bainite crush can – folds almost as tightly as paper without cracking (Credit: Flash Bainite)

Darren Quick did a good job explaining exactly how Flash Bainite is produced (See link below for the original story.) in our original story, but in basic terms, you take regular, off-the-shelf AISI1020 carbon steel, and instead of heat treating it for 10 minutes like costly alloyed steel, you put it through a roller-driven system that induction-heats and liquid-cools the steel in a matter of 10 seconds or so.

<http://newatlas.com/stronger-steel-in-a-flash/18882/>

Generally, when you choose steel you're trading off between strength and ductility. The hardest steels are the martensitic types, but their crystalline structure makes them brittle and prone to cracking when you press or bend them, so they need to be hot pressed. Flash Bainite breaks this rule by delivering a specific strength some 7 percent higher than martensitic steel but staying remarkably bendable to the point where it can be cold pressed into shapes. The quick heating and cooling stages produce a unique mix of fine martensite, bainite and carbides – if you want to get all metallurgical about it, knock yourself out.

With such characteristics, you could theoretically take anything you're making out of martensitic steel and make it stronger and vastly cheaper, or take many shapes you're cold pressing out of more ductile steel and use vastly thinner Flash Bainite to get the same strength. It sounded almost too good to be true, but recent testing from a number of different parties appears to be validating the original findings.

In July 2011, US Army tests called it "an extremely energy efficient and environmentally friendly process" and concluded that "the costs to produce Flash Bainite should be extremely reasonable and could enable widespread use for applications requiring very high strength and adequate elongation, ductility, and toughness. Current opportunities for flash

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 30 of 52

bainite include armor and vehicle applications requiring ultra-high strength steels for high specific strength, weight reduction, and high cycle fatigue enhancement."

In 2013, a few auto manufacturers (who can't be named due to NDAs) began running a series of tests to see how Flash Bainite might perform in an automotive setting. Could it be cold pressed into the kinds of challenging shapes required by automakers? In short, yes. Flash 1600 (Flash-processed AISI1020) forms as well as the leading cold-stampable "advanced high strength steel" DP1180 that's only 75 percent the strength. Here are some sample parts displayed in March 2015, cold pressed with no noticeable thinning:



These parts were created in the same sizes and thicknesses as the OEM parts, so there's no weight saving per se, but the simple and energy-efficient nature of the Flash forming process makes them 1/3 to 1/2 less expensive than the process currently used in manufacture.

As this data became available, other auto manufacturers have started dipping toes in the water as well. The Flash Project's Gary Cola tells us of another major manufacturer that used Flash processed tubing to create car door impact beams, roof rails and other parts that were built into full cars, then roof crush tested to high test results.

"This OEM found that Flash 1500 could offer a 1/3 mass reduction and cost savings over the 'industry standard' DP1000 known at the time to be the strongest hydroformable tube," Cola says. "During this development, it was discovered that Flash 1500 (Flash-processed AISI1020) could be formed into very tight bends, almost as tight as simply folding a sheet of paper."

In Flash 1500 energy absorbing crush in this story's lead image, the bends are twice the strength of the DP780 cans in cars today.

Another major manufacturer "that makes 10 million vehicles per year," according to Cola, tested Flash-processed steel on a structural/safety component of a car that is 3 mm thick and 3 lb (1.4 kg) in weight in its current form. Using the flash treatment, a part was created that weighs 2 lb (0.9 kg) at 2 mm thick, and passes all the same tests – and the OEM estimated it could be made at a cost savings.

There are only three OEMs that can claim that kind of manufacturing capacity in the world. Only one of them is headquartered in Detroit where the Flash Bainite team is based, and it conveniently happens to be locked in a war of words with a competitor that has chosen to go to aluminum truck bodies instead of steel. Cola notes, "while aluminum is good for hoods, decklids and door skins, Flash offers higher strength per pound for structural safety components."

In short, Flash Bainite is starting to look suspiciously like the real deal, pointing the way towards significantly lighter cars that are less expensive and more environmentally friendly to produce, and every bit as safe in a crash – and of course, that's just in the automotive world.

Another factor in Flash's favour is an extremely low capital cost of entry for companies looking to get involved in the manufacturing process.

"The entry point for Flash equipment is about US\$300K and a one car garage, while large format equipment would only cost \$5M to generate about \$75M in annual sales," Cola tells us. "Imagine if 100s of fabrication shops around the country could make higher performing steel than the Big Steel Industry can in their \$400M seven-story tall furnaces."

Having said that, there's currently no large scale manufacture up and running. Cola and the Flash Project team are working toward developing their own commercial manufacturing operation, but hoping to license the Flash technology to other entrepreneurs to get it out into the market. If the business side is managed well, this looks like a genuinely disruptive shift in manufacturing. We'll keep an eye on it!

Source: Flash Bainite

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NASA AIMS FOR SUPERSONIC AIRLINERS AS QUIET AS SUBSONIC

Aug 9, 2016Graham Warwick | Aviation Week & Space Technology

http://aviationweek.com/commercial-aviation/nasa-aims-supersonic-airliners-quiet-subsonic?NL=AW-05&Issue=AW-05_20160811_AW-05_117&sfvc4enews=42&cl=article_1&utm_rid=CPEN1000001477803&utm_campaign=6682&utm_medium=email&elq2=549e99771eac4c5d8d5045c77b7ddc59

After minimizing sonic boom, reducing airport noise is seen as the next biggest barrier to commercially viable future supersonic transports. As it works toward flying an X-plane in 2019 to demonstrate low-boom design technology, NASA is conducting ground tests of an

engine nozzle that could make a small supersonic airliner as quiet as current subsonic transports.

The model tests underway at NASA's Glenn Research Center will validate design tools and concepts for an integrated propulsion system that would enable a quiet supersonic airliner with the seating capacity of a regional jet to have a cumulative noise level 10 EPNdB below current Chapter 4 limits.

NASA SEEKS SUPERSONIC TRANSPORT WITH ACCEPTABLE AIRPORT NOISE

Concorde was almost 80 EPNdB above today's Chapter 4 airport noise limits

NASA's goal for a small supersonic airliner is Chapter 4 minus 10 dB

Meeting goal would keep noise at the level of today's subsonic airliners

Vision is a quiet supersonic transport that is low-boom and low-noise

"Our technical challenge is to demonstrate the ability to design a commercial aircraft for supersonic cruise flight and make it meet the same noise standards as everything that is currently flying and will fly for some time," says James Bridges, technical lead for acoustics within NASA's Commercial Supersonics Technology project. "That is a big challenge because traditionally airport noise has been one of the main stumbling blocks for supersonic commercial aircraft."

Concorde's noise level was far higher than that of subsonic jet airliners when it entered service in 1976, and the difference only worsened as the industry moved to progressively lower noise standards and subsonic aircraft became quieter. By the time the first-generation supersonic airliner was retired in 2003, its cumulative noise level was almost 70 EPNdB above the Chapter 3 limits then in effect. Every 3-dB increase approximates to a doubling in noise power.

NASA set a target of achieving Chapter 4-10 dB for an aircraft that could enter service around 2030. Since that goal was established, the International Civil Aviation Organization (ICAO) has set Chapter 4 minus 7 dB as the level for the Chapter 14 noise limit that will take effect in 2017 for new aircraft types. "We are beating that by a bit," says Bridges.

To demonstrate the challenge could be met, a low-boom supersonic aircraft design developed for NASA by Lockheed Martin was selected, and various propulsion cycles and nozzle options were explored with the goal of reducing exhaust noise. Lockheed's design, the LM1044, is an 80-seat, 5,000-nm-range trijet and represents an aircraft that could be ready to enter development around 2025.

The surface mounted close to the nozzle on the NASA Glenn acoustic test rig captures airframe effects on exhaust noise. Credit: NASA

The LM1044 is shaped to minimize sonic boom. The location of its engines—one above the fuselage between the canted vertical tails and two tucked under the wings—was



chosen to essentially eliminate their impact on shockwave signature. It also required NASA Glenn to devise the scale model that would allow the noise from two locations to be measured in the acoustic validation tests now underway.

Variable-cycle engines, or three-stream turbofans, have been selected because they allow bypass ratio to be increased to minimize noise on takeoff and then reduced to maximize efficiency in cruise. Commercial unreheated three-stream turbofans would use technology from adaptive combat engines being developed by General Electric and Pratt & Whitney for the Pentagon and scheduled to be ground tested in 2019.

In a conventional turbofan, air entering the engine is divided between the core and bypass duct. NASA's three-stream configuration adds a tip fan and third, outer flowpath that accounts for up to half the massflow through the engine. There are then several ways to mix the three flows in the exhaust system.

An inverted velocity profile (IVP) nozzle developed by GE was selected for testing, as it provided more aggressive noise reduction and additional margin to meet the goal, says Bridges. In the IVP design, the core and main fan flows are mixed internally, then exhausted through the outer annulus of the nozzle. The cold flow from the tip fan is ducted through a centerbody plug in the nozzle so the low-velocity air is exhausted inside the high-velocity jet, instead of on the outside as in a conventional nozzle.



Engines are positioned to minimize their impact on shaped sonic boom of Lockheed Martin's LM1044 concept. Credit: NASA

This has two noise-reducing effects. First, putting the hot, high-velocity exhaust on the outside increases the shearing between the high-speed jet and slower freestream air and speeds up the mixing. Most jet-plume noise is generated downstream, Bridges says, and moving mixing upstream closer to the nozzle increases the effectiveness of airframe

shielding. Second, putting the slower, colder air on the inside spreads the outer hot stream over a thinner annulus of wider radius, which also speeds up mixing.

Validation in Glenn's nozzle acoustic test rig involves a 10%-scale IVP nozzle, fed with compressed air that is split into three streams, which are either cooled in a heat exchanger or heated by natural-gas combustion to match the desired engine pressures at different throttle settings. The nozzle is mounted close to a V-shaped surface representing the aircraft's wing and tail, and immersed in airflow simulating different conditions at different flight speeds.

To fit within the flight stream produced by the rig's 53-in.-dia. freejet—and be small enough to be held securely at airspeeds up to Mach 0.35 while minimizing unwanted noise from support struts—only a minimal aircraft planform is used. This is enough to capture the shielding and reflection of jet-plume noise sources by the airframe and provide an accurate trailing edge to interact with the plume, says Bridges. By testing the model in two orientations, upper and lower engine noise can be measured.

For certification, aircraft noise is measured at three observer positions: flyover, under the climb-out flightpath; under the approach path; and lateral, to the side of the runway. The results are then summed to produce the cumulative noise level. In reaching the Chapter 4 minus 10 dB cumulative target, engine cycle and system design is expected to contribute a 5-10-dB reduction, nozzle features such as enhanced mixing 2-4 dB and installation effects such as shielding 1-3 dB.

Exhaust noise dominates the lateral certification point, says Bridges, and that is what will be measured using a microphone array in the Glenn rig tests. The Chapter 3 lateral noise limit for the three-engine LM1044 would be 99.3 EPNdB. This reduces to below 96 EPNdB under Chapter 4. NASA's Chapter 4 minus 10 dB objective equates to a lateral noise level of 92.7 EPNdB.

Acoustic testing is planned to take one month and be completed in early September, to be followed by a month of particle image velocimetry runs to visualize the flowfield. On completion, the tests will deliver the lateral noise level for an integrated multi-engine system to determine whether the goal has been met. They will also measure the noise directivity to validate design predictions, provide phased-array acoustic imagery to confirm shielding, and visualize the turbulent flow to validate computational fluid dynamics codes.

As NASA does not produce engines or nozzles, Bridges says the design tools developed and knowledge acquired meeting the airport-noise technical challenge will be made available to industry for eventual incorporation in the design of quiet supersonic transports that are both low-boom and low-noise and have the cruise efficiency needed to be economically viable.

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LOCKHEED'S TR-X RECONNAISSANCE AIRCRAFT WILL HAVE STEALTHY SHAPE, SKIN

Lockheed Martin is pitching TR-X, a stealthy, high-flying UAS, to replace U-2 and Global Hawk

Aug 12, 2016 Lara Seligman, Aviation Week & Space Technology

http://aviationweek.com/defense/lockheed-s-tr-x-reconnaissance-aircraft-will-have-stealthy-shape-skin?NL=AW-05&Issue=AW-05_20160812_AW-05_95&sfvc4enews=42&cl=article_1&utm_rid=CPEN1000001477803&utm_campaign=6692&utm_medium=email&elq2=bc09d28ede4d4ee08fb43046aaafc43a

As Russia and China develop advanced missile technologies that can shoot down aircraft from greater distances, the U.S. Air Force's long-serving reconnaissance platforms—Lockheed Martin's manned U-2 and Northrop Grumman's Global Hawk unmanned aircraft systems (UAS)—are being forced to operate farther and farther from enemy borders.



Lockheed's TR-X will ultimately have a stealthy shape and radar-absorbing skin, allowing it to penetrate enemy territory. Credit: Lockheed Martin Concept

Lockheed Martin believes its Skunk Works has the answer to this challenge, revealing previously unknown details about the stealth characteristics of its unmanned TR-X proposal in a recent interview. The high-flying tactical reconnaissance UAS will eventually incorporate a stealthy outer mold line and a radar-absorbing skin, allowing it to penetrate deep into enemy territory, according to Scott Winstead,

Lockheed's U-2 business development manager.

LOCKHEED'S STEALTHY RECONNAISSANCE SOLUTION

Initial TR-X with U-2's advanced sensors on low-observable structure

Final design with basic stealth capabilities: stealthy outer mold line, radar-absorbing skin

Could complement Lockheed's hypersonic SR-72 for penetrating ISR

Lockheed projects initial design fleet of 30 for \$3.8 billion, ready in seven years

Lockheed unveiled the TR-X concept last year at the Air Force Association's annual conference, billing the new platform as a replacement for both the U-2 and the Global Hawk out to the end of the century. At the time, company officials said TR-X would be low-observable but did not give details about its stealth characteristics.

In a future where denied battlespace will be the norm, a combination of advanced sensors, high altitude, endurance and stealth will be crucial for intelligence, surveillance and reconnaissance (ISR) aircraft to maintain the advantage, says Winstead. While more powerful sensors, such as the electronically scanned array radar, can enable the current U-2 or Global Hawk to look deeper into enemy territory, an entirely new skin is needed to lower either aircraft's radar signature, Winstead says.

"Now it takes a lot more radar power to try to target you, which essentially allows you to get back in closer and allows you to be effective in a wartime environment," he says.

That's why Lockheed Martin plans to introduce the TR-X—if the Air Force asks for it—in two phases: first, an interim platform with low-observable characteristics that can meet the immediate need and later, a basic stealth aircraft equipped with a stealthy shape and radar-absorbing skin.

TR-X joins Northrop's secretive RQ-180 program and Lockheed's hypersonic SR-72, the proposed successor to the high-speed SR-71, as possible ways to meet the Air Force's need for a penetrating ISR platform. Rather than one solution, the service likely has multiple requirements and is exploring several complementary options to counter the evolving threat, says Rebecca Grant, president of IRIS Independent Research.

The main advantages of the Mach 6 SR-72 are its speed and survivability. The notional aircraft will be able to penetrate areas where even stealthy, advanced subsonic or

supersonic platforms might be vulnerable, quickly find elusive mobile targets before they can hide, then rapidly return within range of the home network to transmit its intelligence.

In the future, the Air Force may have a need for both a stealthy, high-flying TR-X and a hypersonic SR-72, says Grant. TR-X could act as its constant eye-in-the-sky, watching for changes in an environment, much as the U-2 does now, she posits. Then, once a change is detected or intelligence points to a specific threat, the SR-72 could be rapidly deployed to capture immediate data.

“We are once again clearly contending with red air forces, the Russian and Chinese,” says Grant. “We do not have the luxury of just making it a time and distance problem.”

Initially, the TR-X will meet the Air Force’s immediate ISR need by carrying the U-2’s existing, unstealthy nose, which houses either the synthetic aperture radar or the powerful SYERS-2 electro-optical/infrared (EO/IR) camera, depending on the mission, on a low-observable structure. While the initial TR-X design will have a straight wing, which is not characteristic of a stealth aircraft, it will be complemented by low-observable shaping, Winstead says.

“This is what TR-X can offer—a low-signature structure that can fly with the cutting-edge, state-of-the-art sensors of today’s platforms,” he says.

TR-X essentially takes the advantages of the high-flying U-2 and the long-endurance Global Hawk and merges them into one. Since the new aircraft will be unmanned, it will also have greater range than the U-2. It will be able to fly at least 24 hr.—longer with one aerial refueling—compared to the Global Hawk’s 28-30-hr. endurance. Using the U-2’s powerful General Electric F118 engine, TR-X will fly at 70,000 ft.—more than 10,000 ft. higher than Global Hawk’s advertised service ceiling—and maintain a 5,000-lb. payload capacity.

The Air Force’s current budget plan calls for retiring the U-2 in 2019 and replacing the spy plane with a Global Hawk upgraded with some of the U-2’s powerful sensors. But the initial TR-X is a more cost-effective solution to the service’s short-term ISR needs, Winstead says. Lockheed projects that an initial design fleet of 30 TR-Xs would cost \$3.8 billion and could be ready to go in seven years, he says, in contrast to the \$3.5 billion the Air Force is planning to spend to turn the Global Hawk into “an 80% U-2 solution.”

“What you have now is most of the platform with a lower signature, which allows you to get in closer; and actually, our ops analysis shows that would meet the need for the next 20 or so years,” Winstead says.

But while the initial TR-X will be able to operate at the edge of enemy air defenses, it still will not be able to penetrate them. “It is survivable; it is not unnoticeable,” Winstead cautioned in March.

Further down the road, the final TR-X design will have full basic stealth capabilities, he says. In addition to adding radar-absorbing skin coatings and structural materials, the final TR-X will have a conformal stealth design optimized to control deflection of radar energy, he explains.

Lockheed has not yet put a cost or time frame on the final TR-X capability. The optimal time to do the structural modifications necessary for a stealthier design is during the aircraft’s

periodic depot maintenance, Winstead says. For the U-2, that is every six years. The Air Force may decide to upgrade all or just a few of the 30 TR-Xs, he adds.

Lockheed has briefed senior service leaders on TR-X and its follow-on and hopes to offer the new platform as part of an official competition for a next-generation ISR capability in the next year or two, Winstead says. But while Lt. Gen. Bob Otto, deputy chief of staff for ISR, was “intrigued” by the idea, Air Combat Command requirements officers caution that the Air Force may not be able to afford TR-X along with all its other modernization priorities: the new B-21 bomber, the F-35 and the new KC-46 tanker, just to name a few.

But Winstead is not discouraged, saying that the service’s need for a stealthy, high-flying ISR platform such as TR-X will soon become clearer. “The biggest negative we got with this whole concept was that the acquisition force does not have the bandwidth to start a new program in the absolute immediate future,” he says. “But then you look at the capabilities and you look at the need, and if the need becomes stronger, then the priority will grow higher.”

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SPACE HOMES OF THE FUTURE: NASA UNVEILS DESIGNS FOR HABITATS THAT COULD BE USED IN LONG-HAUL MISSIONS

- * The space agency will work with its partners to develop habitats for extended manned missions in space
- * Full-sized prototypes will be built on Earth to test how systems interact and gather critical safety data
- * Initially, the habitats will be designed for extended missions near the moon before moving further afield

Aerospace firms involved in satellite technology and ISS resupply missions have been signed up

By RYAN O'HARE FOR MAILONLINE, PUBLISHED: 06:33 EST, 12 August 2016

<http://www.dailymail.co.uk/sciencetech/article-3735837/Nasa-reveals-designs-ships-deep-space-Agency-confirms-six-partners-project.html#ixzz4HDt9IS9Z>

With exploratory probes scouting out Earth’s neighbouring planets and moons, space agencies are working to develop the next generation of habitats to get crews there and far beyond.

This week Nasa named its six partners for developing crafts to house a human crew in deep space.

Concept habitats will be built here on Earth, to help the space agency gain a better insight into the needs and opportunities for extensive manned missions around the moon and beyond.

Nasa has released artists' impressions from its six contenders, which come from well-established aerospace firms already working with space agencies on satellite and probe technology.



+6 Nasa has named its six partners for developing crafts house a human crew in deep space. Included in the mix is a design from Bigelow Aerospace (illustrated is its XBASE module docking with the International Space Station), the Nevada-based firm behind the inflatable pod recently installed on the International Space Station

Included in the mix is Bigelow Aerospace, the Nevada-based firm behind the inflatable pod recently installed on the International Space Station, as well as long standing partners Boeing and Lockheed Martin.

The partnerships are part of Nasa's 'NextSTEP' programme, which will see a mix of private and public expertise and resources combined to push the existing boundaries of manned space exploration, initially testing a manned habitat near the moon as a testing ground for Mars and beyond.

'The NextSTEP partnerships are a large contribution to the dual objectives of advancing deep space habitation development and stimulating commercial activities in low-Earth orbit,' said Jason Crusan, Nasa's director of Advanced Exploration Systems.

+6 Boeing Aerospace's design for a habitation module illustrates the interior. The partnerships are part of Nasa's 'NextSTEP' programme, which will see a mix of private and public expertise and resources combined to push the existing boundaries of manned space exploration



DESIGNS FOR DEEP SPACE HABITATS

Nasa has put out the call for design proposals for deep space habitats which astronauts will call home on the long-haul journeys.

For manned missions to Mars and beyond astronauts will need a safe and relatively comfortable space to live for deep space missions.

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 39 of 52

The outbound leg of a trip to Mars could take anywhere from 150 to 300 days, depending on the positions of the planets, so the crew will need room to stretch their legs and enough shielding to protect them from high levels of DNA-shredding radiation.

The rise of private space ventures, such as Space X and Bigelow Aerospace, is opening up space exploration to collaborations which marry the expertise of state agencies with the business drive of the private sector.

Earlier this year, Crusan highlighted the importance of collaboration in pushing the boundaries of space exploration.

He said: 'Nasa is increasingly embracing public-private partnerships to expand capabilities, and opportunities in space.'

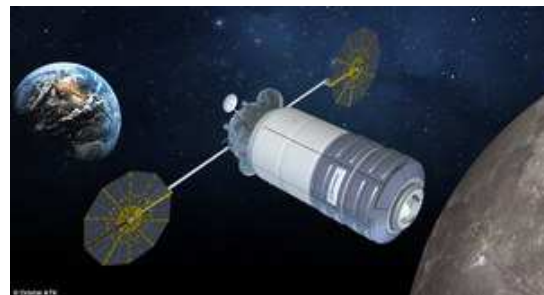
All of the habitat designs incorporate the same core components, including a pressurised space for the crew to live, along with environmental control and life support systems.

They will also include propulsion technology, docking capability as well as sufficient radiation shielding, to protect the crew inside from the harsh environment of space.

Building prototypes on the ground will enable extensive testing and provide Nasa and its partners crucial data on how the various systems interact.



+6 Lockheed Martin is working on a prototype of a refurbished logistics module (pictured), the general purpose modules used to deliver cargo to the ISS. The concept artwork illustrates an air lock hatch through which the crew can access the exterior to carry out maintenance work



+6 Another of the partners, Orbital ATK, will continue development of a habitat based on its unmanned Cygnus spacecraft (illustrated), which has also made successful delivery runs to the ISS

Boeing will develop a modular habitat based on the firm's experience gathered from working on the ISS for more than 15 years.

The full-scale prototype will be built on the ground to test the systems and the suitability as a habitat for astronauts for extended periods.

A second approach will see Lockheed Martin refurbish a multi-purpose logistics module, similar to the ones which carry cargo to the space station, while Orbital ATK will continue

The August 17th, 2016 Edition of THE REVENGE HUMPHDAY!

Page 40 of 52

development of a habitat based on its unmanned Cygnus spacecraft, which has also made successful delivery runs to the ISS.

+6 Sierra Nevada Corporation plans to use its Dream Chaser spacecraft along with an inflatable module, testing all systems together (illustrated)

One of the partners is basing its prototype of a low-Earth orbit plane to transport up to seven passengers.

Sierra Nevada Corporation plans to use its Dream Chaser spacecraft along with an inflatable module, testing all systems together.



The inflatable approach is already being tested in space, with Bigelow's expandable BEAM habitat installed aboard the space station.



The firm aims to expand on this success further with an even larger 330 cubic metre pod called the XBase.

The final partner is the Ixion Team, a conglomerate of three small aerospace space firms which will look at converting a rocket's launch stage into a pressurised habitat.

+6 Ixion Team is a conglomerate of three small

aerospace space firms which will look at converting a rocket's launch stage into a pressurised habitat (illustrated)

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PAIN RELIEVER ELIMINATES ALZHEIMER'S SYMPTOMS – IN MICE

Ben Coxworth August 12, 2016

<http://newatlas.com/author/ben-coxworth/>

Mefenamic acid is a non-steroidal anti-inflammatory drug, commonly used to relieve period pain. Thanks to research being conducted at The University of Manchester, however, it may eventually have another use – the treatment of Alzheimer's disease. In lab trials, it has reversed memory loss and brain inflammation in transgenic mice.



Mefenamic acid reversed memory loss in transgenic lab mice (Credit: Rama/CC 2.0)

Led by Dr. David Brough, the Manchester team worked with mice that were genetically altered to exhibit Alzheimer's-like symptoms. At the time of the experiments, the mice had begun to develop memory problems.

All 20 animals had mini-pumps implanted under their skin, for a period of one month. Those pumps delivered measured doses of mefenamic acid to ten of the mice, while the other ten received a placebo. At the end of the month, memory loss in mice receiving the acid had completely disappeared, while the placebo group remained unchanged.

"There is experimental evidence now to strongly suggest that inflammation in the brain makes Alzheimer's disease worse," says Brough. "Our research shows for the first time that mefenamic acid, a simple non-steroidal anti-inflammatory drug, can target an important inflammatory pathway called the NLRP3 inflammasome, which damages brain cells."

That said, what works on mice won't necessarily work on us, so human trials are now being planned. Should those also prove promising, it may not take long before widespread treatments subsequently begin.

"Because this drug is already available and the toxicity and pharmacokinetics of the drug is known, the time for it to reach patients should, in theory, be shorter than if we were developing completely new drugs," says Brough.

A paper on the research was recently published in the journal *Nature Communications*.

Source: The University of Manchester

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TURBO POWER MEETS EXTREME EFFICIENCY: INFINITI UNVEILS WORLD'S FIRST PRODUCTION ENGINE WITH VARIABLE COMPRESSION RATIOS

Loz Blain August 14, 2016



Infiniti's 2.0-liter, 4-cylinder, four cylinder VC-T engine can vary its cylinder compression ratios between 8:1 (allowing high turbo boost for maximum performance) and 14:1 (giving you maximum efficiency when you're cruising) (Credit: Infiniti)

Forget variable length intakes and variable valve timing, Infiniti is going all the way and introducing variable cylinder compression ratios. The new VC-T turbo engine automatically adjusts between a high-powered 8:1 and a hugely efficient 14:1 ratio as you drive.

As environmental protection measures continue to tighten the screws, combustion engine manufacturers are getting more and more creative in their efforts to squeeze more out of gasoline.

Here's a fascinating example: Infiniti is about to unveil the world's first production-ready variable compression ratio engine at this year's Paris Motor Show.

The Infiniti VC-T is a 2.0-liter 4-cylinder turbocharged petrol engine with the ability to raise and lower the stroke of its pistons, giving it a range of available compression ratios from 8:1 all the way up to 14:1.

The engine changes compression ratios depending on how you're driving; when you put your foot down and the turbo starts working hard, forcing a heap of air into the cylinder, the air-fuel mix becomes more likely to pre-detonate. That's why high-performance turbo engines need to run lower compression ratios – the Subaru WRX, for example, runs the same 8:1 ratio that the VC-T can at peak performance.



But when you're cruising, that's unnecessary and inefficient – you get significantly better fuel economy from a higher compression engine.

INFINITI VC-T ENGINE
COMPARISON OF VC-T TECHNOLOGY IN HIGH AND LOW COMPRESSION RATIOS



The VC-T engine constantly changes its ratio to give you high performance when you ask for it, and excellent economy when you don't. It does this using an actuator arm that changes the angle of a multi-link that sits around the crankshaft, raising and lowering the top and bottom points of the piston stroke without moving the crankshaft or the cylinder head.

But until batteries can offer all-day driving range or quick enough charging to make recharge stops practical (and do it all at a competitive price) we'll be stuck here marveling at the ingenuity of combustion engineers trying to wring every last drop out of last century's technology.

Source: Infiniti

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MARS SPACE STATION COULD PAVE WAY FOR 1ST FOOTSTEPS ON RED PLANET

By Mike Wall, Space.com Senior Writer | August 15, 2016 06:56am ET

<http://www.space.com/33692-mars-space-station-surface-missions.html>



Artist's illustration of the "Mars Base Camp" space station proposed by aerospace company Lockheed Martin. Credit: Lockheed Martin

Humanity may camp out for a year or so in Mars orbit to get ready for its

epic first trek to the Red Planet's surface.

The aerospace company Lockheed Martin recently proposed that NASA work with its international partners and private industry to set up a space station in Mars orbit by 2028. The astronauts working and living aboard this "Mars Base Camp" could help collect information that any future Red Planet explorer would need to know, the project's developers say.

"Before we send people to the surface of Mars, we owe it to that crew, to ourselves, to understand if there's life on the planet and if there's anything that's toxic to humans," said Steve Bailey, the president and chief engineer of the Colorado-based company Deep Space Systems Inc. "This mission will do those two very fundamental things." [The Search for Life on Mars (A Photo Timeline)]



Conditions make living on Mars extremely challenging. See how living on the Red Planet would be hard in this Space.com infographic. Credit: by Karl Tate, Infographics Artist

Bailey and Steve Jolly, chief engineer for civil space at Lockheed Martin, discussed the Mars Base Camp idea July 27 during a presentation with NASA's Future In-Space Operations (FISO) working group.

HABITABLE? NO

Mars' air is about 1 percent the density of Earth's, and is composed of more than 95 percent carbon dioxide. Lacking a magnetic field like Earth's, Mars cannot deflect harmful radiation that comes from space.

GRAVITY
MARS = 0.38
EARTH = 1.0

AVERAGE TEMPERATURE
MARS = 210K
EARTH = 288K
(Kelvin scale)

LENGTH OF DAY
MARS = 24.65 HOURS
EARTH = 24 HOURS

LENGTH OF YEAR
MARS = 687 DAYS
EARTH = 365 DAYS

Mars has two tiny potato-shaped moons, Phobos and Deimos. They are 14 miles (22.5 kilometers) and 8 miles (12.8 km) across, respectively.

© 2011 NASA, JPL/NOAA/ESA/LOCKHEED MARTIN

SPACE

THE MARS BASE CAMP PLAN

NASA is currently developing a capsule called Orion and the huge Space Launch System (SLS) rocket to get astronauts to Mars and other distant destinations.

Orion has flown once, on an uncrewed test flight in December 2014. The maiden flight of SLS is currently scheduled for late 2018, when the rocket will blast Orion on an unmanned, weeklong trip around the moon known as Exploration Mission-1 (EM-1).

"SLS is about to become operational; Orion is about to become operational," Bailey said. "What do we do with these vehicles? How do we best utilize those to get the highest bang for the buck for Mars science?"

The answer, according to the Lockheed plan, is to build a 132-ton (120 metric tons) Red Planet space station, the core of which would be composed of two Orions and two habitat modules/science laboratories. (For comparison, the International Space Station weighs about 440 tons, or 400 metric tons.)

Mars Base Camp could support up to six astronauts, who would stay aboard for about a year. These

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 46 of 52

crewmembers would ideally be career scientists who received astronaut training, rather than test pilots taught to do a little geology work, Jolly said.

"This is more like Jack Schmitt on Apollo 17 heading to Mars," Jolly said, referring to the geologist on NASA's last crewed moon mission in 1972. [Lunar Legacy: 45 Apollo Moon Mission Photos]

A YEAR AT MARS

Mars Base Camp crewmembers would be pretty busy. For example, Jolly said, they would likely analyze samples of Red Planet dirt and rock, poring over them for signs of past or present life.

Such material would presumably be collected by NASA's Mars 2020 rover and/or the European/Russian ExoMars rover, both of which are scheduled to launch in 2020. (There is currently no firm plan in place to get such samples off Mars and into orbit, however.)

From their lofty perch, the astronauts would also operate a dozen or so robotic "surface assets" — wheeled rovers, and perhaps also winged vehicles that would ply the Red Planet's sky. (This gear would be ready and waiting for the astronauts to arrive, having been sent to Mars via SLS in 2026.)

Such near-real-time robot control is not possible today, given the immense distance between Earth and Mars, and it could allow big discoveries to be made, Jolly said.

For instance, the robots could be sent to investigate transient phenomena on Mars, such as plumes of methane (a gas that may be a sign of life) or recurring slope lineae (RSL), intriguing dark streaks that occur seasonally and appear to be caused by liquid water.

"That's really something we're throwing out to the scientists — to imagine that you have this ability," Jolly said.

The Base Camp crew would also get to do some exploring of their own. The Lockheed plan envisions astronauts making two- to three-week sorties to Phobos and Deimos, the two tiny moons of Mars, to collect samples and perform other science work.

Such exploration would likely be accomplished with the aid of long-legged "spider walkers," which would provide stability in the microgravity environment, Bailey said. (Astronauts on Phobos and Deimos would feel just 0.04 percent the gravitational pull experienced here on Earth.)

Graphic showing the proposed steps leading to the launch of Lockheed Martin's envisioned "Mars Base Camp" space station. Credit: Lockheed Martin



ACHIEVABLE AND AFFORDABLE?

The August 17th, 2016 Edition of THE REVENGE HUMPH DAY!

Page 47 of 52

Making Mars Base Camp happen doesn't require any big technological leaps, Jolly said. The plan should be affordable as well, he added, given the amount of money NASA will spend in the near future in an attempt to get astronauts to Mars — the chief long-term goal of the agency's human-spaceflight program.

"Between the \$4 [billion] to \$9 billion a year that NASA will spend on exploration missions — and that includes both EM stuff and, obviously, [the International] Space Station — then, over a 10- or 15- or 20-year period, they will have spent \$50 to \$80 billion in total expenditures," Jolly said. ("EM stuff" refers to EM-1 and a series of other test flights involving Orion and SLS.)

Mars Base Camp would also stretch those dollars via reuse, Jolly said.

"We envision a series of missions using the same architecture, and the next one, or the one right after that, goes to the [Martian] surface," he said. "We're not ready to talk about that today, but we wanted to make sure that the community listening realizes this wasn't a one-off concept."

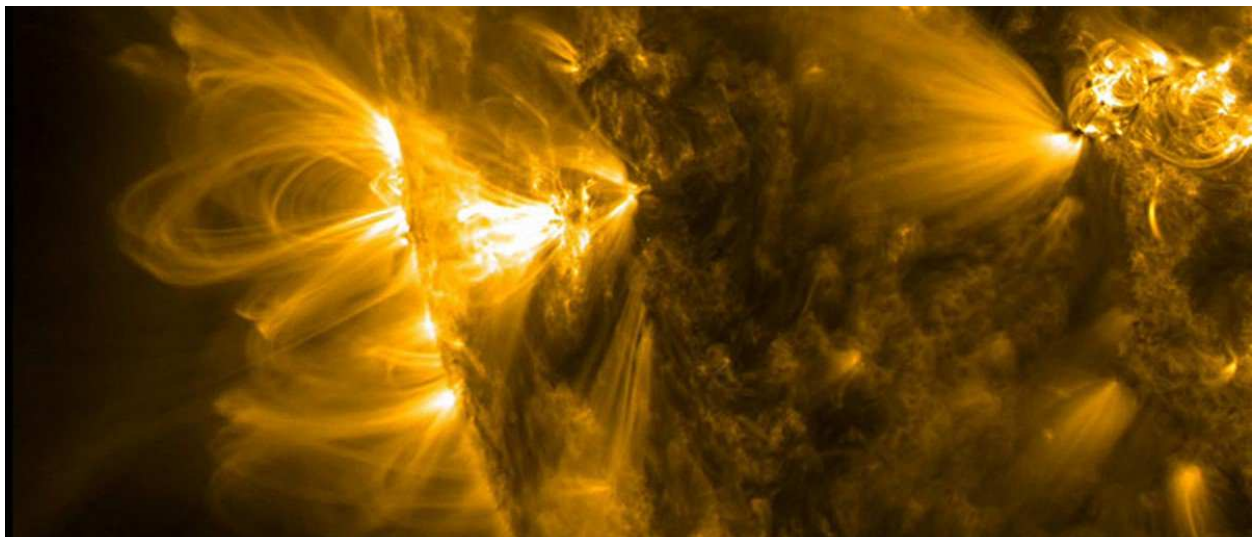
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From: Stephanie Osborn

SCIENTIST PREDICTS 'LITTLE ICE AGE,' GETS ICY RECEPTION FROM COLLEAGUES

MICHAEL BASTASCH, The Daily Caller News Foundation, 11:05 AM 08/09/2016

<http://dailycaller.com/2016/08/09/scientist-predicts-little-ice-age-gets-icy-reception-from-colleagues/#ixzz4H27qzi81>



NASA's Solar Dynamics Observatory image in extreme ultraviolet light shows an active region of the sun's coronal loops taken over about a two-day period, from February 8 - 10, 2014 and released on February 18, 2014. Coronal loops are found around sunspots and in active regions. These structures are associated with the closed magnetic field lines that connect magnetic regions on the solar surface. Many coronal loops last for days or weeks,

but most change quite rapidly. REUTERS/Solar Dynamics Observatory/NASA/Handout via Reuters?

Professor Valentina Zharkova at Northumbria University is being attacked by climate change proponents for publishing research suggesting there could be a 35-year period of low solar activity that could usher in an “ice age.”

Zharkova and her team of researchers released a study on sunspot modeling, finding that solar activity could fall to levels not seen since the so-called “Little Ice Age” of the 1600s. Zharkova’s conclusions may have huge implications for global temperature modeling, but her analysis is not accepted by some climate scientists.

“Some of them were welcoming and discussing. But some of them were quite — I would say — pushy,” she told The Global Warming Policy Forum (GWPF) in an interview on her solar study.

In fact, Zharkova said some scientists even tried to have her research suppressed.

I AM SHOCKED, SHOCKED I TELL YOU THAT THE PROPONENTS OF GLOBAL WARMING WOULD SEEK TO SUPPRESS SCIENTIFIC RESEARCH THAT DOESN'T AGREE WITH THEIR VIEW OF THE ORDER OF THE UNIVERSE. IT WOULD ALMOST SEEM THAT THEY VIEW THEIR SCIENTIFIC ENDEAVORS AS A RELIGION AND PEOPLE WHO DISAGREE WITH THEM AS HERETICS. UT

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NEW INTERNET SCAM

‘Ransomware’ Locks Computers, Demands Payment

<https://www.fbi.gov/news/stories/new-internet-scam>

There is a new “drive-by” virus on the Internet, and it often carries a fake message—and fine—purportedly from the FBI.

“We’re getting inundated with complaints,” said Donna Gregory of the Internet Crime Complaint Center (IC3), referring to the virus known as Reveton ransomware, which is designed to extort money from its victims.

Reveton is described as drive-by malware because unlike many viruses—which activate when users open a file or attachment—this one can install itself when users simply click on a compromised website. Once infected, the victim’s computer immediately locks, and the monitor displays a screen stating there has been a violation of federal law.

The bogus message goes on to say that the user’s Internet address was identified by the FBI or the Department of Justice’s Computer Crime and Intellectual Property Section as having been associated with child pornography sites or other illegal online activity. To unlock their machines, users are required to pay a fine using a prepaid money card service.



Example of monitor display when a computer is infected with Reveton ransomware. 08/09/12

“Some people have actually paid the so-called fine,” said the IC3’s Gregory, who oversees a team of cyber crime subject matter experts. (The IC3 was established in 2000 as a partnership between the FBI and the National White Collar Crime Center. It gives victims an easy way to report cyber crimes and provides law enforcement and regulatory agencies with a central referral system for complaints.)

“While browsing the Internet, a window popped up with no way to close it,” one Reveton victim recently wrote to the IC3. “The window was labeled ‘FBI’ and said I was in violation of one of the following: illegal use of downloaded media, under-age porn viewing, or computer-use negligence. It listed fines and penalties for each and directed me to pay \$200 via a MoneyPak order.

Instructions were given on how to load the card and make the payment. The page said if the demands were not met, criminal charges would be filed and my computer would remain locked on that screen.”

The Reveton virus, used by hackers in conjunction with Citadel malware—a software delivery platform that can disseminate various kinds of computer viruses—first came to the attention of the FBI in 2011. The IC3 issued a warning on its website in May 2012. Since that time, the virus has become more widespread in the United States and internationally. Some variants of Reveton can even turn on computer webcams and display the victim’s picture on the frozen screen.

“We are getting dozens of complaints every day,” Gregory said, noting that there is no easy fix if your computer becomes infected. “Unlike other viruses,” she explained, “Reveton freezes your computer and stops it in its tracks. And the average user will not be able to easily remove the malware.”

The IC3 suggests the following if you become a victim of the Reveton virus:
Do not pay any money or provide any personal information.

Contact a computer professional to remove Reveton and Citadel from your computer.

Be aware that even if you are able to unfreeze your computer on your own, the malware may still operate in the background. Certain types of malware have been known to capture personal information such as user names, passwords, and credit card numbers through embedded keystroke logging programs.

File a complaint and look for updates about the Reveton virus on the IC3 website.

Resources

- New e-scams and warnings
- Computer scams and safety webpage
- The IC3 website
- FBI Cyber Division

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SCIENTISTS WHO FOUND GLUTEN SENSITIVITY EVIDENCE HAVE NOW SHOWN IT DOESN'T EXIST

The scientific method in action.

JENNIFER WELSH, BUSINESS INSIDER, 19 AUG 2015

<http://www.sciencealert.com/scientists-who-found-evidence-for-gluten-sensitivity-have-now-shown-it-doesn-t-exist>

In one of the best examples of science working, a researcher who provided key evidence of (non-celiac disease) gluten sensitivity recently published follow-up papers that show the opposite.

The paper came out last year in the journal Gastroenterology. Here's the backstory that makes us cheer: The study was a follow up on a 2011 experiment in the lab of Peter Gibson at Monash University in Australia. The scientifically sound - but small - study found that gluten-containing diets can cause gastrointestinal distress in people without celiac disease, a well-known autoimmune disorder triggered by gluten. They called this non-celiac gluten sensitivity.

Gluten is a protein composite found in wheat, barley, and other grains. It gives bread its chewiness and is often used as a meat substitute: If you've ever had 'wheat meat', seitan, or mock duck at a Thai restaurant, that's gluten.

Gluten is a big industry: 30 percent of people want to eat less gluten. Sales of gluten-free products are estimated to hit \$US15 billion by 2016.

Although experts estimate that only 1 percent of Americans - about 3 million people - actually suffer from celiac disease, 18 percent of adults now buy gluten-free foods.

Since gluten is a protein found in any normal diet, Gibson was unsatisfied with his finding. He wanted to find out why the gluten seemed to be causing this reaction and if there could be something else going on. He therefore went to a scientifically rigorous extreme for his next experiment, a level not usually expected in nutrition studies.

For a follow-up paper, 37 self-identified gluten-sensitive patients were tested. According to Real Clear Science's Newton Blog, here's how the experiment went:

Subjects would be provided with every single meal for the duration of the trial. Any and all potential dietary triggers for gastrointestinal symptoms would be removed, including lactose (from milk products), certain preservatives like benzoates, propionate, sulfites, and nitrites, and fermentable, poorly absorbed short-chain carbohydrates, also known as FODMAPs. And last, but not least, nine days worth of urine and faecal matter would be collected. With this new study, Gibson wasn't messing around.

The subjects cycled through high-gluten, low-gluten, and no-gluten (placebo) diets, without knowing which diet plan they were on at any given time. In the end, all of the treatment diets - even the placebo diet - caused pain, bloating, nausea, and gas to a similar degree. It didn't matter if the diet contained gluten. (Read more about the study.)

http://www.realclearscience.com/blog/2014/05/gluten_sensitivity_may_not_exist.html

"In contrast to our first study... we could find absolutely no specific response to gluten," Gibson wrote in the paper. A third, larger study published this month has confirmed the findings.

It seems to be a 'nocebo' effect - the self-diagnosed gluten sensitive patients expected to feel worse on the study diets, so they did. They were also likely more attentive to their intestinal distress, since they had to monitor it for the study.

On top of that, these other potential dietary triggers - specifically the FODMAPS - could be causing what people have wrongly interpreted as gluten sensitivity. FODMAPS are frequently found in the same foods as gluten. That still doesn't explain why people in the study negatively reacted to diets that were free of all dietary triggers.

You can go ahead and smell your bread and eat it too. Science. It works.

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

From: "Martin L King Jr" kingjr_martin@yahoo.com

BENGAZI PROBE FINDS MARINES' RESPONSE WAS SLOWED BY UNIFORM CHANGES

Military.com | Jun 28, 2016 | by Hope Hodge Seck

The August 17th, 2016 Edition of THE REVENGE HUMP DAY!

Page 52 of 52

<http://www.military.com/daily-news/2016/06/28/benghazi-probe-finds-marines-response-slowed-uniform-changes.html>

A new congressional report on the Sept. 11, 2012, terrorist attack on a U.S. consulate in Benghazi, Libya, that left four Americans dead found that the [Marines](#) tasked with responding to the attack had to change in and out of uniform four times, slowing their arrival at the scene of the attack.

The 800-page report, released Tuesday by the House Select Committee on Benghazi, is the last in a series of Republican-authored probes into the attack and the response of administration officials. It provides nearly two dozen more details about the chain of events taken from the testimony of key leaders, detailing what are described as communication and intelligence failures and leadership gaps.

Among these were delays imposed on the 50-man Marine Fleet Anti-terrorism Security Team, or FAST, which launched from Rota, Spain, more than 2,000 miles away from Benghazi. The team was loaded onto [C-130 aircraft](#), but held on the ground for three hours before being allowed to take off.

According to the report, [Navy](#) Vice Adm. Kurt Tidd, then-director of operations for the Joint Chiefs of Staff, testified that the State Department had dithered about how to send forces into Libya without creating a larger international incident.

"State was very, very concerned about what the footprint would look like in Tripoli," Tidd said in testimony cited in the report. "They didn't want it to look like we were invading. That was the gist or that was the genesis of the discussion that occurred over whether or not when the FAST arrives at the airport in Tripoli -- because they wanted to reinforce security at the embassy -- but there was concern that it not have this image of a big, invading force."

The team was going to be transported in vehicles to the U.S. Embassy in Tripoli, Tidd said.

"And there was just concern of parading a bunch of trucks or buses full of Marines in uniform, what kind of image that would present, recognizing it was going to be daylight when they arrived," he said.

<SNIP>

IF YOU WANT TO YOU CAN GO TO THE WEBSITE TO READ THE REST OF THE ARTICLE. I COULDN'T STOMACH IT MYSELF. UT

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