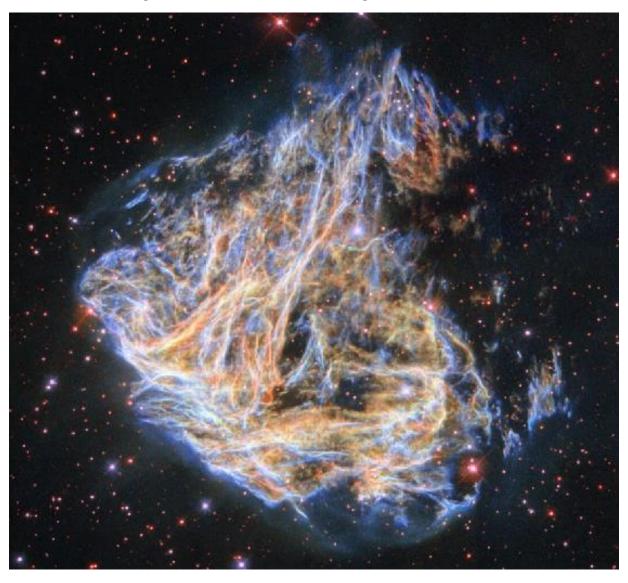
**Hubble Captures Fireworks Left by a Star's Violent Death** 



By Robert Lea

The supernova remnant is located in the Large Magellanic Cloud, a Milky Way satellite galaxy, and hides a rapidly spinning neutron star.

The colorful, wispy remains of a star's violent death glow like fireworks in a spectacular image captured by NASA's venerable space telescope.

Located in the Large Magellanic Cloud, a satellite galaxy of the Milky Way, the debris forms delicate sheets and intricate filaments of orange and blue. The stunning strands in the Hubble Space Telescope image are the remnants of a supernova, a powerful explosion triggered when a massive star reaches the end of its life.

Called DEM L 19 or LMC N49, the stellar remains are located around 160,000 light-years from Earth, in the constellation Dorado, and represent the brightest supernova remnant within the Large Magellanic Cloud, Hubble scientists wrote in a statement.

#### Dazzling imagery of supernova remnant holds clues about star's death

The colorful strands of gas glowing in orange and blue are the remains of a supernova triggered when a massive star reached the end of its life.

The colorful strands of gas glowing in orange and blue are the remains of a supernova triggered when a massive star reached the end of its life. (Image credit: ESA/Hubble & NASA, S. Kulkarni, Y. Chu)

The light from this explosion would have washed over Earth thousands of years ago, and the sheets and fine ropes of material that the supernova left behind will eventually become the building blocks of the next generation of stars in the Large Magellanic Cloud.

The 75-light-year-wide supernova debris cloud wasn't all the blast left behind, however. Scientists believe that this glowing cloud of material hides a rapidly spinning neutron star created when the core of the exploding massive star collapsed under the tremendous inward pressure of its own gravity.

This neutron star's mass is around that of the sun or greater, but it's condensed into the area of a city; it's so dense, in fact, that a teaspoon of the material within the neutron star would weigh 4 billion tons (3.6 billion metric tons). The ultradense stellar object is spinning once every 8 seconds, and its magnetic field is around a quadrillion times stronger than Earth's magnetosphere.

Astronomers discovered this neutron star in 1979, when it blasted out a dramatic, highenergy gamma-ray burst. Since then, it has emitted several more gamma-ray bursts, meaning it is now classified as a "soft gamma-ray repeater." Rapidly spinning neutron stars with strong magnetic fields blasting out radiation such as this one are also known as pulsars. The new image was created using data from two separate investigations of DEM L 19, one of which involved the Hubble Space Telescope's now-retired Wide Field Planetary Camera 2. The aim of this first investigation was to study how supernova remnants interact with the interstellar medium — the tenuous dust between stars — in the Large Magellanic Cloud. In particular, the team wanted to know how small clouds of gas and dust cause the supernova remnant to evolve and change its structure.

The aim of the second investigation was to study the gamma-ray repeater hidden within the cloud.

This isn't the first time that a stunning image of DEM L 190 has been presented to the public. In 2003, scientists released a Hubble image showing the supernova remnant as puffs of smoke and sparks.

The new image improves on the previous image by incorporating additional data and by taking advantage of advanced image processing techniques, leading to an even more eye-catching photo.

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You'd think that the part of the brain that used to remember phone numbers would take over remembering passwords! But Noooo!!!

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The inhabitants of North Rona



#### https://bit.ly/3Y5yhQT

North Rona lies on the outer reaches of the Outer Hebrides, one of the remotest islands in Europe. It lost its last significant population in the late 1600s, the island's inhabitants dying after a colony of black rats swarmed ashore from a shipwreck.

The island was largely used as pasture in the centuries after, by folk such as the King. Now owned by Scottish Natural Heritage, its inhabitants are a little less woolly -- and a lot more colorful.

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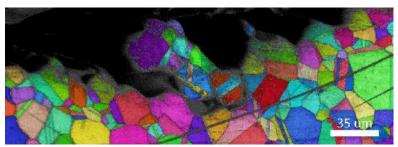
| VIA 9GA |       | ficial Canadian Temper                         | ature Conversion Chart                                 |  |  |
|---------|-------|--|--|--|--|
| oF      | °C    | INTERNATIONAL                                  | CANADA   |  |  |
| 50      | 10    | New Yorkers attempt<br>to turn on the heat     | Canadians plant gardens                                |  |  |
| 40      | 4.4   | Californians shiver uncontrollably             | Canadians sunbathe                                     |  |  |
| 35      | 1.6   | Italian cars won't<br>start                    | Canadians drive with the windows down                  |  |  |
| 32      | 0     | Distilled water freezes                        | Canadian water gets thicker                            |  |  |
| 0       | -17.9 | New York City<br>landlords turn on the<br>heat | Canadians have the last cookout of the season          |  |  |
| -40     | -40   | Hollywood<br>disintegrates                     | Canadians watch Pay Per View                           |  |  |
| -60     | -51   | Mt. St. Helens freezes                         | Canadian Girl Guides sell<br>cookies door-to-door      |  |  |
| -100    | -73   | Santa abandons the<br>North Pole               | Canadians pull down their ear flaps                    |  |  |
| -173    | -114  | Ethyl alcohol freezes                          | Canadians get frustrated<br>because the keg won't thaw |  |  |
| -460    | -273  | Absolute zero – all atomic motion stops        | Canadians start saying, "She's cold, eh?"              |  |  |
| -500    | -295  | Hell freezes over                              | The Toronto Maple Leafs win the<br>Stanley Cup         |  |  |

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#### Remember this from Last Month?

#### **Uncovering the Tiny Defects that Make Materials Fail**

Complementary microscopy and spectroscopy techniques can reveal the underlying atomic-scale mechanisms behind a material's degradation



Electron backscatter diffraction (EBSD) of a crack edge. Each colour is a grain where the crystal lattice is aligned at a difference angle.

(Courtesy: Interface Analysis Centre, University of Bristol, UK)

https://bit.ly/3W8vuoe

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#### How SWOT Will Look at the World's Water

The international Surface Water and Ocean Topography mission will provide highdefinition data on the salt- and fresh water on Earth's surface.



https://bit.ly/3iTJBiM

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It's a Good Thing the F-35's \$400K Helmet Is Stupid Cool

With a state-of-the-art helmet and an airframe packed with intelligent sensors, augmented reality is a major part of the F-35 fighter jet.



Airman 1st Class Ridge Shan/U.S. Air Force

If you think it's hard to make a helmet that costs \$400,000 without the liberal use of solid-gold elements or diamond-encrusted details, you don't know about the F-35 fighter jet.

To go with what is possibly the most expensive and complicated weapon ever designed, a joint venture between defense contractor Rockwell Collins and Elbit Systems of America (RCEVS) designed a pilot helmet so advanced, it's hard to say whether it's an accessory for the plane, or the plane is an accessory for the helmet.1

The head unit, made with help from Lockheed Martin (which designed the F-35) is way more than a protective shell. Built around a custom-fitted insert based on a 3-D scan of the pilot's noggin, it combines noise-canceling headphones, night vision, a forehead-mounted computer, and a projector---not so different from the one in your office's conference room---that displays live video on its clear visor.

"This helmet was designed along with the aircraft itself," says Major Will Andreotta of the US Air Force. He flew combat missions in Afghanistan in an F-16, and now trains prospective F-35 pilots at Luke Air Force Base in Arizona.

The helmet comes in any color you like, as long as you pick dark green. It weighs four to five pounds, as much as a football helmet. Considering the technology it's packing, it's surprisingly light on the head, with the center of gravity comfortably around the ears. The forehead-mounted computer isn't nearly as hefty as it looks. Still, RCEVS is working to take out another half pound, says Rob McKillip, senior director of fighter and trainer solutions for Rockwell Collins. He says RCEVS hopes to bring down the cost, too, before the Air Force starts deploying the F-35 (the jet should be declared combat ready

later this year). "Those improvements might be added incrementally, or as part of a major update."

To make the helmet work as designed, plug it into a \$100 million F-35 Lightning II joint strike fighter. There's no Bluetooth or Wi-Fi here; a Kevlar-sheathed bundle of cords cascades down the side of the shell, providing input/output options for the plane's communication system and computers. When tethered to the plane, the helmet gives pilots the combined visual capabilities of Superman and Iron Man, if they were flying Wonder Woman's invisible plane.

The pilot can see through the base and walls of the aircraft, thanks to six cameras mounted outside the F-35. The "Distributed Aperture System" provides a 360-degree view of the plane's surroundings, stitching together feeds from the corresponding external cameras based on where the pilot's looking. It labels objects in her field of view with distance, bearing, speed, and altitude. Unsurprisingly cagey on how that works exactly, a Lockheed Martin spokesperson simply said, "There are a number of sensors on the helmet and in the aircraft that allow us to accurately track the precise position of the helmet in space."

If the pilot feels that something she sees should be hit by a missile, or just wants a closer look, all she has to do it look at it to lock on, then flip a switch to zoom in, or fire away. Even when she's looking elsewhere, the plane's sensors are constantly looking for threats and keeping track of nearby wingmen, projecting relevant info onto the inside of the helmet's visor. The fitting process includes measuring the pilot's interpupillary distance, to ensure a sharp picture.

While the ocular projectors seem like the most futuristic aspect of the headgear, the military's been using helmet-mounted displays since the 1980s. The key difference with this dome protector is the way it collates and visualizes info from all the plane's systems. "It's all tied together, sort of an organic system," Andreotta says. And if it all goes to crap, the pilot can get the same info on the cockpit's touchscreen displays.

#### **Luke Generation III helmet**

The helmet lets the pilot see well beyond her field of vision. Because the F-35 communicates with neighboring planes, one pilot can see what her fellows are targeting in their heads-up displays. (The helmet itself can only be used with the F-35, but pilots can share data from the plane's systems with F-16s and other aircraft.)

Compared to the gear used in other military aircraft, the F-35 helmet's night-vision camera is also a key advantage. At the flip of a switch, it simplifies a task that was dangerously complicated with the helmet that comes with the F-16, F-15, and F-18. "When I was flying combat in Afghanistan, I was flying a lot of day-to-night missions," Andreotta says. "During nighttime, I had to take off part of my helmet, literally while

flying a plane in dangerous conditions, add a bracket to hold the night-vision goggles, and then put it on. My wingman had to do that at a separate time, because while I had my helmet off I had no communication with anybody."

But when the F-35 finally takes off, its pilots will be better equipped from the neck up. Now if only they could do something about the onboard "toilet."

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#### T.S. Eliot



Eliot's The Waste Land is widely considered one of the most important poems of the 20th century, shifting fromn satire to prophecy with abrupt and unannounced changes of speaker, location, and time and conjuring a vast and dissonant range of cultures and literatures.

The poem is divided into five sections. The first, "The Burial of the Dead", introduces the diverse themes of disillusionment and despair. The second, "A Game of Chess", employs alternating narrations, in which vignettes of several characters address those themes experientially. "The Fire Sermon", the third section, offers a philosophical meditation in relation to the imagery of death and views of self-denial in juxtaposition, influenced by Augustine of Hippo and Eastern religions. After a fourth section, "Death by Water", which includes a brief lyrical petition, the culminating fifth section, "What the Thunder Said", concludes with an image of judgment.

#### The Waste Land



For Ezra Pound Il Miglior Fabbro

#### I. The Burial of the Dead

April is the cruellest month, breeding
Lilacs out of the dead land, mixing
Memory and desire, stirring
Dull roots with spring rain.
Winter kept us warm, covering
Earth in forgetful snow, feeding
A little life with dried tubers.
Summer surprised us, coming over the Starnbergersee
With a shower of rain; we stopped in the colonnade,
And went on in sunlight, into the Hofgarten,
And drank coffee, and talked for an hour.
Bin gar keine Russin, stamm' aus Litauen, echt deutsch.
And when we were children, staying at the archduke's,

My cousin's, he took me out on a sled, And I was frightened. He said, Marie, Marie, hold on tight. And down he went. In the mountains, there you feel free. I read, much of the night, and go south in the winter. What are the roots that clutch, what branches grow Out of this stony rubbish? Son of man, You cannot say, or guess, for you know only A heap of broken images, where the sun beats, And the dead tree gives no shelter, the cricket no relief, And the dry stone no sound of water. Only There is shadow under this red rock, (Come in under the shadow of this red rock), And I will show you something different from either Your shadow at morning striding behind you Or your shadow at evening rising to meet you; I will show you fear in a handful of dust.

> Frisch weht der Wind Der-Heimat zu Mein Irisch Kind, Wo weilest du?

"You gave me Hyacinths first a year ago;
"They called me the hyacinth girl."
—Yet when we came back, late, from the hyacinth garden,
Your arms full, and your hair wet, I could not
Speak, and my eyes failed, I was neither
Living nor dead, and I knew nothing,
Looking into the heart of light, the silence.
Oed' und leer das Meer.

Madame Sosostris, famous clairvoyante,
Had a bad cold, nevertheless
Is known to be the wisest woman in Europe,
With a wicked pack of cards. Here, said she,
Is your card, the drowned Phoenician Sailor,
(Those are pearls that were his eyes. Look!)
Here is Belladonna, the Lady of the Rocks,
The lady of situations.
Here is the man with three staves, and here the Wheel,
And here is the one-eyed merchant, and this card,
Which is blank, is something he carries on his back,
Which I am forbidden to see. I do not find
The Hanged Man. Fear death by water.

I see crowds of people, walking round in a ring. Thank you. If you see dear Mrs. Equitone, Tell her I bring the horoscope myself:
One must be so careful these days.

Unreal City, Under the brown fog of a winter dawn, A crowd flowed over London Bridge, so many, I had not thought death had undone so many. Sighs, short and infrequent, were exhaled, And each man fixed his eyes before his feet. Flowed up the hill and down King William Street, To where Saint Mary Woolnoth kept the hours With a dead sound on the final stroke of nine. There I saw one I knew, and stopped him, crying: "Stetson! "You who were with me in the ships at Mylae! "That corpse you planted last year in your garden, "Has it begun to sprout? Will it bloom this year? "Or has the sudden frost disturbed its bed? "O keep the Dog far hence, that's friend to men, "Or with his nails he'll dig it up again! "You! Hypocrite lecteur!—mon semblable,—mon frère!"

#### **II. A Game of Chess**

The Chair she sat in, like a burnished throne, Glowed on the marble, where the glass Held up by standards wrought with fruited vines From which a golden Cupidon peeped out (Another hid his eyes behind his wing) Doubled the flames of sevenbranched candelabra Reflecting light upon the table as The glitter of her jewels rose to meet it, From satin cases poured in rich profusion. In vials of ivory and coloured glass Unstoppered, lurked her strange synthetic perfumes, Unquent, powdered, or liquid—troubled, confused And drowned the sense in odours; stirred by the air That freshened from the window, these ascended In fattening the prolonged candle-flames, Flung their smoke into the laquearia, Stirring the pattern on the coffered ceiling. Huge sea-wood fed with copper Burned green and orange, framed by the coloured stone, In which sad light a carvèd dolphin swam.

Above the antique mantel was displayed
As though a window gave upon the sylvan scene
The change of Philomel, by the barbarous king
So rudely forced; yet there the nightingale
Filled all the desert with inviolable voice
And still she cried, and still the world pursues,
"Jug Jug" to dirty ears.
And other withered stumps of time
Were told upon the walls; staring forms
Leaned out, leaning, hushing the room enclosed.
Footsteps shuffled on the stair.
Under the firelight, under the brush, her hair
Spread out in fiery points
Glowed into words, then would be savagely still.

"My nerves are bad to-night. Yes, bad. Stay with me. "Speak to me. Why do you never speak? Speak. "What are you thinking of? What thinking? What? "I never know what you are thinking. Think."

I think we are in rats' alley Where the dead men lost their bones. "What is that noise?"

The wind under the door. "What is that noise now? What is the wind doing?" Nothing again nothing.

"Do

You know nothing? Do you see nothing? Do you remember "Nothing?"

I remember Those are pearls that were his eyes. "Are you alive, or not? Is there nothing in your head?"

But

O O O O that Shakespeherian Rag— It's so elegant So intelligent

"What shall I do now? What shall I do? I shall rush out as I am, and walk the street

With my hair down, so. What shall we do tomorrow? What shall we ever do?"

The hot water at ten.

And if it rains, a closed car at four. And we shall play a game of chess, Pressing lidless eyes and waiting for a knock upon the door.

When Lil's husband got demobbed, I said— I didn't mince my words, I said to her myself, HURRY UP PLEASE ITS TIME

Now Albert's coming back, make yourself a bit smart.

He'll want to know what you done with that money he gave you

To get yourself some teeth. He did, I was there.

You have them all out, Lil, and get a nice set,

He said, I swear, I can't bear to look at you.

And no more can't I, I said, and think of poor Albert,

He's been in the army four years, he wants a good time,

And if you don't give it him, there's others will, I said.

Oh is there, she said. Something o' that, I said.

Then I'll know who to thank, she said, and give me a straight look.

HURRY UP PLEASE ITS TIME

If you don't like it you can get on with it, I said.

Others can pick and choose if you can't.

But if Albert makes off, it won't be for lack of telling.

You ought to be ashamed, I said, to look so antique.

(And her only thirty-one.)

I can't help it, she said, pulling a long face,

It's them pills I took, to bring if off, she said.

(She's had five already, and nearly died of young George).

The chemist said it would be all right, but I've never been the same.

You are a proper fool, I said.

Well, if Albert won't leave you alone, there it is, I said,

What you get married for if you don't want children?

HURRY UP PLEASE ITS TIME

Well, that Sunday Albert was home, they had a hot gammon,

And they asked me in to dinner, to get the beauty of it hot—

HURRY UP PLEASE ITS TIME

HURRY UP PLEASE ITS TIME

Goonight Bill. Goonight Lou. Goonight May. Goonight.

Ta ta. Goonight. Goonight.

Good night, ladies, good night, sweet ladies, good night, good night.

#### III. The Fire Sermon

The river's tent is broken; the last fingers of leaf Clutch and sink into the wet bank. The wind Crosses the brown land, unheard. The nymphs are departed. Sweet Thames, run softly, till I end my song.

The river bears no empty bottles, sandwich papers, Silk handkerchiefs, cardboard boxes, cigarette ends

Or other testimony of summer nights. The nymphs are departed. And their friends, the loitering heirs of City directors; Departed, have left no addresses.

By the waters of Leman I sat down and wept . . .

Sweet Thames, run softly till I end my song,

Sweet Thames, run softly, for I speak not loud or long.

But at my back in a cold blast I hear

The rattle of the bones, and chuckle spread from ear to ear.

A rat crept softly through the vegetation Dragging its slimy belly on the bank While I was fishing in the dull canal On a winter evening round behind the gashouse Musing upon the king my brother's wreck And on the king my father's death before him. White bodies naked on the low damp ground And bones cast in a little low dry garret, Rattled by the rat's foot only, year to year. But at my back from time to time I hear The sound of horns and motors, which shall bring Sweeney to Mrs. Porter in the spring. O the moon shone bright on Mrs. Porter And on her daughter They wash their feet in soda water Et O ces voix d'enfants, chantant dans la coupole!

Twit twit twit
Jug jug jug jug jug
So rudely forc'd.
Tereu

Unreal City
Under the brown fog of a winter noon
Mr. Eugenides, the Smyrna merchant
Unshaven, with a pocket full of currants
C.i.f. London: documents at sight,

Asked me in demotic French To luncheon at the Cannon Street Hotel Followed by a weekend at the Metropole.

At the violet hour, when the eyes and back Turn upward from the desk, when the human engine waits Like a taxi throbbing waiting, I Tiresias, though blind, throbbing between two lives, Old man with wrinkled female breasts, can see At the violet hour, the evening hour that strives Homeward, and brings the sailor home from sea, The typist home at teatime, clears her breakfast, lights Her stove, and lays out food in tins. Out of the window perilously spread Her drying combinations touched by the sun's last rays, On the divan are piled (at night her bed) Stockings, slippers, camisoles, and stays. I Tiresias, old man with wrinkled dugs Perceived the scene, and foretold the rest— I too awaited the expected quest. He, the young man carbuncular, arrives, A small house agent's clerk, with one bold stare, One of the low on whom assurance sits As a silk hat on a Bradford millionaire. The time is now propitious, as he guesses, The meal is ended, she is bored and tired, Endeavours to engage her in caresses Which still are unreproved, if undesired. Flushed and decided, he assaults at once; Exploring hands encounter no defence; His vanity requires no response, And makes a welcome of indifference. (And I Tiresias have foresuffered all Enacted on this same divan or bed; I who have sat by Thebes below the wall And walked among the lowest of the dead.) Bestows one final patronising kiss, And gropes his way, finding the stairs unlit . . .

She turns and looks a moment in the glass, Hardly aware of her departed lover; Her brain allows one half-formed thought to pass: "Well now that's done: and I'm glad it's over." When lovely woman stoops to folly and Paces about her room again, alone,
She smooths her hair with automatic hand,
And puts a record on the gramophone.
"This music crept by me upon the waters"
And along the Strand, up Queen Victoria Street.
O City city, I can sometimes hear
Beside a public bar in Lower Thames Street,
The pleasant whining of a mandoline
and a clatter and a chatter from within
Where fishmen lounge at noon: where the walls
Of Magnus Martyr hold
Inexplicable splendour of Ionian white and gold.

The river sweats

Oil and tar

The barges drift

With the turning tide

Red sails

Wide

To leeward, swing on the heavy spar.

The barges wash

**Drifting logs** 

Down Greenwich reach

Past the Isle of Dogs.

Weialala leia

Wallala leialala

Elizabeth and Leicester

Beating oars

The stern was formed

A gilded shell

Red and gold

The brisk swell

Rippled both shores

Southwest wind

Carried down stream

The peal of bells

White towers

Weialala leia

Wallala leialala

"Trams and dusty trees.

Highbury bore me. Richmond and Kew Undid me. By Richmond I raised my knees Supine on the floor of a narrow canoe." "My feet are at Moorgate, and my heart Under my feet. After the event

He wept. He promised 'a new start.'
I made no comment. What should I resent?"
"On Margate Sands.
I can connect
Nothing with nothing.
The broken fingernails of dirty hands.
My people humble people who expect
Nothing."

la la

To Carthage then I came

Burning burning burning
O Lord Thou pluckest me out
O Lord Thou pluckest

burning

#### IV. Death by Water

Phlebas the Phoenician, a fortnight dead, Forgot the cry of gulls, and the deep sea swell And the profit and loss.

A current under sea

Picked his bones in whispers. As he rose and fell He passed the stages of his age and youth Entering the whirlpool.

Gentile or Jew

O you who turn the wheel and look to windward, Consider Phlebas, who was once handsome and tall as you.

#### V. What the Thunder Said

After the torchlight red on sweaty faces
After the frosty silence in the gardens
After the agony in stony places
The shouting and the crying
Prison and palace and reverberation
Of thunder of spring over distant mountains
He who was living is now dead
We who were living are now dying
With a little patience

Here is no water but only rock
Rock and no water and the sandy road
The road winding above among the mountains
Which are mountains of rock without water
If there were only water amongst the rock
Amongst the rock one cannot stop or think
Sweat is dry and feet are in the sand
If there were only water amongst the rock
Dead mountain mouth of carious teeth that cannot spit
Here one can neither stand nor lie nor sit
There is not even silence in the mountains
But dry sterile thunder without rain
There is not even solitude in the mountains
But red sullen faces sneer and snarl
From doors of mudcracked houses

If there were water

And no rock
If there were rock
And also water
And water
A spring
A pool among the rock
If there were the sound of water only
Not the cicada
And dry grass singing
But sound of water over a rock
Where the hermit-thrush sings in the pine trees
Drip drop drip drop drop drop
But there is no water

Who is the third who walks always beside you? When I count, there are only you and I together But when I look ahead up the white road There is always another one walking beside you Gliding wrapt in a brown mantle, hooded I do not know whether a man or a woman—But who is that on the other side of you?

What is that sound high in the air
Murmur of maternal lamentation
Who are those hooded hordes swarming
Over endless plains, stumbling in cracked earth
Ringed by the flat horizon only
What is the city over the mountains
Cracks and reforms and bursts in the violet air

Falling towers
Jerusalem Athens Alexandria
Vienna London
Unreal

A woman drew her long black hair out tight
And fiddled whisper music on those strings
And bats with baby faces in the violet light
Whistled, and beat their wings
And crawled head downward down a blackened wall
And upside down in air were towers
Tolling reminiscent bells, that kept the hours
And voices singing out of empty cisterns and exhausted wells.

In this decayed hole among the mountains
In the faint moonlight, the grass is singing
Over the tumbled graves, about the chapel
There is the empty chapel, only the wind's home.
It has no windows, and the door swings,
Dry bones can harm no one.
Only a crock stood on the rooftree
Co co rico co co rico
In a flash of lightning. Then a damp gust
Bringing rain

Ganga was sunken, and the limp leaves Waited for rain, while the black clouds Gathered far distant, over Himavant. The jungle crouched, humped in silence. Then spoke the thunder

DA

Datta: what have we given?
My friend, blood shaking my heart
The awful daring of a moment's surrender
Which an age of prudence can never retract
By this, and this only, we have existed
Which is not to be found in our obituaries
Or in memories draped by the beneficent spider
Or under seals broken by the lean solicitor
In our empty rooms

DA

Dayadhvam: I have heard the key Turn in the door once and turn once only We think of the key, each in his prison Thinking of the key, each confirms a prison Only at nightfall, aethereal rumours Revive for a moment a broken Coriolanus DA

Damyata: The boat responded
Gaily, to the hand expert with sail and oar
The sea was calm, your heart would have responded
Gaily, when invited, beating obedient
To controlling hands

I sat upon the shore

Fishing, with the arid plain behind me
Shall I at least set my lands in order?
London Bridge is falling down falling down falling down
Poi s'ascose nel foco che gli affina
Quando fiam ceu chelidon—O swallow swallow
Le Prince d'Aquitaine à la tour abolie
These fragments I have shored against my ruins
Why then Ile fit you. Hieronymo's mad againe.
Datta. Dayadhvam. Damyata.

Shantih shantih shantih

-----

After you've had a chance to recover from this, I may treat you to Prufrock

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#### The first apple..



A woman ran a red traffic light and crashed into a man's car. Both of their cars are demolished, but amazingly neither of them was hurt. After they crawled out of their cars, the woman said; "Wow, just look at our cars!

There's nothing left, but fortunately we are unhurt. This must be a sign from God that we should meet and be friends and live together in peace for the rest of our days."

The man replied, "I agree with you completely. This must be a sign from God!

The woman continued, "And look at this, here's another miracle. My car is completely demolished, but my bottle of 75 year old scotch didn't break. Surely God meant for us to drink this vintage delicacy and celebrate our good fortune."

Then she handed the bottle to the man. The man nods his head in agreement, opened it, drank half the bottle and then handed it back to the woman. The woman took the bottle, immediately put the cap back on, and handed it back to the man.

The man asks, "Aren't you having any?"

She replies, "Nah. I think I'll just wait for the police."

Many years ago, Adam ate the apple. It seems men will never learn.

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#### **Self-Taught AI Shows Similarities to How the Brain Works**



Self-supervised learning allows a neural network to figure out for itself what matters. The process might be what makes our own brains so successful.

https://bit.ly/3BoWkQL

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#### Who Won the Air War?

A Strange and Unexpected Story of Cold War Intrigue



Hans Probst Measureboots

#### https://youtu.be/T0BINjztAT8?t=4

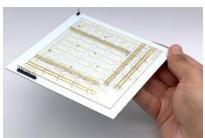
Victory in the air was the key to winning the Cold War. Despite billions of dollars spent by the USAF and NATO on the best planes, the most advanced radar systems and missiles, and the finest pilot training, the outcome may have been decided by a little boot company in West Germany.

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## **Handheld Diagnostic Platform Could Help Combat Epidemics**



Palm-sized platform The UCLA-developed handheld diagnostic lab kit is capable of fully automated multiplexed and pooled testing.

(Courtesy: Kiarash Sabet/UCLA)

#### https://bit.ly/3FLfLWQ

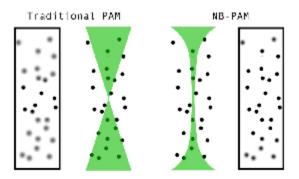
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#### **Seeing More with a Needle-Shaped Laser**



Photoacoustic microscopy (PAM) is a relatively new imaging technique that uses laser light to induce ultrasonic vibrations in tissue. These ultrasonic vibrations, along with a computer that processes them, can then be used to create an image of the structures of the tissue in much the same way ultrasound imaging works.

https://www.caltech.edu/about/news/seeing-more-with-a-needle-shaped-laser



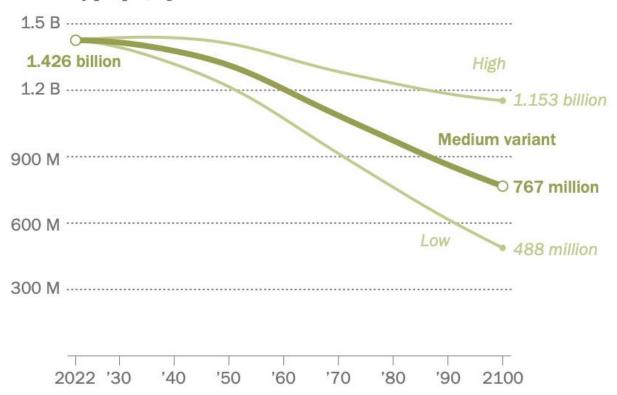
Traditional photoacoustic microscopy (PAM) (left) compared to needle-shaped photoacoustic microscopy (NB-PAM) (right). In traditional PAM, only objects near the focal point of the laser are imaged sharply. In NB-PAM, the longer, narrower beam allows objects over a greater range of depth to be clearly imaged.

Credit: Caltech

## **Key Facts About China's Declining Population**

# China's population is likely to fall below a billion people before 2100

Number of people, by variant



Note: May differ from national census figures. The medium variant is the middle-of-the-road estimate provided by the UN; high and low variant scenarios involve total fertility being 0.5 births above or below the medium scenario, respectively.

Source: UN Population Division's World Population Prospects: The 2022 Revision.

#### PEW RESEARCH CENTER

bit.ly/3PkqJFO

Why Some People Want To Come Back to the Office? Maybe It's Actually to do Some Work.



eosfurniture.com

People crave spaces that facilitate focused work, but many offices still aren't designed for the way people work most effectively.

After nearly three years of a global pandemic and months, if not years, of working from home, the main thing drawing workers back to their offices is the desire to simply focus on their work. But at the same time, offices in the U.S. have hit a 15-year low when it comes to how effective they are for enabling focused work.

This troubling mismatch is one of the top takeaways from the 2022 U.S. Workplace Survey from the Gensler Research Institute, the research arm of the global architecture

Top Reasons are shown in the following graphic:

#### 2022 U.S. Workplace Survey from the Gensler Research Institute

"As designers, we know those are the two areas where we really have to focus," says Janet Pogue McLaurin, Gensler's global director of workplace research.

These findings are somewhat counterintuitive, especially through the lens of the pandemic, when workers placed a higher priority on returning to the office so they could collaborate with others. In 2022, collaboration is still luring people back in—with meetings, teamwork, and team socializing ranking 3rd, 5th, and 8th among the most important reasons to come to the office. But teamwork is no longer the main reason workers are there.

Gensler has conducted the survey periodically since 2008, and the latest report is based on responses from 2,000 workers in 10 industries across the U.S. Collected through a third party, the anonymous respondents are not Gensler clients.

Comparing the 2022 results to years past, Pogue McLaurin says it's not shocking that "focusing on work" nabbed the survey's top ranking. But it is striking that, while people say they want to come back to the office to get their work done, they also report that their offices are not well suited or conducive to actually doing that. Workers continue to have trouble focusing on solo work in offices as they're currently designed. When asked how well the office environment shields them from noisy interruptions or distractions,

workers rated offices poorly. In fact, while being able to work alone without interruption in the typical workspace has declined over time, the 2022 results put that concept at an all-time low.

https://tinyurl.com/599bne5u

[Image: Gensler]

"We dug into it a little bit deeper and we found that 69% of working alone requires deep concentration. To us, that's the big nugget," Pogue McLaurin says. "We have to solve for that. We have to create spaces that help people, particularly, for that deep focus work."

From a design perspective, Pogue McLaurin says there are things Gensler and other office designers can do to improve the workspace, including providing more semi-enclosed areas for quieter work, and building more private-focus rooms, where people can duck away from the noise and interruptions of the general office space. According to the survey, the most valuable and most effective office amenity is a "quiet/tech-free zone."

If companies want to see more of their employees coming back to work, they may want to consider implementing the kinds of quiet, focus-centric spaces people actually want.

Nate Berg is a staff writer for Fast Company. He is based in Detroit.

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## One of the World's Most Contagious Diseases is Resurfacing and Scientists Are Worried



Image credit: andriano.cz/Shutterstock.com

Vaccination rates for childhood diseases that once killed millions have plunged since the pandemic started, and measles in particular has scientists worried.

### https://bit.ly/3WbZyPS

#### The WHO Report

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#### Béla Bartók (1881-1945)



The renowned Hungarian composer, pianist, ethnomusicologist, and music teacher is, along with Franz Liszt, counted amongst the greatest composers from Hungary. Famous for his work in folk music and for founding the discipline of comparative musicology--or ethnomusicology--he is also considered one of the most important composers of the 20<sup>th</sup> century.

His interest in folk music developed while teaching music at the Royal Academy for Music, where he started researching old Magyar folk melodies in 1908 with his lifelong friend Zoltán Kodály.

3<sup>rd</sup> Concerto for Piano <a href="https://www.youtube.com/watch?v=IPW-jpGCZC4">https://www.youtube.com/watch?v=IPW-jpGCZC4</a>

Magnificent Mandarin <a href="https://www.youtube.com/watch?v=OidFaXxTP6U">https://www.youtube.com/watch?v=OidFaXxTP6U</a>

Mikrokosmos Book Two <a href="https://youtu.be/">https://youtu.be/</a> T7xW6vhuGs

As a struggling 11 year old piano student, I was drawn to the strange (compared to the works of more familiar composers) sonorities of Bartok's Mikrokosmos. It wasn't until years later that I listened to recordings of the works played by real pianists and wished I hadn't mangled the works so thoroughly.

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What's a Group without a Lead Singer?



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## This is the Worst Business Jargon of 2022

On the latest episode of 'The New Way We Work,' Fast Company editors debate the worst business jargon of all time and decide which word needs to be eliminated from our vocabulary.



https://bit.ly/3FSFOLI

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**This Japanese Train Runs on Leftover Ramen Broth** 

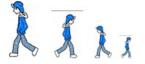


https://mymodernmet.com/japanese-train-runs-on-ramenbroth/?utm\_source=join1440&utm\_medium=email&utm\_placement=newsletter

To transform this fatty broth into biodiesel, the company separates lard from leftover pork bone soup and then refines it using a special method that avoids hardening.

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#### **My Walking Thoughts**



## For Sunday January 8 2023

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#### **Future War**

Emerging in the Ukraine is a new type of warfare quite removed from that has held sway since our Civil War.

In World War I firepower came to the fore. A quarter century later logistics teamed with firepower to determine the difference between winners and losers. But today it is becoming increasingly clear that technology adds a frightening level of uncertainty to the equation.

I read a recent opinion piece by a respected observer who proposed that we were approaching a time when warfare would be waged by machines against machines...men

no longer necessary for its prosecution. At this moment there may be truth in his assertion, but for how long?

I propose from what we're seeing in the Ukraine that we are just a heartbeat away from the end of mechanized warfare. Within two years--five at the most—we will see the deployment of technologies-- electromotive force disruptors for instance--that will render useless the machines and intelligence tools that form the basis of modern battlefield might. From there--hardly a heartbeat later--the productive effort of our modern society could be rendered impotent. What then?

Some among us seem to believe this will lead to the end to the necessity for warfare, but to others it appears more likely to propel us back to the time when cudgels, fists, teeth, and pikes were the tools of destiny.

Or perhaps there are other options.

Any thoughts?

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#### **Outtakes from Phantoms from Vietnam**

#### George Nakano.

One week it was Gordon's turn to walk to the Nakano's farm to await the school bus, where he and George would throw rocks at the crows who joined them in their daily ritual. The next it would be George's turn to make the trek when their feathered playmates, anticipating the altered venue, would take their place on the fence rails a mile to the west.

Gordon and George had been doing this for the two years since they started Kindergarten. Now three months into the second grade where they struggled mightily with reading and cursive exercises, their rock-throwing range line had moved from the road verge to the south side of the drainage ditch to "give the birds a chance," they agreed. If the crows were aware of this sporting concern they didn't show it, choosing instead to keep up a steady taunting racket as their part of the event.

Mr. Keller who drove the school bus was as much a participant as the boys and birds, knowing where they would be when he arrived to transport them to PS 645, the county school system's primary school—grades one through eight. This was important because George's farm was a mile closer to the North-South county road than Gordon's, nominally a minute and a half difference in their boarding time. Mr. Keller's internal clock timed his arrival to allow the boys a full five minutes of rock-throwing time. If he had a choice in the matter Mr. Keller would have parked the bus and joined in the fun, but the school board would have looked with disfavor on such behavior.

Farming practices in Southern San Joaquin Valley were on the cusp of change—the shift to irrigation—though many including Uncle Joe and George's father Ralph, were in no rush to go more deeply in debt than they already were in the face of rising costs.

In defense of increased interest charges, Sam Taylor, branch manager at the Farmers & Ranchers Bank in Bakersfield, explained that the culprit was the nation's emergence from the Great Depression.

"More projects chasing scarce dollars," he explained. "It'll settle down before long. By this time next year, the economy should be cooking."

"Hogwash," disagreed Frank Sedge whose feed store felt the money crunch every bit as much as did his customers. "It's all the stuff we're sending to Europe. They can call it Lend-Lease all they want, but it's paid for by us."

"We've got no business getting involved in another European War," Ralph Nakano said, voicing the thoughts of his fellow Deacons of the Calvary Baptist Church at their weekly meeting at Scotty's Corner Restaurant.

"Ralph Jr. turns 16 in two months and he's set to go Cal-Poly over in San Luis Obispo. Let the Brits and Germans kill each other all they want. Just leave us out of it."

"Can't you guys cut out your bitching," Pastor Jacobs pleaded, waving his arms the same way he did from the pulpit every Sunday morning. "Our Thanksgiving celebration was the best I can remember," he reminded the group, "and if Jud Bailey at the Sears store up in Bakersfield is telling the truth, Santa's going to be really busy this year."

Uncle Joe had raised Gordon's weekly allowance from a nickel to a dime at the beginning of the past summer, but the real windfall came at harvest time when his labors added \$27.50 to his account at the bank, bringing his total wealth to \$32.76, six cents of which, pointed out Mr. Taylor, came from interest, as he handed over the latest deposit slip.

"The more you have in your account, the more interest you earn," he advised with great solemnity. Then taking Gordon's hand as he would his largest depositor, he added, "The bank thanks you for your trust and support."

Their financial duties completed, Uncle Joe led Gordon and George to the Rexall Drug Store where Mr. Symonds, the proprietor, pharmacist, and sometime soda jerk performed his magic on two scoops of vanilla ice cream bathed in chocolate syrup, a smidgen of what he called his special potion, three squirts of soda water, a ferocious stirring in his blender, the resulting elixir slavered with a generous helping of whipped cream topped by a cherry.

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