

FIVE-DIMENSIONAL BLACK HOLE COULD 'BREAK' GENERAL RELATIVITY

Researchers have shown how a bizarrely shaped black hole could cause Einstein's general theory of relativity, a foundation of modern physics, to break down. However, such an object could only exist in a universe with five or more dimensions.

The researchers, from the University of Cambridge and Queen Mary University of London, have successfully simulated a black hole shaped like a very thin ring, which gives rise to a series of 'bulges' connected by strings that become thinner over time. These strings eventually become so thin that they pinch off into a series of miniature black holes, similar to how a thin stream of water from a tap breaks up into droplets.

Ring-shaped black holes were 'discovered' by theoretical physicists in 2002, but this is the first time that their dynamics have been successfully simulated using supercomputers. Should this type of black hole form, it would lead to the appearance of a 'naked singularity', which would cause the equations behind

general relativity to break down. The results are published in the journal Physical Review Letters.

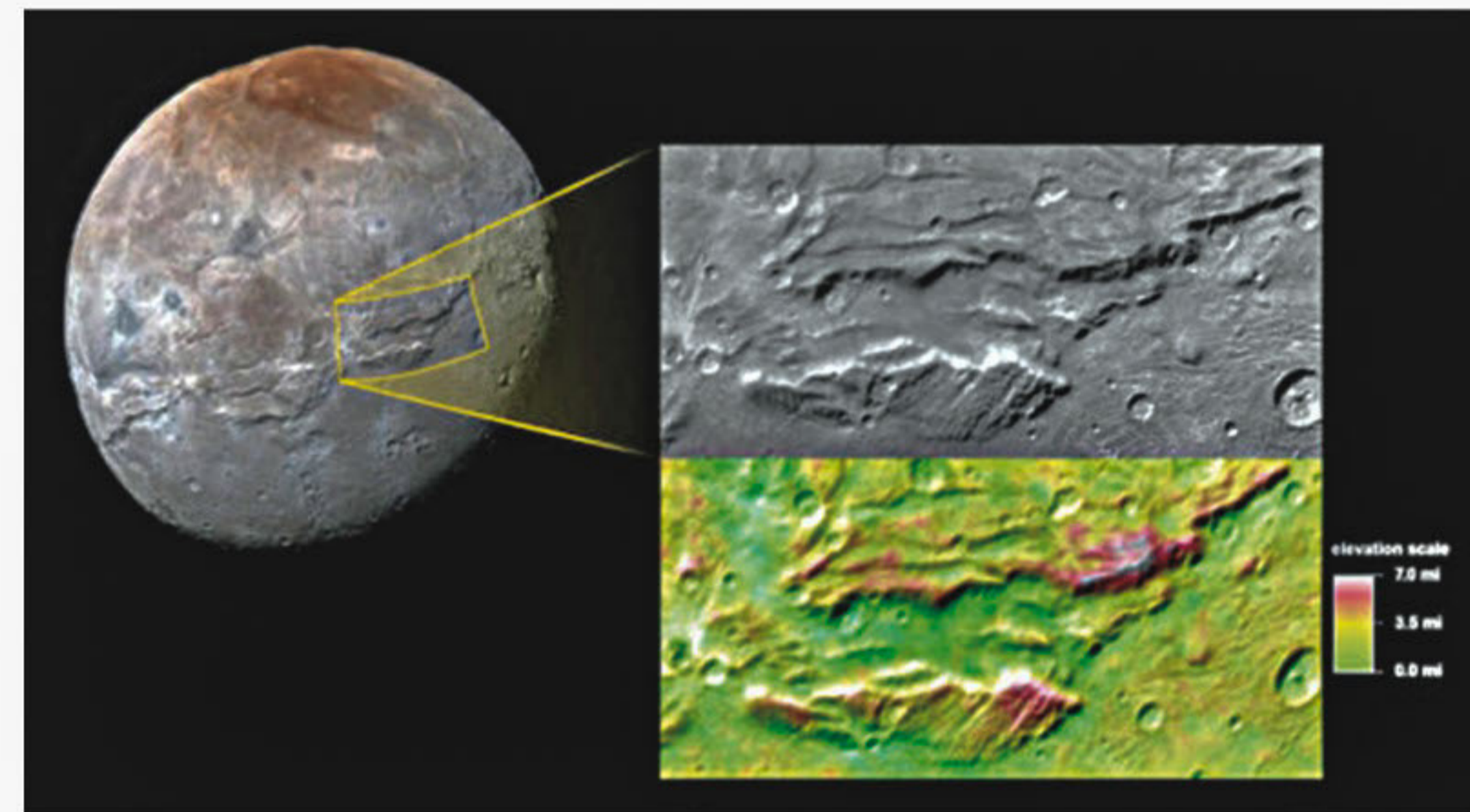
General relativity underpins our current understanding of gravity: everything from the estimation of the age of the stars in the

universe, to the GPS signals we rely on to help us navigate, is based on Einstein's equations. In part, the theory tells us that matter warps its surrounding spacetime, and what we call gravity is the effect of that warp. In the 100 years since it was published, general relativity has passed every test that has been thrown at it, but one of its limitations is the existence of singularities.



QUIRKY SCIENCE

POSSIBLE ANCIENT OCEAN ON PLUTO'S MOON



Pluto's largest moon may have gotten too big for its own skin.

Images from NASA's New Horizons mission suggest that Pluto's moon Charon once had a subsurface ocean that has long since frozen and expanded, pushing outward and causing the moon's surface to stretch and fracture on a massive scale.

The side of Pluto's largest moon viewed by NASA's passing New Horizons spacecraft in July 2015 is characterized by a system of "pull apart" tectonic faults, which are expressed as ridges, scarps and valleys – the latter sometimes reaching more than 4 miles (6.5 kilometers) deep. Charon's tectonic landscape shows that, somehow, the moon expanded in its past,

and – like Bruce Banner tearing his shirt as he becomes the Incredible Hulk – Charon's surface fractured as it stretched.

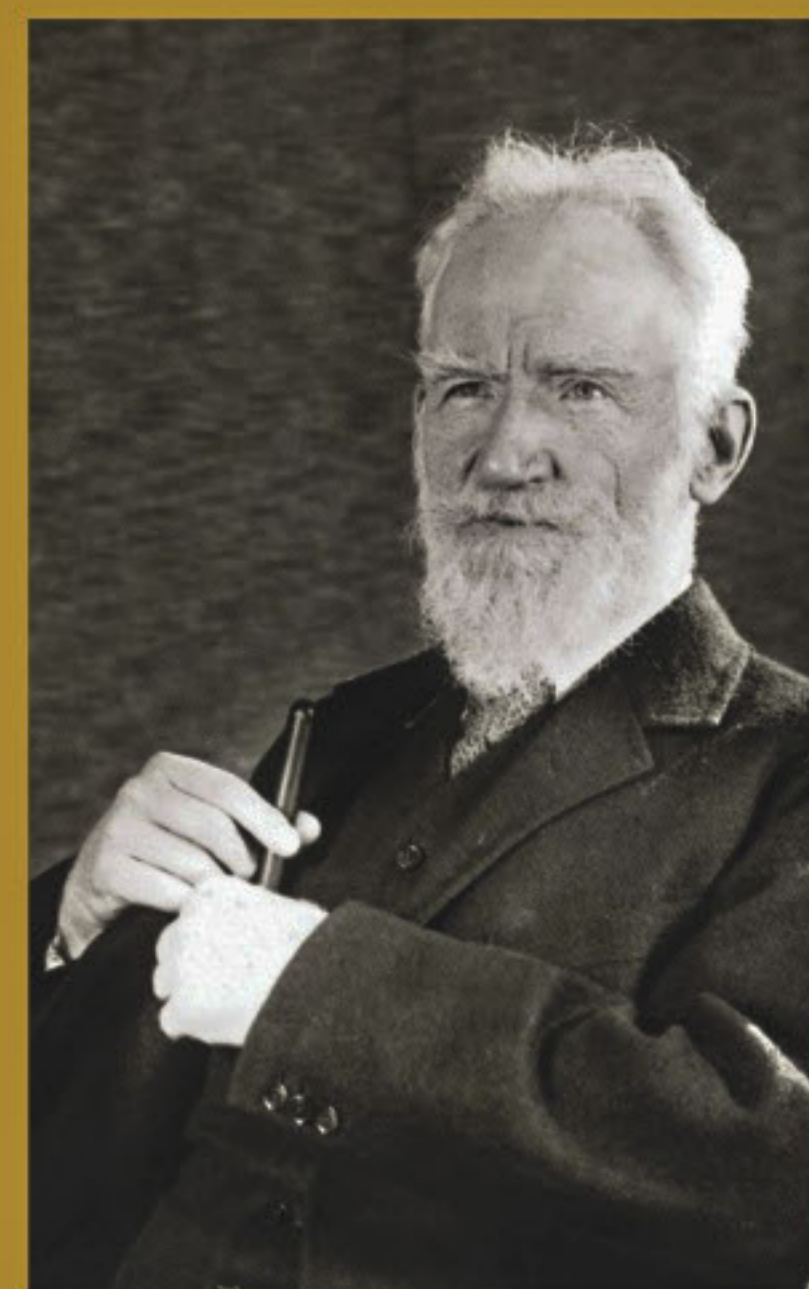
The outer layer of Charon is primarily water ice. This layer was kept warm when Charon was young by heat provided by the decay of radioactive elements, as well as Charon's own internal heat of formation. Scientists say Charon could have been warm enough to cause the water ice to melt deep down, creating a subsurface ocean. But as Charon cooled over time, this ocean would have frozen and expanded (as happens when water freezes), lifting the outermost layers of the moon and producing the massive chasms we see today.

Source: Sciencedaily.com

PEARLS OF WISDOM

"IF YOU TALK TO A MAN IN A LANGUAGE HE UNDERSTANDS, THAT GOES TO HIS HEAD. IF YOU TALK TO HIM IN HIS LANGUAGE, THAT GOES TO HIS HEART."

NELSON MANDELA
South African anti-apartheid revolutionary, politician, and philanthropist



"WE UNDERSTAND THE BEAUTY OF OUR MOTHER TONGUE WHEN WE ARE ABROAD."
GEORGE BERNARD SHAW
Irish playwright, critic and controversialist

"FOR US INDIANS, I DON'T THINK ENGLISH CAN EVER EXUDE THAT MAGIC OF EMOTIONS WHICH OUR MOTHER TONGUE CAN."
KAILESH KHER
Indian musician



HERITAGE

AS MAGNIFICENT AS A MUGHAL

M H HAIDER
PHOTOS: PRABIR DAS

Dhaka's status as a city of mosques is surely not a new one. A travel poster, printed presumably during the Pakistan rule, reads, 'Dacca: The City of Mosques & Muslim', hinting that the notion of this city being one of many beautiful mosques had existed perhaps even before the birth of Bangladesh.

This repute owes much to the Mughal period, when builders dotted the city with magnificent mosques.

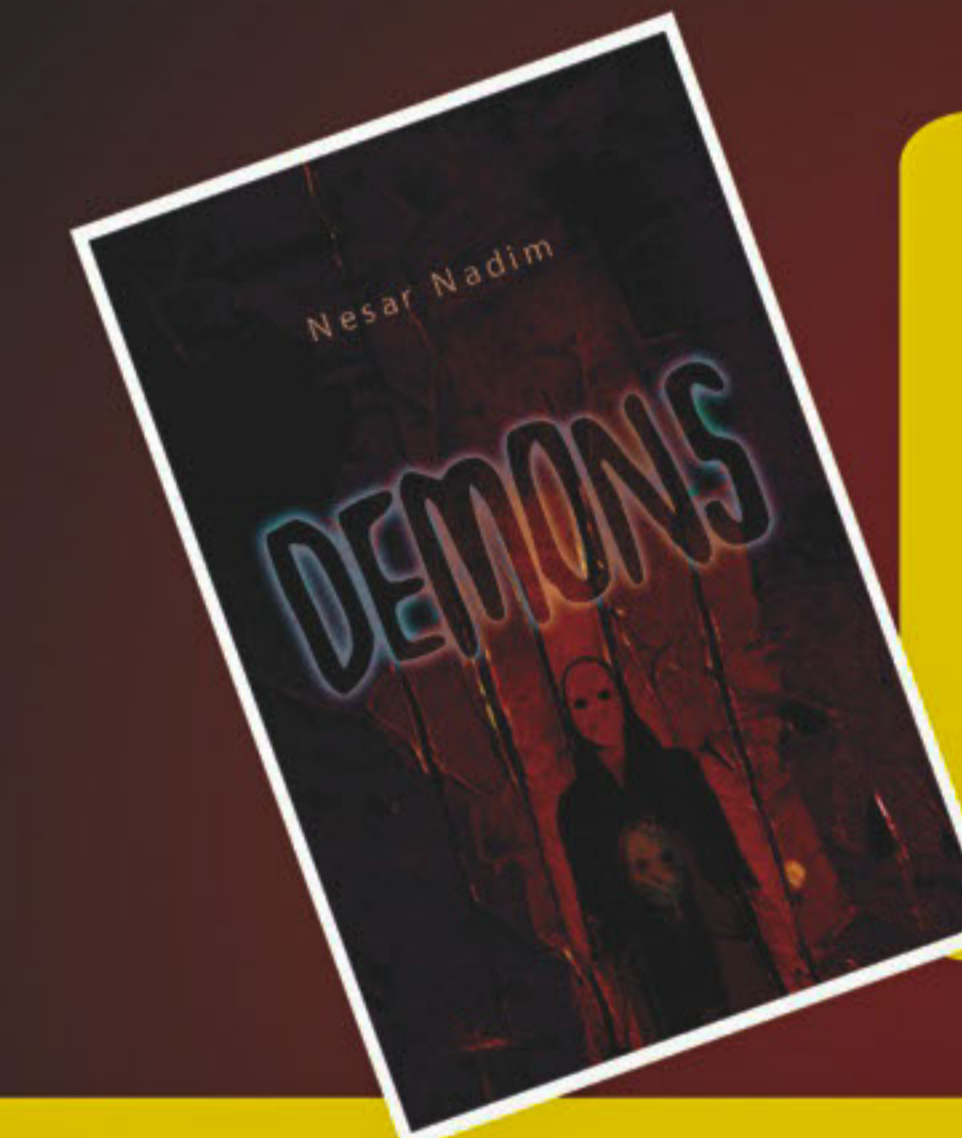
One glorious illustration is Khan Mohammad Mridha Mosque. Less than a ten-minute walk from Lalbagh Fort, this majestic place of worship was built in 1706, by one Khan Mohammad Mridha, by the order of Kazi Ibadullah, who was probably the Chief Judge at the time.

As you approach the premises of the more than 300-year-old building, the first few glimpses - comprising of magnificent domes, minarets, front yard and a strong, robust staircase - will take you aback.



Surrounded by modern-day apartments and the hustle and bustle of the locality, the compound is a refreshing historical oasis that will immediately take you to the long gone Mughal era.

First horror novel written in English by a Bangladeshi.



There is something much worse than the creatures lurking in the dark.

NESAR NADIM'S
DEMONS

বইটি পাওয়া যাচ্ছে অমর একুশে গ্রন্থমেলায় ডেইলি স্টার বুকসের ২৩৫-৩৬ নং স্টলে।



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Overlooking the gardens, the mosque is located on a raised platform, which you can reach through a short flight of stairs - about 25 steps, made of black basalt stone. At the top of the staircase is a beautiful gateway, entering through which you will be on the platform.

Much of the platform is under the open sky; a portion of it hosts a small prayer hall. This prayer hall is roofed by three domes, with the central one larger than those on either side - a common feature of many Mughal mosques in Dhaka. The corner minarets, attached to the building, rise above the parapet and are crowned by cupolas.

Enter the prayer chamber through arched doorways. Once inside the room, you might be shocked at how small the space really is; in congregation, just about three rows of worshippers can stand inside.

The chamber is a very peaceful one, cutting off many of the noises from the

street. With the 'spacious' domes, the alcoves and the mihrabs, a sense of antiquity and spirituality is all around.

The digital clock on the wall and the modern buildings in very close proximity of the mosque, however, do ruin the atmosphere to some extent!

Nevertheless, the grandeur of the mosque still manages to be overpowering, owing to the beauty of the magnificent Mughal architecture.

One may argue that the compound has seen worse days. F.B. Bradley-Birt wrote in The Romance of an Eastern Capital (published in 1906), "The mosque has fallen now on evil days, the lower floor being used as stalls for the municipal bullocks, and furnishing a barely sufficient income to pay for the muezzin and to light the mosque at sundown."

From there, it has indeed come a long way. The mosque, today, is in relatively good condition, and is a must-visit. ■