

#EXTINCTION

Asteroids Wiped Out Dinosaurs

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Scientists have found evidence of an asteroid impact crater beneath the North Atlantic Ocean that could force researchers to rethink how the dinosaurs reached the end of their reign. The researchers believe the crater was caused by an asteroid colliding with Earth around 66 million years ago.

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Polynesian country of Tonga on January 15. "These are preliminary simulations and need to be refined when we get more data," Bray says, "but they provide important new insights into the possible ocean depths in this area at the time of impact."

That's around the same time that the Chicxulub asteroid hit Earth off the coast of today's Yucatan, Mexico and wiped out the dinosaurs. Researchers discovered the crater which spans more than 5 miles in diameter using seismic measurements which allow scientists to probe what lies deep below Earth's surface.

Named after a nearby seamount the Nadir crater is buried up to 1,300 feet below the seabed about 250 miles off the coast of Guinea, West Africa. The team believes the asteroid that created the newly discovered Nadir crater could have formed by breakup of a parent asteroid or by a swarm of asteroids in that time period. If confirmed, the crater will be one of less than 20 confirmed marine impact craters found on Earth.

3,000 Foot High Tsunami
Researchers including co-author Veronica Bray, a research scientist in the University of Arizona Lunar and Planetary Laboratory, used computer simulations to determine what kind of collision took place and what the effects might have been. The simulations suggest the crater was caused by the collision of a 1,300-foot-wide asteroid in 1,600 to 2,600 feet of water.

"This would have generated a tsunami over 3,000 feet high, as well as an earthquake of more than 6.5 magnitude," says Bray, who specializes in craters found throughout the solar system.

Although it is a lot smaller than the global cataclysm of the Chicxulub impact, Nadir will have contributed significantly to the local devastation. And if we have found one 'sibling' to Chicxulub, it opens the question: Are there others?"

The estimated size of the asteroid would put it roughly on par with asteroid Bennu, the target of the NASA asteroid sample return mission OSIRIS-REx.

According to Bray's calculations, the energy released from the impact that caused the Nadir crater would have been around 1,000 times greater than the tsunami caused by the underwater eruption of the Hunga Tonga-Hunga Ha'apai volcano in the

In Mousumi Banerjee's painting, the morning light appears to emerge through the greyish mist. As it fades, the silhouette of a bus becomes visible flanked by shops with rain protection shades. Old residential buildings inside smaller lanes seldom exceeded 3 or 4 storeys. They did not have lifts. The building's reflection seemed to cause patterns with the splash of moving traffic on the doused streets. The dome and minarets of a big mosque expresses itself in the skyline.



Painting of Calcutta during the Rains – by Mousumi Banerjee.

KOLKATA

#MEMORIES

ensuring that the day progressed with some definiteness. Public transport normally started around 6 am. Rickshaw pullers became visible at back alley turns reclining in their 'parked' rickshaws waiting for the odd early morning customers. They knew the value of starting their day early. The foot-controlled bells of trams reach the ear, as do the sound of the buses. The rickshaw pullers hand-bell becomes audible very close by, deftly maneuvering around pedestrians and other vehicles as the decibel level rises. Poverty drives the rickshaw puller to work long hours. It was the most versatile mode of conveyance during the monsoons. When other forms of transportation stopped it was the hand pulled rickshaw that became indispensable - gradually evaporating from sight, impossible to locate.

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The Tipu Sultan Mosque.

Sultan Mosque, located opposite the famous KC Das's Rossogolla shop, which has been a cornerstone for decades located at the crossing where the Central Avenue extends to meet the Chowringhee Road, in Esplanade.

The painting took me back to my earliest impressions of Calcutta as a school boy. We lived in Tollygunge, a nascent semi urban locality in South Calcutta, known for being the hub of Bengal's film industry. But it was in the more Central part of the city - where my maternal grandfather (Dadu/Nanaji) lived, i.e. abutting the CIT Road area that connected Park Circus & Don Bosco School to the Entally/Moulali 'mor' and then meeting the Lower Circular Road, since renamed Acharya Jagdish Chandra Bose Road - where I learnt more about the city network.

The municipality in the CIT Road was visibly more active. On late nights during Durga Puja, I have memories of municipal workers spraying water on the roads with canvas hose reels connected to the roadside water hydrants. I remember the Bhishti, an old tribe of water carriers - now rarely seen in the city - wash the smaller gullies with water sprinkled from goat skin bags. The hand cart garbage collection boys moved in pairs ahead of the water hydrant cleaner, removing the day's accumulated garbage from the sides of the roads.

It was in this colonial capital port city of the British East India Company where the poorest migrant labourer from Bihar and other

neighbouring states toiled with their sweat and blood to eke out a living. The luckier ones among them even managed to make a paltry saving for a better future, anna by anna. It was common to see a handmade cloth pouch filled with coins tucked inside the waist girdle of a lungi or dhoti or even safely concealed inside a double tunic pocket (Chor pocket) stitched inside the top left side of the shirt pocket.

Paper money was seldom seen with the middle class, mostly limited to Rs 1 or Rs 2. A Rs 5 note was very rare as those were the years of the more 4 and 8 anna one had, the more prosperous he was perceived to be by his peers! Many migrants came to Calcutta from neighbouring states hoping to strike the proverbial gold. It was whispered in hushed voices that the streets of the Strand Road and Burra bazaar were paved with gold, just as it was believed by their Oriental brethren in Kowloon, Hong Kong, a century back. One had to see it with that eye. The Strand Road extended from Howrah Bridge to Princep Ghat.

School & getting a road sense
South Point School is located in Mandeville Gardens, Ballygunge Place, where we studied. It was considered among the better-known schools, along with La Martiniere College, Loreto Convent, Don Bosco and St James School. The bus rides made me familiar with my bearings of the major network of arterial roads particularly the one that led to Rash Behari Avenue. This road connected Gariahat to the Netaji SC Bose Road turning left to Tollygunge. The other route from



Satyajit Ray during a film shoot.



International Whale Shark Day

International Whale Shark Day has been designed so that we can celebrate and increase awareness about these amazing sea-dwelling creatures. We need to protect and conserve the whale shark as their numbers are declining. These gentle giants fascinate aquatic enthusiasts and marine biologists alike, yet it's up to us to make sure that their number is increased, as well as their habitat and futures is protected.

Gariahat led along the broad Ballygunge Circular Road, leading to the Park Circus. These were important information for me to store for my survival in case I ever got stranded. If nothing else my legs would carry me to the safety of my Dadu's (Nanaji) house on CIT road.

Surviving in the rains

In Calcutta when it rains, it pours! There would be immense water logging in low lying areas. Buses and trams came to a standstill and commuting back home became very difficult for both students and anxious parents. Matters became worrisome for anxious parents in the absence of phones. Darkness would envelope us, worsened by the ever-tripping power supply. The under-bridge low dipping roads - such as the one near the Tollygunge Tram depot, had over 2 feet waist high water logging during heavy rains. The Tollygunge under-bridge was located left to the emerging Sarat Chandra Chatterjee Road that flanked beautiful gardens surrounding the Anderson Lake (now Rabindra Sarobar) on to Netaji Subhash Chandra Road.

Those with that extra rupee in their pocket were lucky on rainy days. The ubiquitous hand pulled rickshaw seemed to vanish from the roads making it difficult even to cross from one side to the other. Their charges would shoot up as the rickshaw puller saw his opportunity to make the quick buck. They would wait on one side to ferry a more prosperous looking pedestrian across the road for a ridiculously high sum of Rs 1, and at times more. They knew that unaccompanied school kids did not carry much money. During such moments we had no choice but to wade through the water logged areas and walk back home. It was an immense

our garden to pluck the season's first guavas, Chikoo or even plucking mangoes from the neighbour's trees that gave the thrill. It was fun flying kites in winter afternoons from the rooftop with the big guys, and decorating the cornices of the house with candles during Diwali. Manjha (glass edged kite string) for the kites was never bought ready made from the market. They were made by dada (our elder brother) with homemade glue and powdered glass. I was an apprentice. Safety was learnt the hard way.

Snacking for the common man was in the tea stalls with cha bishkutt, jhaal muri and phuchka (Gol Gappa). It was a thrill to see vendors selling their jhaal muri and phuchka from a big basket mounted on a bamboo stand. Affordable snacks for the middle class were - chaa bishkutt, shingara (small samosa) or lucheae aloor torkari (aloo puri), and the 'must have' Mishti (sweets), that seemed to be available in every lane.

The joy of home meals.....

All our meals were cooked at home. Eating out was only while visiting relatives. Eating in hotels was strictly taboo. Quite simply, they were not affordable. The joy of eating during childhood included Dadu's or Nanu's (grandma's) simple home cooked recipes and mother's easy to make delicious fare.

On school days, apart from the usual 'soaked and boiled' eggs or Quaker oats Dalia, which mother would prepare for breakfast, the day breaker would be at 7am. It would comprise a home recipe of 'doodh rooti' (shreds of leftover chapatis from the previous night soaked in sweetened milk and banana cuts), or toasted milk bread slices smeared with Polson's butter, jam and a cup of hot milk.



Tollygunge Club.

The feeling of nostalgia one gets by just looking at the Victoria Memorial against the dramatic dark clouds remain as few of my favourites of the Calcutta of the 50's.

relief to reach home, however late, to the waiting arms of our worried parents, a hot bath and change of clothes. This would be followed by a cup of hot milk. The phrase 'Home Sweet Home' never felt sweeter! Of course, the fully soaked squelching Bata Toughie school shoes had to be dried overnight next to a heater, to be ready for the next day. But such rainy days were rare.

Playtime

Weekends were play time. Joy in the late 50's was simple. In the absence of modern day conveniences fun came in many other simple forms. It was playing games with the other boys in our neighbourhood like garden badminton, gully tennis ball cricket, Gilli Danda (a local game), latu (spinning tops) or kancha/goli (marbles). Table tennis was improvised on our big dining table. But it was climbing tree trunks in



A typical Puja meal.



The fish market.

Mahisapur. All the senses would awaken to the sound of the 'Dhaak' (big drums beaten by a tribe of drummers called 'Dhaaki's'), the clanging of the brass plates, while the sound of the conch shell would rent the air.

At my maternal grandparents' house on Maha Ashtami, lunch would be served on a banana leaf comprising a starter of a fry (bhaji) of a vegetable either 'begun, kumro, kowla or potol' (brinjal/red pumpkin, karela or parwal) smeared with turmeric and salt; a fish curry - Maachher jhol or a mustard Hilsa, a dal (masoor or moong) tempered with onion seeds (black jeera), par-boiled rice or pulao and a vegetable dish 'Shukto' which was a light cooked semi-dry preparation of mixed vegetables; or a mixed vegetable chorchori cooked with smeared mustard paste or an aloo potol daalna (aloo parwal rassa, i.e. in a thick onion and tomato-based curry).

This would be followed on occasions, by a 'tokk' (sweetened tomato chutney cooked with 'pataligur' jaggery made from the early morning sap of date palm and kishmish). A generous helping of Misthi Doi and shondesh/Rossogolla, would give an appropriate finishing touch. Mother would keep a strict eye on our thali platters, lest we overeat - but most of the menu items in judicious portions managed to go down the hatch.

Fresh grocery bazaar and the Bengali fish market...

Learning how to bargain at the grocers, vegetable and fruit shops, was a natural process of watching our father. But for the true blood Bengali, it was bargaining at the

fish market that was the ultimate. The initial training came by watching father on a Sunday fish market. He was always dressed in full sleeved white shirt and trousers, and the shopkeepers would call out 'Babu, Babu' while urchins ran behind carrying empty woven baskets to carry the purchases and earn a piece or two. But the more leisurely visit to the bazaar was with my Nanaji (maternal grandfather or Dadu in Bengali) on CIT road during festivals. The fish market was always the most exciting.

Much has changed over the years but one had to be familiar with the types of fish, characteristics of freshness and what kind of cut was required for a particular preparation. For the daily bazaar, my mother gave a specific list of items, seldom risking our inexperience with the big catch. That would be left to father. He knew how to select from the bright scales I see Hilsa, Rohu or Katla - with a rosy tint running along the side of the body for the first two. The eyes had to be bright (not dull), body firm (not limp) when held vertically up by the head and having bright red gills (not brown, lacking lustre). Sometimes, mother would decide on the smaller fish for special curries. Names like Bata maachh, the bony kol, taengra, tilapia or the scaleless flat palda were common. During the rainy weather there would be small fish crispies like patee or morula (the size of a little finger). This involved a bit of cleaning, washing and drying with a cloth, then to be rolled in turmeric and salt, and finally deep fried in mustard oil. It had to be served crisp. Considering the preparation involved, such treats were rare.

Trams leisurely rolling around the Calcutta Maidan from Esplanade to Victoria Memorial, double decker buses moving over the Howrah bridge, hand bells of the rickshaw puller, the buzzing New Market at Lindsay Street during Durga Puja, the chocolate rum balls at Flury's, mutton patties and fish cakes during Christmas at the Jewish baker Nahoum's. The festive frenzy of the Durga Puja in Park Circus on CIT Road, a drive on the Red Road through the Maidan and the feeling of nostalgia one gets, looking at the Victoria Memorial against dramatic dark clouds - the most magnificent legacy of the Colonial era; these remain a few of my favourites of the Calcutta of the 50's.

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Durga Puja.

THE WALL

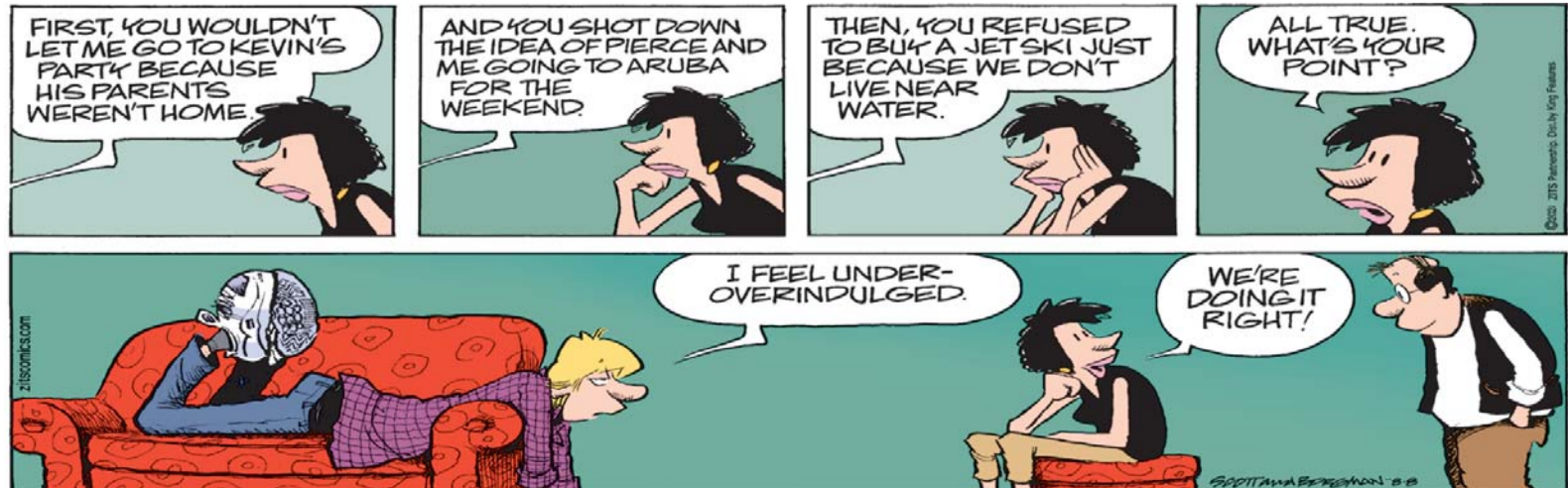


BABY BLUES



By Rick Kirkman & Jerry Scott

ZITS



By Jerry Scott & Jim Borgman