

TANGENTS

BY IHTISHAM KABIR

Units of Measurement

On December 11, 1998, NASA launched a space probe called Mars Climate Orbiter to study the Martian climate, atmosphere and landscape. The probe entered the Martian atmosphere on September 23, 1999, a day the project's team had anticipated with excitement. However, something went wrong: instead of orbiting Mars and sending information about it, the probe crashed and burned.

The probe's engine was supposed to fire when it was 100 kilometres from the surface in order to send it into orbit. An investigation discovered that the probe had come too close to Mars and got caught in its gravity. The engines had fired 60 kilometres above the planet causing the disaster.

What happened? Turns out the day-to-day operation of the spacecraft was run by Lockheed-Martin whose software was using British measurement units: miles, pounds, etc. However, NASA engineers and their software, navigating the spacecraft, were using the metric units: metres, kilograms, etc. So, the miles of the Lockheed software and kilometres of the NASA software got mixed up. That's why the spacecraft came too close to Mars.

The story shows the dependence we have on units of measurements. For example, how do we know that one kilogram of rice bought in a market in Dhaka has the same weight (mass) as one kilogram of rice bought in London? We know this because the kilogram - anywhere on this world - is a standardised unit of measurement that must equal the

"international prototype of the kilogram" stored in the vault of *Système Internationale* in Paris. So, in theory, the kilogram in all places around the world should weigh the same.

However, it was not so straightforward in history. For example, units of length were originally tied to the human anatomy. Thus the yard was the length from the tip of a man's nose to the tip of his finger with the arm outstretched. But not all men are the same size. So it was decided to use the king's or queen's anatomy to decide the standard. But this meant recalibrating the yard with every new ruler. To address this difficulty, David I of Scotland defined the yard as the average of nose to fingertip measurement of men of three sizes: large, medium and small. And so on. It took several centuries of thought and work to get where we are today.

Let us look to the future. Suppose one day we make contact with extraterrestrial civilisation and want to describe to them what we, humans, look like. We might say, "humans are about 1.5 to 2 metres tall, walk upright on two legs, use the thumb for gripping, etc". But how does the alien know what is a metre? It has no knowledge of that vault in Paris!

For this, we need to define units of measurement in terms of fundamental constants of nature that do not change in the entire universe - for example, the speed of light or the weight of a proton. To be universally meaningful - in a literal sense - we need to express quantities in terms of these fundamental constants.

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Chawk Bazar's units of halim measurement.

PHOTO: IHTISHAM KABIR

3 cousins drown in pond while playing

BSS, Tangail

Three girls of a family drowned in a pond in Bilachapra village under Bhuapur upazila of Tangail on Thursday afternoon.

The victims were identified as Moriyum, 4, daughter of Rafiqul Islam, Sadia, 4, and Afia, 3, daughters of Motaleb Hossain. Motaleb is the younger brother of Rafiqul Islam.

Locals and family sources said, the trio fell into the pond near their house while playing on its bank and drowned around 5:00pm.

Later, locals along with relatives retrieved their bodies from the pond.

Dr Zahiduzzaman Jewel, resident medical officer of Bhuapur Upazila Health Complex, confirmed the incident.

Restaurant staff, barber killed

3 'unnatural' deaths on Thursday

STAFF CORRESPONDENT, Ctg

Two persons were murdered in separate incidents in Chittagong city early yesterday.

Mohammad Mubin, a barber by profession, was killed as some three people attacked him with knives following an altercation over shaving at a local salon at Al-karan Goli No 1, said Sub-inspector Shampa Hazari of Kotwali Police Station.

On information, police conducted a drive in the area and arrested one Jasim Uddin in this connection, she added.

In another incident, manager of Al Faisal Hotel and Restaurant in New Market area was murdered and a restaurant staff was critically injured allegedly by another member of the staff, said the SI.

The deceased was Md Rafiq, of Anwara upazila, the SI said, adding, the injured Anwar, hailing from Comilla, was undergoing treatment at CMCH.

Rafiq's throat-slit body was found in the restaurant, while Anwar was attempted to be murdered the same way, said the SI, adding, police recovered the cleaver, used in the murder, from the restaurant.

Quoting the restaurant authority, the SI said one Sanjay Tripura, who joined the restaurant recently, might have been responsible as he went missing after the incident "looting Tk 60,000" from the cashbox.

Investigations are underway, she said, adding, the bodies were sent to CMCH morgue for autopsies.

Meanwhile, three "unnatural" deaths were reported in Chittagong on Thursday night.

SEE PAGE 5 COL 7



Fahim Munaim laid to rest

STAFF CORRESPONDENT

Syed Fahim Munaim, chief executive officer and chief editor of Maasranga Television, was laid to rest at the capital's Banani Graveyard yesterday afternoon after three namaz-e-janazas.

Munaim, a former executive editor of The Daily Star, died from a cardiac arrest at his Gulshan residence on Wednesday.

His first namaz-e-janaza was held at Jatiya Press Club in the morning.

Finance Minister AMA Muhith, Information Minister Hasanul Haq Inu, Dhaka University Vice Chancellor Prof AAMS Arefin Siddique, PM's Media Adviser Iqbal Sobhan Chowdhury, journalist Riazuddin Ahmed, his colleagues, journalists and well-wishers joined the janaza.

Later, the body of Fahim, a well-known media personality in Bangladesh, was taken to Maasranga Television office, where the second janaza was held.

His third janaza was held at Gulshan Azad Mosque. Munaim, son of late Syed Nuruddin, also served as the managing editor of The Daily Star since 1996 before starting to work as the press secretary to the then chief adviser of caretaker government in 2007.

During his professional career, he was the executive director at the Daily Sangbad and managing editor at the Morning Sun, news agency UNB and weekly Dhaka Courier. He earned a huge popularity among journalists during his stint there.

He also worked as press counselor at the Bangladesh Embassy in Tokyo, Japan.

He left behind his wife, three sons, a daughter-in-law, and a host of relatives, well-wishers and admirers.



Deputy Commissioner of Barisal Gazi Md Saifujjaman, right, takes a boat ride in the Jail Khal in Barisal city Thursday for inspection, as an eviction drive against illegal structures on its banks has been going on for the last two months, restoring navigability of the most important canal of the city. Shops, warehouses, and parts of dwelling houses including those of multi-story buildings were demolished. The commendable initiative to recover the canal from encroachers was taken by the DC and is being implemented by the Barisal City Corporation. Locals say 22 canals used to flow across the city once but now only three are surviving including the 6km Jail Khal.

PHOTO: ARIFUR RAHMAN

No solution to ease traffic congestion

Muhith regurgitates past ideas, while situation getting worse due to uncoordinated projects

M ABUL KALAM AZAD

With Dhaka's perennial traffic congestion getting worse by the day, Finance Minister AMA Muhith has given no solution to improve the situation other than some ideas he has been spouting about for years.

In his budget speech Thursday, he even promised to do more. He said his government was working towards easing traffic congestion in important cities including Dhaka on a priority basis.

But experts see no hope and rather fear that the situation would only deteriorate in Dhaka and other major cities for the government's uncoordinated development projects that will eat up more time and money on the roads.

Muhith said traffic in Dhaka city was in disarray not only for a lack of roads and flyovers but also for the absence of an integrated traffic control system. Hence, he said, there should be an integrated traffic control system for Dhaka and neighbouring cities of Narayanganj, Manikganj, Gazipur, Munshiganj and Narshingdi including the newly proposed metropolitan city in Purbachal Jalshiri area.

But no such integrated system could be initiated even after discussing it for over a decade. He said they were considering creating an

independent metropolitan communication authority, which would mainly formulate plans, control traffic system, issue transport licences, conduct tests, and coordinate operations of different types of transport and activities relating to construction of flyovers or underground railways.

Muhith came up with the idea when there is already a similar body—Dhaka Transport Coordination Authority, which has hardly any authority in this regard. Rather different ministries are working without coordination and taking up projects separately, leaving Dhaka city's traffic in a total chaos.

In his budget speech in 2009, he said, "We would take an integrated approach to tackle the problems arising from increasing traffic jams, deteriorating water supply and drainage systems and environmental pollution."

He did not focus on how the situation was getting more complicated due to unplanned projects.

"We have not heard about the independent metropolitan communication authority. We don't know how the idea came or whether there was any study in this regard," said transport and infrastructure expert Prof Shamsul Hoque.

SEE PAGE 11 COL 2

Microsoft Bangladesh makes 13 youths brand ambassadors

STAFF CORRESPONDENT

Microsoft Bangladesh has made 13 youths, who have been working as change makers in the society, as its brand ambassadors in order to inspire them to continue their initiatives and be successful in their lives.

Among them, Kumar Biswajit Barman and Keshob Roy provide free education to poor students in Kurigram and Nilphamari respectively. Biswajit prevented 668 child marriages in Kurigram in the last five years. The Daily Star ran a report on him in October last year.

The brand ambassadors include Jhara Moni Biswas of Mymensingh, Shariat Jahan Ripa of Barisal, Fahima Khatun and Farjana Khan Likhon of Khulna and Jannatul Nayeem Priti of Rajshahi and Nazrul Islam Jhoni of Panchagar.

The distinction was bestowed at a programme at

SEE PAGE 5 COL 7



Mourners attend the first namaz-e-janaza of Syed Fahim Munaim on the capital's Jatiya Press Club premises yesterday morning.

PHOTO: STAR

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বিস্মিল্লাহির রাহমানির রাহিম

বিজ্ঞপ্তি

দেশে বিদেশে অবস্থানরত সম্মানিত গ্রাহকগণকে উন্নত গ্রাহক সেবা, প্ৰতি রেজিস্ট্রেশন, হস্তান্তর, বাড়ি নির্মাণ, ইউটিলিটি ও গ্রাহক সেবা সংক্রান্ত যে কোন তথ্য পাওয়ার জন্য আজই আমাদের প্রধান কার্যালয়ের গ্রাহকসেবা বিভাগে যোগাযোগ পূর্বক সংশ্লিষ্ট ফাইলের বর্তমান ঠিকানা, মোবাইল ফোন নং ও ই-মেইল আইডি হালনাগাদ করার জন্য বিশেষভাবে অনুরোধ করা হল।

যেকোন তথ্য, পরামর্শ ও সহযোগিতার জন্য আমরা সর্বদা আছি আপনারই অপেক্ষায়...

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