

## Let this accident be an eye opener

Turn the railway into safe and profitable mode of transportation

THE derailment of a Khulna-bound train in Gazipur once again brings up to us the poor infrastructural state of Bangladesh Railway. Two carriages along with the locomotive went off the track, killing one and injuring several passengers. Although the precise reasons behind the accident were not instantly known, the committees constituted to go into it should not only pinpoint the human or infrastructural flaws but also fix responsibility for the mishap.

We recall the new communications minister who, having assumed the portfolio of the railway ministry, assured us of breathing new life into this hugely potential communications sector. And we are indeed happy to note that some positive changes have occurred in matters of expanding the fleet and maintaining punctuality in arriving at and departing from stations. But basic infrastructural flaws, shortage of trained manpower and over all corrupt practices have induced a paralysis of this sector.

We have repetitively stressed that railway is the most ideally suited communications system as bulk carriers of passengers and goods across Bangladesh. This is more so because both road and river communications have become increasingly perilous and expensive due to poor maintenance and inflated fares.

For long this sector has received step-motherly treatment. Resultantly, the engines and carriages have worn out; shortage of fleet has persisted; railway stations along with the signaling systems badly needed doing up and be upgraded. Added to these are poor maintenance of amenities, and pilferage and grabbing of its assets. All these have accounted for the huge loss incurred by railway that amounts to nearly TK 7500 million by 2010.

Therefore, we are pinning hope on the communications minister to restore railway to its former glory by ridding it of corrupt elements, retrieving its landed assets from grabbers and providing it with all the necessary support including infrastructural modernisation, increasing manpower and above all, giving it a sense of direction.

## Passengers' woes mounting

CNG strike needs to end

WITH the strike called by CNG drivers commuters are suffering the full brunt of the lack of this fleet of public carrier in the city. Dhaka is one of the few mega-cities in the world that lacks a proper network of public transportation and a practically non-existent taxi fleet. The private bus operators continue to field mini-buses will little headroom and dreadful seating capacity form the backbone of the city commuting. Government run BRTC has recently inducted some modern buses into its fleet, but these are too few in number to cater to a population of some 15 million inhabitants of Dhaka city.

The indefinite strike however cannot be supported for a variety of reasons. How does one justify the demand made for canceling requirement for route permits? Every commercial vehicle regardless of size has specific route permits, so why should it be different for three-wheelers. One may easily ask why drivers refuse to ply the roads on the recalibrated digital meters recently installed as per government decision. Again, one may enquire as to why the bulk of these vehicles refuse to travel to destinations of commuters' choices.

Indeed, this culture of refusing to abide by government regulations on the question of traveling and charging as per meter has become a common phenomenon with all taxi services. The most common answer for refusing to go to a particular destination or extorting undue amounts from hapless commuters is due to lax enforcement by the police. Again when enforcers try to enforce the law, it is the commuter that must pay the price when a particular service is taken offline through a strike. It is time to take some tough decisions for authorities to address this issue head on. A dialogue needs to be initiated immediately with the unions but relevant authorities must show a zero tolerance to law breakers. Only when errant drivers find themselves confronted by a system that cannot be

# Higgs-Boson particle: What next?



ASHFAQUR RAHMAN

WO weeks back, top physicists in Europe made a startling announcement. They said two groups of scientists and researchers working independently in CERN, the European Organization for Nuclear Research located in Switzerland, had finally found the Higgs-Boson particle. This is the elusive particle that is the key to the birth of our universe. It is that which imbues other particles in space to gather mass.

Six thousand physicists had been working with the new \$10 billion Large Hadron Collider in CERN for months. They had been smashing protons of different particles with each other. Finally, they were confident that they had found the Higgs-Boson particle.

So what did they do to discover the Higgs-Boson? First they sent beams of particles through this giant Collider at 99.9999991% of the speed of light. With such velocity they smashed the atoms of the various particles. The Higgs-Boson then flickered for all to see for perhaps a trillionth of a trillionth of a second. This was the longest time that this elusive particle had ever shown itself. Eureka indeed!

It was in the 1920s that a Bengali physicist Satyendra Nath Bose, a Reader in the Department of Physics in Dhaka University, had first given the hypothesis of counting states with identical particles. Without referring to classical physics he derived Max Planck's Radiation Law and used it in a novel way to discover this. Thus, he gave birth to what is known as Quantum Statistics. He wrote down his ideas in an article and sent it abroad for publication. But he did not get a response. So he sent it directly to Albert Einstein, the master physicist in Germany. Einstein recognised the importance of the subject and after translating it himself in German had it published in Bose's name in a prestigious journal there.

Einstein adopted Bose's idea of Quantum Statistics and extended it to atoms. This led to the prediction of the existence of a phenomenon, which later became known as the Bose-Einstein Condensate. It was a dense collection of Bosons (which are particles with integral spins, named after Bose). But Satyendra Nath Bose was not given the credit for his seminal work on particles by western physicists who came in later. They took his ideas and used them to further their research in the area. Ten physicists even received Nobel Prize for their work

based on Bose's hypothesis.

In 1964, Peter Higgs, a Professor of Physics, in Edinburgh University, predicted the existence of a particle that to be seemed missing but was critical for the formation of our universe. Such a particle was difficult to confirm because it did have not spin, nor did it have any colour, and it decayed almost as soon as it came into existence. Finding that particle could prove that there is an energy field that fills the vacuum in the observable universe. It plays the crucial role of giving mass to sub-atomic particles that are the building blocks of matter.

It is interesting to note that the Higgs field is thought to have switched on a trillionth of a second after the big bang that blasted the universe into existence. Without this particle, the structure of the present cosmos would have been radically different.

The question that bedevils physicists is whether Higgs-Boson is a simple, singular particle that is a part of what physicists call the Standard Model,

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which has been described by a set of equations on how all known particles behave, or is it something more complex. One possibility is that the Higgs-Boson could be one of a larger family of similar Higgs-Bosons. So the quest now is about how the particle is made and how it disintegrates into other familiar particles as soon as it is created.

The discovery of this sub-atomic particle has important implications. First, 83% of our universe is made up of "dark matter." It is invisible stuff. The only intriguing thing about it is that it has a gravitational pull. So it is quite possible that the space occupied by this dark matter is made up of Higgs-Boson particles. But then how did Higgs-Boson gather mass?

An analogy could describe this well. Imagine you are at a party. The crowd is thick and evenly distributed in the room. Suddenly a famous film actress walks in. The people near the door gather around her. As she walks through the party she

attracts the people closest to her. But those she moves away from return to their conversation. By gathering a fawning cluster of people around her she has gained momentum, which is an indication of mass. Now she is harder to slow down than she would be without the crowd. Once she stops, it would be harder to get her going. The Higgs-Boson is like the celebrity in the party. It has a clustering effect and is called the Higgs mechanism.

A family of Higgs-Boson particles is predicted by many versions of a theory called supersymmetry. It says that known particles in nature have heavy, invisible twins that are yet to be discovered. One of the great attractions of supersymmetry is that it shows how the 3 or 4 forces that exist in nature (the first is electro-magnetism, the second and the third are strong and weak nuclear forces. The fourth force could be Higgs-Boson which gathers mass as it moves) were all one in early part of the formation of our universe. But they were separated later, leaving gravity only unaccounted for.

To the layman, what has so far been explained is technical mumbo-jumbo. But to the physicists who found out the existence of this Higgs-Boson particle with an infinitesimal mass (technically 133 Proton mass) is earth shattering. They can now use these results to produce a more encompassing picture of the universe. "You can think of what we found as the key part of the genetic blueprint of the universe." The entire community of physicists is therefore terribly excited. But it would have been only right if Satyendra Nath Bose was remembered and acknowledged. Only his name Bose is attached to the name of this elusive particle.

In the meantime, several quarters around the world are raising questions about religious belief. According to them, if Higgs-Boson is the cause of the existence of all matter, then how can there be a Creator who has made all this happen? The answer will have to wait, otherwise there could be much that we may have to answer to our Maker. The Higgs-Boson has the potential to challenge many established beliefs and recognised religions. This could be the cause of much agony in the world.

Isaac Asimov once said: "The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom." We must keep this in mind when assessing this important discovery.

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| The New York Times EXCLUSIVE

## Ethnic cleansing in Myanmar

MOSHAHIDA SULTANA RITU

LAST spring, a flowering of democracy in Myanmar mesmerized the world. But now, three months after the democracy activist Daw Aung San Suu Kyi won a parliamentary seat, and a month after she traveled to Oslo to belatedly receive the 1991 Nobel Peace Prize, an alarm bell is ringing in Myanmar. In the villages of Arakan State, near the Bangladeshi border, a pogrom against a population of Muslims called the Rohingyas began in June. It is the ugly side of Myanmar's democratic transition a rotting of the flower, even as it seems to bloom.

Cruelty toward the Rohingyas is not new. They have faced torture, neglect and repression in the Buddhist-majority land since it achieved independence in 1948. Its constitution closes all options for Rohingyas to be citizens, on grounds that their ancestors didn't live there when the land, once called Burma, came under British rule in the 19<sup>th</sup> century (a contention the Rohingyas dispute). Even now, as military rulers have begun to loosen their grip, there is no sign of change for the Rohingyas. Instead, the Burmese are trying to cast them out.

The current violence can be traced to the rape and killing in late May of a Buddhist woman, for which the police reportedly detained three Muslims. That was followed by mob attacks on Rohingyas and other Muslims that killed dozens of people. According to Amnesty International and Human Rights Watch, state security forces have now conducted mass arrests of Muslims; they destroyed thousands of homes, with the impact falling most heavily on the Rohingyas. Displaced Rohingyas have tried to flee across the Naf River to neighboring Bangladesh; some have died in the effort.

The Burmese media have cited early rioting by Rohingyas and have cast them as terrorists and traitors. In mid-June, in the name of stopping such violence, the government declared a state of emergency. But it has used its border security force to burn houses, kill men and evict Rohingyas from their villages. And on Thursday, President Thein Sein suggested that Myanmar could end the crisis by expel-

ling all of its Rohingyas or by having the United Nations resettle them a proposal that a United Nations official quickly rejected.

This is not sectarian violence; it is state-supported ethnic cleansing, and the nations of the world aren't pressing Myanmar's leaders to stop it. Even Aung San Suu Kyi has not spoken out.

In mid-June, after some Rohingyas fled by boat to villages in Bangladesh, they told horrifying stories to a team of journalists whom I accompanied to this city near the border. They said they had come under fire from a helicopter and that three of six boats were lost. Some children drowned during the four-day trip; others died of hunger. Once in Bangladesh, they said, the families faced deportation back to Myanmar. But some children who had become separated from their parents made their way to the violence.

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houses of villagers for shelter; other children may even now be starving in hide-outs or have become prey for criminal networks. Border guards found an abandoned newborn on a boat; after receiving medical treatment, the infant was left in the temporary care of a local fisherman.

Why isn't this pogrom arousing more international indignation? Certainly, Myanmar has become a destination for capital investment now that the United States, the European Union and Canada have accepted the government's narrative of democratic transition and have largely lifted the economic sanctions they began applying after 1988 (measures that did not prevent China, India, South Korea, Thailand, Singapore and multinational oil companies from doing business with the Burmese). Still, when Secretary of State Hillary Rodham Clinton visited

Myanmar late last year and welcomed its first steps toward democratization, she also set down conditions for strengthening ties, including an end to ethnic violence.

The plight of the Rohingyas begins with their statelessness the denial of citizenship itself, for which Myanmar is directly responsible. Aung San Suu Kyi, though not as powerful as the military officers who control Myanmar's transition, should not duck questions about the Rohingyas, as she has done while being feted in the West. Instead, she should be using her voice and her reputation to point out that citizenship is a basic right of all humans. On July 5, the secretary general of the Organization of Islamic Cooperation, Ekmeleddin Ihsanoglu, appealed to her to speak up to help end the violence.

To be sure, Bangladesh can do more. Its river border with Myanmar is unprotected; thousands of Rohingyas have been rowing or swimming it at night. But even though Bangladesh has sheltered such refugees in the past hundreds of thousands of Rohingyas live here now, legally or illegally it has been reluctant so far this year to welcome them, out of fear of encouraging an overwhelming new influx. Already, such fears have aroused anti-Rohingya sentiment among some Bangladeshis, and initially Bangladesh's government tried to force the refugees back without assisting them. After some villagers risked arrest by sheltering refugees in their homes, the government began to offer humanitarian aid, before sending them back on their boats. Bangladesh should shelter the refugees as it has in years past, as the international community is urging.

But the world should be putting its spotlight on Myanmar. It should not so eagerly welcome democracy in a country that leaves thousands of stateless men and women floating in a river, their corpses washing up on its shores, after they have been reviled in, and driven from, a land in which their families have lived for centuries.

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## THIS DAY IN HISTORY

July 15

1815

Napoleonic Wars: Napoleón Bonaparte surrenders aboard HMS Bellerophon.

1966

Vietnam War: The United States and South Vietnam begin Operation Hastings to push the North Vietnamese out of the Vietnamese Demilitarized Zone.

1975

Space Race: ApolloSoyuz Test Project features the dual launch of an Apollo spacecraft and a Soyuz spacecraft on the first joint Soviet-United States human-crewed flight. It was both the last launch of an Apollo spacecraft, and the Saturn family of rockets.

2002

Anti-Terrorism Court of Pakistan hands down the death sentence to British born Ahmed Omar Saeed Sheikh and life terms to three others suspected of murdering Wall Street Journal reporter Daniel Pearl.