Celebrating Ahmad Shamsul Islam's 97th birthday

A pioneer of biotechnology and jute genomics in Bangladesh

Parvez Haris

THIS year marks the 50th anniversary of the independence of Bangladesh and 100 years since the establishment of Dhaka University. On this occasion, it is important to highlight the stories of our achievements, successes and progress as a nation. One such success story is the sequencing of the jute genome, which was published in 2017. This is a landmark achievement in Bangladesh's science history, and probably the most significant scientific breakthrough for the country since its independence in 1971.

This major achievement was possible thanks to the support of the government of Prime Minister Sheikh Hasina who needs to be applauded for seizing the opportunity in a timely manner. The fruits of this great achievement are already being seen, including the granting of an international patent and triggering of further research exploiting the jute plant. It stands as an example of how government support can accelerate scientific progress by bringing together the best scientific minds to work synergistically and tackle complex scientific challenges. A notable aspect of the jute genome project was recruiting and harnessing the talent and skills of an exceptionally brilliant non-resident Bangladeshi scientist, Maqsudul Alam (who, sadly, passed away in December 2014) from the University of Hawaii in the USA. He effectively worked with researchers from several Bangladeshi organisations including Bangladesh Jute Research Institute, Dhaka University, and DataSoft Systems Bangladesh Limited.

To understand how this success came into being, one has to delve into the history of genetics research in Bangladesh and those who played key roles in different spheres of activities that eventually led to the establishment of the field of biotechnology in Bangladesh, and thereafter the decoding of the jute genome. In this context, the name of Prof Ahmad Shamsul Islam is prominent for several reasons, although many others have contributed in different ways.

Prof Islam was born on August 6, 1924. As we celebrate his 97th birthday, it is an opportune moment to highlight some of his roles in the development of biotechnology in Bangladesh. He studied Botany and gained BSc (1945) and MSc (1947) degrees from Presidency College, Kolkata. The training received by Islam at Dhaka University and subsequently in the UK, the USA and Japan played an important role in his development as a pioneering scientist.

While working at Dhaka University, he published one of his first scientific articles in 1949, on the cytogenetics of some common fruit trees. He was extremely fortunate to have Prof Panchanan Maheswari—one of the most eminent Indian scientists, famous for his invention of test-tube fertilisation of angiosperms—as his guide and mentor. Prof Maheswari was the head of Biology

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Department at Dhaka University. In one of his articles, Prof Islam acknowledged Maheswari's contributions in the following manner: "I offer my heartfelt gratitude to Prof. P. Maheshwari who supplied most of the slides and under whose guidance I carried out the present investigation". Maheswari

Prof. Ahmad Shamsul Islam

returned to India in 1949 which was a great loss for Dhaka University. He passed away in 1966.

Prof Ahmad Shamsul Islam went to the UK and obtained a PhD degree from the University of Manchester in 1954. There, he received the Currie Memorial Prize for his outstanding contribution to the cytogenetics of strawberry. His PhD supervisor was a renowned scientist, Prof Sydney Cross Harland FRS, who was a pioneer in the genomic analysis of the cotton plant. During his PhD, he was also guided by another scientist, Dr Philip Frank Wareing, an expert in tree physiology, who later co-discovered abscisic acid.

One can cite several important papers of Prof Islam to justify his pioneering role in the foundation of biotechnology in Bangladesh, including the early work on jute genomics and breeding. In a paper published in 1960 in the *Nature* journal, he and his colleague were the first in the world to successfully produce a hybrid between two jute-yielding species, which continues to make impact in current research. Between 1952 and 1964, he produced three more papers in *Nature* on cytogenetics and embryo culture by use of plant hormones.

In 1971, after the independence of Bangladesh, Prof Islam became the head of the Department of Botany. This was an opportunity for him to demonstrate his leadership skills and create an ideal research environment for the use of latest techniques in the field of biotechnology with a view to improving Bangladeshi crops, including jute. It is, therefore, not surprising that in 1984, he and his colleagues published the first paper from Bangladesh on plant tissue culture focusing on sugarcane. Subsequently, he published a paper with Prof Zeba Seraj and others on tissue culture and micro propagation of jute. This set the scene for wider use of this technique in Bangladesh and was important for proliferation of biotechnology in different institutions across the country. He not only arranged funds for establishing a tissue culture laboratory but also for numerous international conferences and workshops with experts to train scientists in tissue culture techniques at the Botany Department.

Many scientists from agricultural institutes from all over Bangladesh attended these and in turn started tissue culture activities themselves. Through his plant tissue culture research, Prof Islam was recognised as a pioneer in biotechnology research in Bangladesh. For example, Prof Naiyyum Choudhury, who was responsible for producing the National Biotechnology Policy of Bangladesh, noted that "the programme on plant biotechnology in Bangladesh was initiated in late 1970s in the Department of Botany, Dhaka University with tissue culture of jute." Furthermore, the history section in the website of the Botany Department of DU notes the following: "Dr. Ahmad Shamsul Islam initiated Plant Tissue Culture and Biotechnological research in Bangladesh."

He retired from DU in 1990 but his ceaseless passion for science and education continued and he remained active in research. In 2005, while working at the University of Texas, Austin, Professor Islam published a paper reporting preliminary work on the jute genome analysis, and this provided the momentum that ultimately led to the sequencing of the full genome. He has been active in research for over 55 years, publishing over 100 scientific articles and two text books on genetics, one of which is in Bangla. Many students completed their PhD degrees under his supervision. He was also active as the founding editor of several journals, including *Bangladesh Journal of Botany* and *Journal of Plant Tissue Culture and Biotechnology*, the latter now in its 31st year of publication.

His leadership skills and visionary thinking led him to work with others to establish the Global Network of Bangladeshi Biotechnologists (GNOBB) in 2004. The author of this article was invited by Prof Islam to join GNOBB as one of the founding members along with Dr Abidur Rahman (Japan), Prof Hemayet Ullah (USA), Prof Zeba Islam Seraj, Prof Haseena Khan, Prof Ahmad Abdullah Azad (Australia) and Prof Enamul Huq (USA). Prof Islam's leadership was pivotal in bringing together Maqsudul Alam from the USA and Bangladeshi jute genetics researchers like Prof Haseena Khan and others to fully unravel the jute genome. Although Prof Islam was not listed as an author in the *Nature Plants* paper published in 2017, the acknowledgement section rightly dedicated the paper to his memory. This work completed his dream of seeing what he initiated finally accomplished. There is no doubt that he is not only an exceptionally brilliant scientist but also a great scientific leader, enabler and above all a great human being. I wish him a long, happy and healthy life.

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Lizards Losing Their Tails

Statutory Warning: No animal has been harmed in writing this essay.

BLOWIN' IN THE WIND

Shamsad Mortuza

WE are all glued to the mega-spectacle involving the flickering of the dropped or lost tails of some lizards who have tactically dissociated from a disposable part of their bodies to protect themselves from their attackers. These dancing tails have seductive names to live up to their alleged reputation of being honeytraps. They are presented as creatures of a dark fantasyland that exists on the fringe of our concrete jungles. They are presented as nymphs who lure men into their lairs, entertain them with narcotic and carnal substances, and retain memorabilia for future profiteering.

Breathless media coverage of the dancing lizard-tails drowns out stories that affect us more. The spike in coronavirus-related deaths, after some super-spreader events when the lockdown was relaxed during the Eid-ul-Adha festival, is a case in point. The frozen education sector with all its uncertainties serves as another example. The irregularity and irresponsibility of government officials and contractors that led to the crumbling down of the noble gesture of the prime minister's housing project in Mujib Year can be listed as another big issue. The misfortune of the fortune-hunters from the country who try to cross the Mediterranean—hitting the headlines on a regular interval—can be deemed as yet another big news. Workers walking miles to return to their workplace amid Covid-19 movement restrictions; the highway roads that look like snapshots of Mars sent by some spacecraft; the waterlogging in the city that momentarily brings riverbanks to the comfort of our households; the pesky mosquitoes that simply refuse to go away; the brewing tension among the nationalist Rohingyas; the back-to-back win over the Kangaroos on home soil; the leap-year grand gala of sports in the Land of the Rising Sun—all deserve to be treated as big news.

Instead, the dancing tails are getting into our excited heads.

When scores of armed men carried out an all-out raid in the greenery (Banani) to capture one such unarmed nymph, the tail started dancing according to the playbook of a cornered victim: go "live", grab attention even if it requires half-revealing yourself to titillate your audience, and cry "dacoits". Only months back, we were learning about the secret lives of religious leaders and now we are given access to the other quarters. It is no secret that there is no secret. In Greek mythology, Zeus had to visit his favourites in dreams to counsel them, teach them tricks. His agents would hide behind a wooden horse to undo the Helens of society; today, he can flash his winged horse, Pegasus, and strike out anyone at lightning speed. The moment someone has fallen out of favour, there are ample stored images and sound bites to discredit her or him.

The newly revealed facts remind me of one of my favourite fiction works of all time: Mirza Muhammad Hadi Ruswa's 1904 novel *Umrao Jan Ada*, depicting the gracious ambiance of old Lucknow and its wealthy nawabs, the hideouts of colourful drifters, and the lavish quarters of the city's courtesans. Umrao Jan displays strange sophistication in dealing with the nawab who refuses to marry her or the dacoit who offers stolen jewellery to buy her love. The tails then can have many hidden tales that can be our fascinating guide to unchartered territories. The nymphs of the leafy part of the town recount a contemporary version.

"When the real world changes into simple images, the simple images become real beings and effective motivations of hypnotic behaviour." PHOTO: **MUNTAKIM SAAD**

But there is something Machiavellian in the way the narrative is being presented as a media spectacle. Machiavelli advised his modern prince to maintain the rituals of governance and power through the productive use of cultivated spectacles. The gladiators fighting for their lives in an area to unleash the violent desire of the mob and making them a party to the power struggle is an example of spectacle. One can argue that the demand for such violence necessitated the supply of the bloodthirsty event in the first place. The reverse can also be true. The supply of violence created the demand. Whatever the case is, the production, construction, circulation and function of media spectacles hint at some deep-rooted social values. Once we consider the recent media sensationalism as a reaction to a similar action in which a male figure was exposed with bottles of liquors, we will probably be able to assume that the spectacle has an anti-women agenda. Instead of exposing one fairy, can we publish the list of visitors to the fairyland?

What is actually her crime: an expired liquor license, hoarding mind-altering substances, arranging house parties, entertaining guests? According to one responsible police officer, there are many such "night queens". If employing full force to eradicate the night queens is the top priority of law-enforcing agents at a time of national emergency when the whole world is suffering from a pandemic, then, "Houston, we have a problem!" If we really consider these night queens symptomatic of a social disease, then it would be wise to run a full diagnostic test of the social body to address the disease that has caused the fever. The tail of the lizard is more important than these abandoned dancing parts. I am sure by now the lizards have changed their colours, and finding them will be no mean task. They have either left their territories or are hiding in plain sight, camouflaging themselves in their given surrounding. Who knows, some of these lizards may have already been eaten up by bigger predators.

As the audience of the media spectacle, we need to be aware of the information and entertainment (i.e. infotainment) that is being provided in this technologically dazzling, multimedia culture. Our thoughts and actions are influenced by seductive media spectacles. We scandalise the nymphs to strengthen the patriarchy that would like to avenge the humiliation it suffered recently. In the process, the general public becomes nothing but the grass under the feet of two fighting rhinos mentioned in an African proverb.

I shall end with the observations of the French theorist Guy Debord who in the 1960s talked about the Society of the Spectacle. He wrote, "When the real world changes into simple images, the simple images become real beings and effective motivations of hypnotic behaviour. The spectacle, as a tendency to make one see the world by means of various specialised mediations (it can no longer be grasped directly), naturally finds vision to be the privileged human sense which the sense of touch was for other epochs." (Section 18).

We are fast losing control over what could once be touched and grasped. We have become mere witnesses deriving voyeuristic pleasures out of seeing things, with no sensation of human touch. We can't pin down why the lizard actually dropped its tail. It's important to ask: what caused the lizard to lose its tail, instead of being entertained by its dance?

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QUOTABLE *Quote*

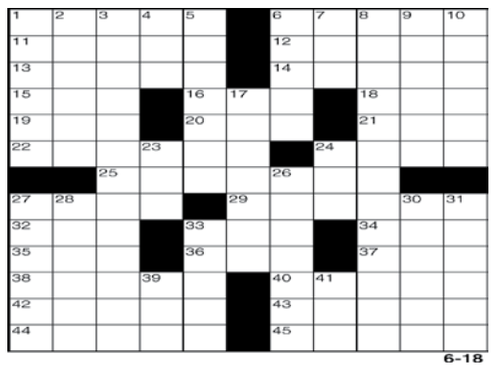
JHUMPA LAHIRI
(born July 11, 1967)
American author

Why do I write? To investigate the mystery of existence. To tolerate myself. To get closer to everything that is outside of me.

CROSSWORD BY THOMAS JOSEPH

ACROSS
1 Goes for
6 Rho follower
11 Left, on liners
12 Flynn of film
13 Contradict
14 Zigzag
15 Complete
16 Serving feat
18 Pricing word
19 Wish undone
20 Ruin
21 Place
22 Benders
24 Heidi's home
25 Tel Aviv native
27 Jumbles of noise
29 Cattle marks
32 Easter quest
33 Pickle purchase
34 Opening
35 Numerical prefix
36 Can. neighbor
37 Suffix for hero
38 Pink shade
40 Hospital worker
42 Eat away
43 Dickens' Edwin
44 Transmits
45 Bright

DOWN
1 Scottish poles for tossing
2 Bare one's soul
3 Tool for joining
4 Numerical prefix
5 Traveling trunk
6 Rat's home
7 Steamed state
8 Tool for breaching
9 Accelerate
10 Tips off
17 Winter melons
23 Scrollwork shape
24 As done by
26 Gofer's work
27 Wild cards, sometimes
28 Disregard
30 "The Good Place" actor
31 Swift
33 Writer Verne
39 Find a sum
41 Braz. neighbor



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YESTERDAY'S **ANSWERS**

M	O	U	S	E		O	F	A	G	E
O	W	N	E	R		B	O	W	E	R
O	L	D	E	R		A	X	L	E	S
		U	S	A	R	M	Y			
V	A	L		T	E	A		M	I	D
I	T	A	L	I	C		E	U	R	O
A	R	T	I	C	U	L	A	T	E	D
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S	A	D		J	E	T		L	E	E
			P	E	S	E	T	A		
B	E	L	O	W		R	O	T	O	R
A	G	A	P	E		A	R	E	N	A
T	O	W	E	L		L	E	D	O	N

BEETLE BAILEY BY MORT WALKER

BABY BLUES BY KIRKMAN & SCOTT