

TANGENTS

BY IHTISHAM KABIR



(L) Limited depth of focus of today's cameras;
(R) Light-field image with everything in focus.

PHOTO:
PELICAN IMAGING

A New Camera

Until now, all cameras - from the earliest box cameras of Nicéphore Niepce and Fox Talbot in the 1820s to mobile phone cameras to the latest digital SLRs - have one basic feature in common. They are based on pinhole design. In other words, the light rays arriving from the scene in front enter the camera through its lens and fall on the light-sensitive sensor at the back of the camera. This sensor collects and "fixes" this light, turning it into an image. The difference between digital and film-cameras is the difference in sensors. But the light-collection method remains the same.

A constraint of the pinhole method is that by "focusing" the lens, or moving it back and forth, only one plane of the scene can be in sharp focus when the photograph is taken. Also, when light rays arrive at a point on the sensor, they are simply added up and we lose much information about the direction of the rays of light falling on that point.

However, what if we could capture more - much more - information about the rays of light arriving from the subject? For example, what if we knew the strength and direction of each ray of light originating at each point of the scene as it arrives at the camera? This would open new possibilities.

A new camera design, called light-field camera, uses a large number of lenses instead of a single lens to collect this information. Like many others, this idea originates with Leonardo da Vinci. He argued that if we knew all the light rays arriving at a point, then we could reconstruct any view that could be seen from that point.

Because it is extremely difficult to make such a camera, we had to wait until now.

The breakthrough is to use a row of tiny lenses, called micro-lenses, in front of the sensor. These lenses capture light coming from different directions and construct a light-field which is captured by the sensor. High-speed computers and sophisticated software then manipulate this light-field to recreate the scene in different ways. (Incidentally, one of the main challenges facing the design of this software is to correct for parallax introduced by the lenses.)

For example, one of the most annoying problems facing the photographer is the out-of-focus photograph. The lens focuses on the wrong part of the scene or misses focus altogether. No matter how much time one spends with Photoshop, an out-of-focus photograph cannot be corrected.

With light-field cameras, the focus point can be decided after the photograph has been taken. So you look at the picture you have just taken and decide which part you want to be sharply detailed; the software does the rest.

Several companies are introducing light-field cameras. Pelican Imaging makes these cameras for mobile phones. Lytro makes a hand-held light-field camera. A third company, Raytrix, makes very expensive (over \$25,000) light-field cameras for industrial use.

The light-field camera might just change the landscape of photography.

www.facebook.com/tangents.ikabir

Both RU ambulances out of order

AM JAHD

With both ambulances of Rajshahi University Medical Center (RUMC) out of order, the university's healthcare seekers are suffering for over two months.

The ambulances were allegedly vandalised by some unidentified RU students on May 24 when the RUMC authorities refused to bring a student to the centre from a hospital.

The university authorities do not seem to have any plan to put the ambulances back to service immediately.

Administrator of RU's transport office, Prof Khalilur Rahman Khan, said they started repairing the ambulances recently.

But The Daily Star found no trace of any repair works on the vehicles.

Many of RU's 30,000 students, teachers and staff who regularly seek treatment at RUMC say the problem arises when RUMC doctors refer patients of complicated cases to other places for further treatment.

"Rajshahi Medical College Hospital (RMCH) is 10km away from the centre. We cannot afford to hire a private ambulance," said one student.

Foyzal Ashraf, a third year student of law and justice department, tells of his difficulty when he recently went to RUMC one night after his health condition suddenly deteriorated.

"When I was referred to the hospital, it was very painful to bear the over one-hour journey on a rickshaw," he said.

RMCH sources said at least 20 to 30 patients are referred to RMCH everyday.

On a spot visit to RUMC recently, this correspondent found three students, on being referred to RMCH, forced to wait for nearly an hour to find a transport.

While demanding immediate restoration of the ambulance service, many teachers and students urged the authorities concerned to modernise RUMC's healthcare facilities.

RUMC chief medical officer, Dr Mirza Wazed Begue, admitted that RU students, teachers and staff were suffering due to the unavailability of the ambulances.

RU Vice Chancellor Prof Abdus Sobhan was not available for comment. However, Pro-Vice Chancellor Prof Muhammad Nurullah said they would take immediate measures in this regard after investigating the matter.

Paris calls for Dhaka U-turn on Rohingyas

APP, Paris

France yesterday said it regretted a decision by Bangladesh to stop three non-governmental organisations from helping Rohingya refugees fleeing persecution in neighbouring Myanmar.

"Until a lasting peace is established in (Myanmar's) Rakhine state, we urge the authorities in Dhaka not to send back from the border people whose lives are under threat," a French foreign ministry spokesman said.

Two of the three charities affected by the Bangladesh government's decision are French-Doctors Without Borders (Medecins sans Frontieres, MSF) and Action Against Hunger. Britain's Muslim Aid UK has also been told to suspend its services in the Cox's Bazaar district bordering Myanmar.

The Bangladesh authorities maintain that the aid provided by the charities has encouraged the Rohingya—a Muslim minority in predominately Buddhist Myanmar --to cross the border.

Aid workers say the Rohingyas have little option but to flee in the face of sectarian attacks in Myanmar and fear the latest move could result in a humanitarian disaster.

Bangladesh estimates that there are now some three lakh Rohingyas living on its territory after having fled Myanmar.

Baby girl 'murdered'

STAFF CORRESPONDENT

The unidentified three-year-old girl, who was found dead on Thursday at a house in the capital's Jatrabari area, was tortured to death, morgue sources said yesterday.

Police handed over the body to Sir Salimullah Medical College Hospital (SMCH) morgue on Thursday evening where some bruises were found behind the head of the body, the sources said.

Police said the body might be carried from somewhere else outside the capital and was dumped in the veranda of the house.

Ingenious event for Ctg road repairs

STAFF CORRESPONDENT, Ctg

Frustrated with Chittagong Development Authority's negligence in repairing Arakan Road in Chittagong city, some 100 dwellers of adjoining Mowlvi Pukur Paar area started planting paddy on the road yesterday.

Supported by Jatri Sheba Paribahan Owners Association and Swapno Jatri, the ingenious protest went on for an hour till 11:30am. Another group of people stood alongside holding placards and banners demanding immediate repairs.

One resident of the area, Azam Masud, said CDA Chairman Abdus Salam did not take any initiative for the last two years though he traverses the road every day.

Rickshaw pullers now charge Tk 40 instead of the regular Tk 20 to cross the one-kilometre road. CNG-run auto-rickshaw drivers do not even want to come to the area, he added.

Another resident, Mohammad Bokhtear Sowdagar, said heavy rainfall sends vehicles skidding along the road, causing accidents.

33 orgs fined in July for pollution

STAFF CORRESPONDENT

The Department of Environment (DoE) fined 33 organisations in seven districts more than Tk 3.80 crore in July for polluting and degrading the environment.

Eleven factories were shut down by the DoE for extreme levels of toxic waste emission and having no environmental clearance, said a press release.

The DoE uncovered two cases of hill cutting in Chittagong and Sylhet, 15 incidents of water pollution in rivers Brahmaputra, Shitalakkhya and Turag, three cases of sound pollution in Tongi, Narayanganj and Munshiganj, five cases of sound pollution around the capital and one case of filth and insect infestation in public transport.

Along with the enforcement drives, DoE has provided instructions and information concerning environmental laws, effects of environmental pollution and methods of preventing pollution to 50 entrepreneurs, factory owners and workers. "Violating environmental laws has become so widespread that it will take a long time to bring the situation under control. It is not possible to curb river pollution overnight," said Mohammed Munir Chowdhury, director of DoE.

"Business and factory owners must abide by the law and show integrity in their dealings. They should value the environment's welfare over personal gain," he added.



People crowd a ticket counter at Gabtoli Bus Terminal in the capital early yesterday to buy bus tickets to their home districts in advance so that they do not miss enjoying the Eid-ul-Fitr holidays with their families. Bus tickets for the couple of days prior to Eid went on sale from yesterday.

PHOTO:
RASHED SHUMON

Three die from electrocution

METRO DESK

Three people died from electrocution in Chittagong, Sirajganj, and Thakurgaon on Thursday and yesterday.

Staff Correspondent from Chittagong reports, one person was electrocuted in Hathazari upazila of Chittagong yesterday.

The victim was Md Abdol Aziz, 18. Local sources said Aziz came in contact with a live electric wire around 9:00am.

Our Sirajganj Correspondent reports, Erashed Ali, 30, was electrocuted at Madrashapara village in Tarash upazila of Sirajganj on Thursday.

The victim's family members said Ershad got an electric shock when he was repairing a fan in his room around 7:30 pm. He was rushed to Tarash Upazila Health Complex where doctors declared him dead.

Our Thakurgaon correspondent reports, a teenage boy was electrocuted at Kuralipara Intersection in Boda upazila of Panchagarh on Thursday.

Police said Alvi, 14, got an electric shock while trying to charge his cellphone.

Alvi was declared dead at Boda Upazila Health Complex.

BNP missing a chance by rejecting PM's offer

Says Suranjit on interim govt

UNB, Dhaka

Minister without portfolio Suranjit Sengupta yesterday said the opposition BNP was missing the opportunity by turning down the prime minister's proposal on interim government for holding the next general election.

Addressing a discussion at Dhaka Reporters Unity, he said the rejection of the PM's offer by the BNP "proved they (BNP) are engaged in new conspiracy" for foiling democracy.

Bangabandhu Sangskritik Jote organised the discussion titled "Bringing back the fugitive convicts of the Bangabandhu murder case."

In an interview with BBC Bangla in London on Monday, Prime Minister Sheikh Hasina said the main opposition BNP would have representation in an interim government to be formed for conducting the next

general election. Suranjit said the PM's offer on interim government was in consistence with the constitution, and the BNP was missing the opportunity by rejecting the proposal.

Suranjit, also an Awami League presidium member, said Khaleida Zia had "engaged herself in a new conspiracy for foiling democracy through undemocratic and unconstitutional means."

Referring to Grameen Bank, he said the government could not give special facilities to a particular bank. "So the managing director of Grameen Bank will be appointed as per law."

Chaired by Fatema Begum Sathi, the city unit joint convener of Bangabandhu Sangskritik Jote, the meeting was also addressed by Awami League presidium member Dr Mohiuddin Khan Alamgir and State Minister for Law Advocate Quamrul Islam.

NEWS IN brief

PM hosts Iftar for professionals

UNB, Dhaka

Prime Minister Sheikh Hasina yesterday hosted an Iftar party in honour of different professional bodies at her official residence Gono Bhaban.

Before the Iftar, the prime minister exchanged pleasantries with the guests.

A munajat was also offered before the Iftar seeking divine blessings for the progress of the nation and the peace of the departed souls of Bangabandhu.

Rejection of demand for CG will bring bad results: B Chy

UNB, Dhaka

Bikalpa Dhara Bangladesh President AQM Badruddoza Chowdhury yesterday called upon Prime Minister Sheikh Hasina to accept the demand for the restoration of the non-party caretaker government system.

Discounting the demand made by people would have bad consequences, he told a pre-iftar discussion. Bikalpa Shramajibi Dhara organised the programme at its central office in the capital.

Referring to Nobel laureate Prof Muhammad Yunus, B Chowdhury, also an ex-president of Bangladesh, condemned the alleged conspiracy against Dr Yunus and the attempt to belittle him out of "personal animosity". "We should remember that we would also be belittled if Dr Yunus is disre-

Rotary club installs polio awareness billboard

STAFF CORRESPONDENT

Rotary Club of Dhaka Fort yesterday installed a billboard to raise awareness on eliminating polio from the country and planted 100 trees at Institute of Child and Mother Health, Matuail in the capital.

Dist 3280 Governor Dr Ishtiaque A Zaman inaugurated the programme while RC Dhaka Fort President Swapno Kumar Roy chaired the opening ceremony.

Dr Ishtiaque said the programme would help bring peace and happiness to the community and uphold the rotary slogan "peace through service", says a press release.

District Secretary Capt Md Khaliquzzaman, Coordinator Faridul Alam Newton and Assistant Governor and Rotarian of RC Dhaka Fort Mutasim

Hotel workers want salary before Aug 9

UNB, Dhaka

Hotel and restaurant workers yesterday demanded that their wages and Eid bonus be paid before 20th Ramadan (August 9).

At a protest rally in front of Jatiya Press Club, they also demanded immediate release of 13 workers of the capital's Malancha Restaurant, who were arrested on July 29.

Akhtaruzzaman Khan, president of Hotel Workers' Union, said, "Although the minimum wage was awarded in 2009, most of the 11 lakh workers in the hotel and restaurant sector are paid much lower

DHAKA TODAY

<p>Workshop National Human Rights Commission will organise a workshop; Venue: Brac Centre; Time: 2:00pm.</p> <p>Memorial meeting Boi Prokashona O Biponon Samobay Samity will hold a memorial meeting; Venue: Aziz Super Market, Shahbagh; Time: 11:00am.</p> <p>Meeting Samillito Samajik Andolan will organise a meeting; Venue: Liberation</p>	<p>War Museum; Time: 10:30am.</p> <p>Human chain Sunagorik will form a human chain; Venue: in front of Jatiya Press Club; Time: 12:00noon.</p> <p>Workshop Bangladesh Indigenous Lawyers' Association will hold a workshop; Venue: Cirdap Auditorium; Time: 10:30am.</p> <p>Training Journalist Alliance for Energy</p>
--	--

WEATHER TODAY

Rain likely

UNB, Dhaka

Light to moderate rain or thundershowers accompanied by temporary gusty wind is likely at many places over Khulna, Barisal, Chittagong and Sylhet divisions and at a few places over Rajshahi, Rangpur and Dhaka divisions in 24 hours till 6:00pm today.

Moderately heavy to heavy falls are also likely at places over the country, Met Office said.

Day and night temperature may rise slightly over the country. **The sun sets in the capital today at 6:40 pm and rises tomorrow at 5:30am.**

Country's highest temperature 35.8 degree Celsius was recorded yesterday at Sylhet and lowest 24.6 degrees at Srirangal.

Highest and lowest temperature and humidity recorded in some major cities and towns yesterday were:

City/Town	Temperature in Celsius		Humidity in percentage	
	Max:	Min:	Morning	Evening
Dhaka	34.3	27.0	80	65
Chittagong	33.5	26.2	83	88
Rajshahi	35.0	27.0	83	67
Rangpur	34.5	26.4	86	64
Khulna	32.4	26.6	83	83
Barisal	32.2	26.6	76	76