many

of us cared about who got the Nobel Prize in Physics and Chemistry earlier this month and for AMITAVA KAR what? What

kind of coverage did it get from the media? How many scientists and academics with PhDs have written about them in accessible terms or anything at all? But more importantly, why should we care?

There are some who happily use the innovations made possible by science but feel that science itself does not belong in their lives. They view it as a subject merely to be studied in the classroom or a body of esoteric knowledge that sometimes shows up in the "real" world in the form of the latest, coolest gadget or medical breakthrough.

considered unlettered for not having read a work of Shakespeare, and yet the same charge does not apply when it comes to understanding fundamental scientific concepts such as the second law of thermodynamics

or what E=MC2 actually means.

It is indefensible that someone is

Science speaks of hope and inspiration, providing discoveries that fire the imagination and a sense of connection between our lives and the universe. Like a life without music, art or literature, a life without science is devoid of something that gives experience a rich and otherwise inaccessible dimension.

When we look at the emerging opportunities hovering on the horizon - stem cells, genomic sequencing, personalised medicine, longevity research, nanotechnology, brain-machine interface, quantum computers, space technology - we realise how important it is to cultivate a public that can engage with these issues.

There's simply no other way that as a society we will be prepared to make informed decisions on a range of issues like population, disaster management, development of the blue economy that will shape our future in the next 15 years.

Why should we know about the Nobel Prize winning works in Physics? How do they relate to our lives? What did David Thouless of the University of Washington, Duncan Haldane of Princeton and J Michael Kosterlitz of Brown do to deserve the prize?

In essence, they demonstrated that the bizarre properties of matter at cold or condensed states -for instance, when super-cold materials conduct electricity without resistance - could be explained by topology. Topology is a branch of mathematics that studies what properties of objects are unaffected when they are stretched, twisted, or deformed.

The research has led scientists to develop new materials with novel properties. Some of these materials are called "topological insulators" which conduct electricity solely on their surface and not inside. One of these insulators, called stanene,



University of Strasbourg in France, J.

Fraser Stoddart of Northwestern, and

Bernard L. Feringa of University of

world's smallest mechanical devices

Groningen in the Netherlands

created molecular machines, the

which may eventually be used to

create new materials, sensors and

A member of the Royal Academy of Sciences speaks as his colleague watches during a news conference announcing the winners of the 2016 Nobel Prize for Physics in Stockholm, Sweden.

PHOTO: REUTERS

energy storage systems.

Their invention will undoubtedly advance nanotechnology - the creation of structures on the scale of a nanometre, or a billionth of a metre. "In terms of development, the molecular motor is at the same stage as the electric motor was in the

1830s, when scientists displayed various spinning cranks and wheels, unaware that they would lead to electric trains, washing machines, fans and food processors," the Swedish Academy said.

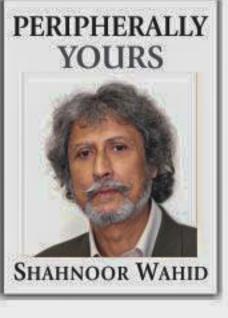
For most of us, things that are so far removed from our daily experience - like nanotechnology, topology or Donald Trump - are inherently hard to understand. Communication, therefore, is the key. The art of science communication is to pitch something as complicated as fluid mechanics in a way that is not only engaging but also true to the evidence. We have to put the fizz back in physics and take the sigh out of science. We have to follow the grandma rule: You don't really understand something unless you can explain it to your grandmother. And we have talk about it in a way that reaffirms the fact that there is no clash between science and culture.

Scientific discussion is a diminishing wedge of a fast-growing pie of light-speed media. This reality threatens to erode the already limited public appreciation and understanding of science. But the situation also provides a great opportunity - and responsibility for the scientists and the media to engage the public. Where ignorance lurks, so do the frontiers of discovery and imagination. Scientific literacy is a vaccine against those who exploit the ignorance of the common man.

The writer is a member of The Editorial Team, The Daily Star.

US Elections 2016

Can media influence the outcome?



Edgar Hoover, the apparently puritan FBI Director, who had let his agents secretively investigate the love life of John F.

T was J.

Kennedy before and after his marriage and supply the findings to the press and Richard Nixon to destroy Kennedy politically. Hoover came to know way back in 1942 about an illicit affair between JFK and a married woman named Inga Arvad, a columnist for The Washington Post. He had asked his boys to bug her house for months. He began to hate JFK more after his affair with Hollywood heartthrob Marilyn Monroe became public.

Hoover often used the moral card to prove that John and Robert Kennedy were not fit for the high offices they were holding. His hatred for the brothers became almost pathological and many researchers pointed fingers at him after John Kennedy's assassination. In his book Enemies: A History of the FBI, author Tim Weiner wrote:

"Hoover's knowledge of JFK's private conduct and RFK's political conspiracies were potentially lethal political weapons. He brandished them now. He let the president and the attorney general know that he knew they had committed moral sins."

Years later, another politician, a Democrat, who many believed had the possibility of becoming the president of the United States of America if only media had not gone after him with such dogged determination. A brilliant politician, Gary Hart's popular support started to dwindle precariously when media

ran stories of the married politician having an affair with a young woman named Donna Rice. The couple's intimate photo on a yacht was published in major newspapers of the country as proof of his secret affair.

But many of his staff members believed that voters were not as interested in the topic as the media was. Interestingly, a Gallup Poll conducted that week for Newsweek, showed that 55 percent of Democrats

believed that Hart had been truthful, and 44 percent of them were unconcerned. Majority of the people thought the media treatment of Hart was "unfair", and 70 percent disapproved of covert surveillance by the media. Many even thought marital infidelity had little to do with a president's ability to govern. The poll result conducted by the Time magazine was equally interesting. Of those polled, "67 percent disapproved of the media writing

basically a one-atom thick layer of

tin, will conduct electricity at high

temperatures with little resistance.

And what of the work of chemists

One day, scientists hope stanene

this year? Jean-Pierre Sauvage of

could perhaps replace copper

components in computers.



ILLUSTRATION: SARI COHEN

44 Adam's grandson

3 Prefix with media or grain

45 Cart pullers

DOWN

1 Top story

2 Infatuation

4 Print units

5 Glittering

6 Sing like Bing

7 Derisive cry

8 Boise native

20 Humorous

24 Fishing gear

26 Go-to guys

27 Bach creation

9 Paint the town red

12 Emulated Eminem

17 Wide shoe marking

21 Surgery souvenirs

Trump does not need the entire media to take him down. Bill Maher (conservative TV host) is enough

about a candidate's sex life, and 60 percent stated that Hart's relationship with Rice was irrelevant to the presidency." The then Governor of New York, Mario Cuomo, commented that there were "skeletons in everybody's closet."

On May 8, 1987, only a week after the story was published, Gary Hart suspended his campaign saying that he wanted to save his family and friends from the onslaught of the press. Hart later recalled, "I watched journalists become animals, literally." New York Times wrote: "The system had gone out of control."

What is media doing to Donald Trump? Again, true to its nature, it is picking up anything that has a sexual tilt. Already his explicit comments on women have gone viral on the net, making many of his supporters blush under heavy makeup. But Trump remains unrepentant and he seems to be oblivious of the embarrassments he is causing to his family, no matter how collectively expressionless they may look sitting on the sidelines in his meetings.

Trump does not need the entire media to take him down. Bill Maher is enough to invalidate him with his sharp and comical presentation of the Republican candidate. Maher has not spared any vile language to describe Trump's idiosyncrasies in

his show. He even went as far as questioning, jokingly though, whether Trump inherited his orange hair from an Orangutan! He again jokingly declared that if Trump could produce his birth certificate to prove that his ancestors were not Orangutans, he would give him five million dollars! It was a provocation and Donald Trump did not hesitate to get provoked. He produced a hurriedly prepared certificate to prove that all his ancestors were regular humans and then sued Maher for five million dollars! The whole thing became the topic of more sinister laughter in Maher's show the following week. Sensing his mistake, Trump withdrew the case.

Donald Trump, with his weird and often clownish facial expressions and gestures, his banal jokes, pathetic attempts at analysing world politics and the economy of his country, his conspicuous lack of knowledge of elementary geography and history and on top of all, his gutter-level comments on women, has done more damage to himself than has been done by Bill Maher or anyone else. Donald Trump does not know when and where to draw the line. As such, no one was very surprised when actor Robert De Niro, after calling him a "stupid, dog, punk and a pig", said, "I would like to punch Trump in the face".

Donald Trump has possibly shot the last arrow from the bow by raising his concern about the possibility of the election being rigged. He claimed that the presidential election was being rigged against him, and not only that, he even showed the temerity of questioning the legitimacy of the US political process! Many feel this could be his way of preparing a strategy if he loses on November 8. Analysts term this strategy as "dangerous".

In a series of tweets, Donald

HALT!!

Trump said repeatedly that US media were rigging the election by dishing out stories of him making unwanted sexual advances on women. He claims, "The election is absolutely being rigged by the dishonest and distorted media pushing Crooked Hillary. Election is being rigged by the media, in a coordinated effort with the Clinton campaign, by putting stories that never happened into news! "

Trump seems to have a trusted friend in none other than Rudy Giuliani, the former New York mayor, who told CNN that "Democratic districts are known for counting the votes of dead people."

In his own words: "You want me to say that I think the election in Philadelphia and Chicago is going to be fair? I would have to be a moron to say that. I'm sorry. Dead people generally vote for Democrats rather than Republicans."

Donald Trump's running mate Mike Pence said the following in an attempt at damage control: "Elections always get pretty rough," he said, but that the US has a tradition of " peaceful transfer of power".

On the other hand, Tim Kaine, Hillary Clinton's running mate, cracked, "Mr. Trump was swinging at every phantom of his own imagination because he knows he's losing".

Well, one does not have to be a brilliant analyst to deduce that Donald Trump has dug many trenches in his own backyard so he has to be extra cautious while venturing out there. He has played almost all his cards against a tougher if not better opponent. Now, only a strong trump card can save him from total disgrace. And blaming the media will not help much.

The writer is Special Supplements Editor, The

QUOTABLE Quote



EDWARD SNOWDEN

Arguing that you don't care about privacy because you have nothing to hide is no different than saying you don't care about free speech because you have nothing to say.

CROSSWORD BY THOMAS JOSEPH

ACROSS

1 High points

6 Stylish

10 Top suit 11 Speed trap device

13 Oklahoma city 14 Scarlett's last name

15 Follower's suffix

16 Early auto

18 Little jump 19 Diner bowlful

22 Bullful 22 Bullfight cry

23 Job for Holmes 24 2015 Melissa McCarthy

movie 27 Fixed a chair seat

28 Superfruit berry 29 Golf goal

30 Loses nerve

35 Family 36 Have lunch

37 Letter before omega

40 In the lead 42 Happening 43 Hint of color

38 Sherbet flavor

29 Stew sphere 31 Superman's adoptive family 32 Some tourneys

25 Pull off

33 Custom 34 Ocean motions 39 Lennon's love

41 Towel word

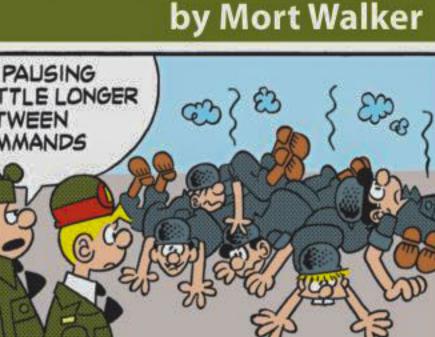
YESTERDAY'S ANSWER

POET DUOS OGRES NINTH IRENESHARP

TAMABLE NEE LASAGNA SENSOR LEEK OBAMA DESIMOSCOW EXPLAIN SIRLETSLIP NICER ADOS

BEETLE BAILEY

FORWARD MARCH! TRY PAUSING A LITTLE LONGER RIGHT TURN! BETWEEN DOUBLE TIME! COMMANDS ABOUT FACE! NORT



BABY BLUES

7-29

by Kirkman & Scott WHY? BECAUSE

