Ghill **WEARABLE TECHNOLOGY**

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Will Delhi accept Kejriwal's handshake this time around?

ess than a year after an exciting election that saw the Aam Aadmi Party (AAP) make a fantastic debut (first appearance), Delhi is headed for fresh elections. Dates are yet to be announced but it is likely to be very soon.

During the elections held in December last year, the AAP won a surprising 28 seats, the Bharatiya Janata Party (BJP) won 31 seats and the Congress party won 8. However, in order to form the government in Delhi, a political party needs at least 36 seats. With the BJP refusing to form the government, the AAP bit the bullet (took up the challenge) and formed the government with Arvind Kejriwal becoming the Chief Minister of Delhi.

But Kejriwal's government lasted just 49 days - as the AAP did not have a majority, it could not get laws of its choosing passed in the Delhi assembly. Kejriwal therefore resigned and the state has been under the rule of the President since February 14, 2014. The President of India has been working through the Lieutenant Governor of Delhi - Najeeb Jung -

A vaccine for dengue

The start of the rainy season brings with it pesky mosquitoes that carry dangerous dis eases such as malaria and dengue. In particular, dengue has become a large problem in India in recent years with many people dying of the disease. There is reason to cheer now as it seems that the first dengue vaccine in the world will

be available in the next one year. A vaccine gives a person immunity or pro disease. Children are normally given vaccines for diseases such as chicken pox, typhoid and measles but so far, there has been no vaccine for dengue. Dengue is spread by the bite of the Aedes mosquito, which is active in the



Squashing the evil

daytime unlike many other mosquitoes which are active after dark.

International pharmaceutical company (one that makes medicines) Sanofi Pasteur has said that it has developed a dengue vaccine that gives a 95.5% protection against severe dengue. The vaccine has been tested on over 30,000 people across the world. The company is now planning to take permission from the government to start selling the vaccine in India in the second

to run the state.

Emboldened (taking courage) from its big success in the national election and state elections in Karnataka and Haryana, the BJP has been pushing for fresh elections in Delhi. It is hoping that Prime Minister Narendra Modi's popularity will help it win in Delhi too.





Chimpanzees, gorillas, orangutans have been living for hundreds of thousands of years in their forest, living fantastic lives, never overpopulating, never destroying the forest. I would say that they have been in a way more successful than us as far as being in harmony with the environment.

—Jane Goodall

A REMOTE CONTROLLED AIRPORT

er Granquist is an air traffic controller in Sweden. Right now, he is sitting in front of a screen monitoring the take-off of a small aircraft at the rural airport of Ornskoldsvik in northern Sweden. Except he isn't in Ornskoldsvik but in another town called Sundsvall 100 miles away. Welcome to the world's first airport that is run by remote control.

How does it work?

A set of cameras mounted on a tower at Ornskoldsvik airport relay a real-time view of what's happening there to the air traffic tower in Sundsvall. There, the images are shown on a large screen so big and life-like, that when someone sits in front of it, they feel they are sitting in Ornskoldsvik's air traffic tower. With a clear view of what's happening on the Ornskoldsvik runway, air traffic controllers are able to manage the arrival and departure of planes from 100 miles away.

Cool Tech

The controllers are helped by communica-



tions networks that connect them to the pilots guiding those aircrafts. Plus, the video systems have cool features such as a pair of virtual 'binoculars' that help zoom in to any corner of the airfield. A surround sound feature (like the kind you experience in movie theaters) also transfers realistic sound from Ornskoldsvik airport – for example, as aircrafts take off, the sound of their engines pass from left to right in the room at Sundsvall in a perfect imitation of what would be experienced if the room were actu-

ally at Ornskoldsvik.

Do we need remote controlled airports?

Airports such as Ornskoldsvik's are so tiny with so little traffic that it doesn't really make sense for them to have their own exclusive air traffic controllers. Such remote controlled systems may become common for tiny airports in other parts of the world – it's more efficient and a whole lot cheaper.

With technology like the one in use at Ornskoldsvik airport, it appears that you can be in more than one place at the same time!

MAD DASH

ea turtles are known to make a mad dash for the water as soon as they are born but little is known of them once they enter the water. Scientists call these the 'lost years' when little is known of what is going on in the lives of these turtles as they are not seen until they come ashore to lay eggs years later.

All that is about to change with a new study done on the hatchlings of Loggerhead sea turtles at Cape Verde, an island nation off the western coast of Africa. Little pingers or acoustic tags (tiny devices that send out sounds that can be tracked by a central machine or controller) were attached to hatchlings born on a Cape Verde beach. It was observed that the hatchlings swam at a smart pace of 60 metres per minute, covering a distance of 15 kilometres within hours of being born. The researchers were able to track the turtles

through the controller which was installed in a boat that followed the hatchlings into the sea.

Once they were far out into the open ocean, the hatchlings were carried away by sea currents, a fact that scientists had always guessed but did not know for sure. It also appeared that the little turtles were born with the knowledge that they had to swim fast, which is again a fascinating discovery.



A BREAKFAST PLAN

Te've always known that chimpanzees are exceedingly clever, but now, it appears they are even more smarter than we thought. Researcher Karline Janmaat of the Max Planck Institute for Evolutionary Anthropology in Germany, who studied chimpanzees in Western Africa, has come up with proof that chimps plan ahead for important activities like breakfast.

Thinking ahead and planning for future activities is a sign of advanced intelligence. And the chimps showed this in full, by planning their day wanderings along routes that took them close to fruit trees, and amazingly, arriving early for breakfast at special trees like the fig, so that they could beat the queue. Fig trees are popular among monkeys and birds as well, and to ensure that they got a share of the limited fruit, chimps would plan their



night nest close to fig trees and set out for the trees earlier than usual, even risking journeys in the early morning dark. Scientists believe that such planning skills are important for the evolution (growth) of animal intelligence. And they may even offer a clue about the way humans evolved.

—Saint Augustine





3

CREATIVE SCIENCE

Water from thin air

n dry areas and deserts, plants and animals have learnt how to harvest water from dew and fog. This is a skill that may be very useful to people who live and work in dry areas. Learning how to harvest water from the air could also be a crucial, life-saving skill for travellers who are lost or stuck in a desert. A simple new device recently invented by two Americans may help us actually do this quite easily.

The inspiration

The inventors were inspired by small shore-birds like Phalaropes that have an interesting feeding technique to catch crabs and other small sea creatures. The Phalarope stirs up the water with its beak causing the prey to swim towards the surface. By opening and closing its beak, the bird is able to drive water droplets into its mouth, along with its food! The open and close motion of the beak creates a force called 'surface tension' that results in the water sliding into the hungry bird's mouth.

The copycat device

Using this idea, two Americans at the University of Texas in the United States, Now Cheng Luo and Xin Heng, designed an artificial (man-made) beak. The 'beak' consists



of two plates (flat objects) joined together by a hinge (like the ones you find on the side of doors which enables them to open). The plates are left open to collect dew drops. Once the drops are of a large enough size, the plates are closed and the water is then 'sandwiched' in-between. Then the device slowly re-opens, causing the water to collect near the hinge (where the plates are joined). This water can then be collected for use.

How much water can we 'make' this way?

That would depend on the size of the plate. But if two large lightweight plates are used (weight is important so that the device can be carried on treks), Cheng Luo and Heng estimate that one could 'harvest' plenty of water in just a few hours.

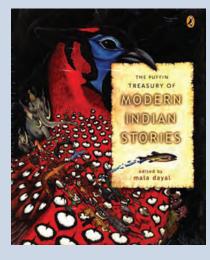
A simple device indeed but one that could mean the difference between life and death for a thirsty trekker in the desert!

THE BOOK NOOK

The Puffin Treasury of Modern Indian Stories edited by Mala Dalal

We wrote about R.K. Narayan's 'Swami and Friends' in our last issue. If you haven't managed to get your hands on a copy yet, you may want to instead look at 'The Puffin Treasury of Modern Indian Stories', a collection of short stories by Indian authors which also includes a story from 'Swami and Friends.'

Old friends Ruskin Bond and Satyajit Ray can be found between the covers. The selection will also introduce you to the marvelous poetry of Vikram Seth and provide a sampler to authors you will want to read more of when you grow up such Salman Rushdie and



Anita Desai. Don't missMahasweta Devi's short piece 'The Why-Why Girl' which is part of the introduction.

The book includes a wide variety of formats - ghost stories, fantasy, humour and historical tales. Accompanying them are beautiful illustrations in colour. A lovely way to get to know some of India's best writers.

Published by: Puffin

Price: Rs.284 on www.amazon.in





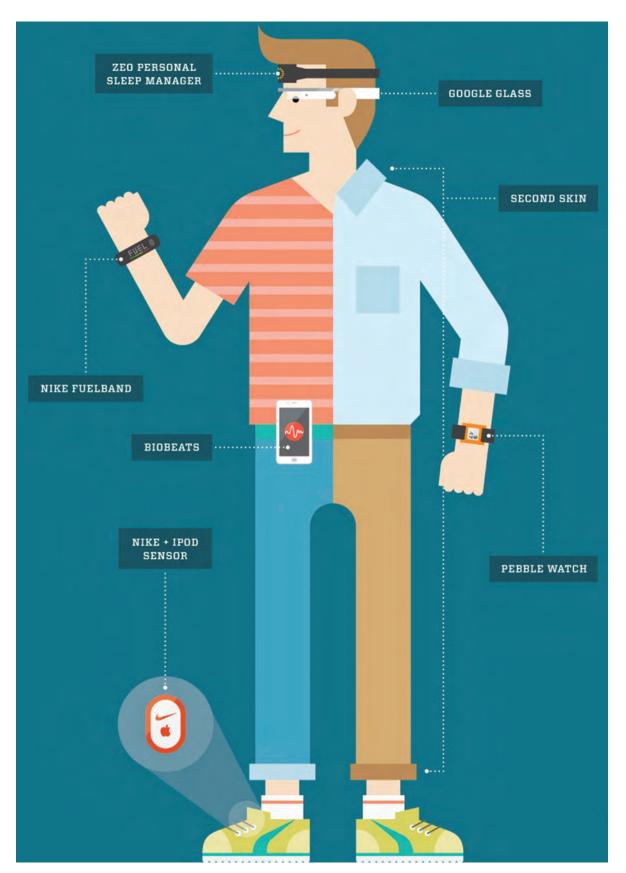
Technology gives us power, but it does not and cannot tell us how to use that power. Thanks to technology, we can instantly communicate across the world, but it still doesn't help us know what to say.



—Jonathan Sacks

WEARABLE TECHNOLOGY

As the name itself suggests, wearable technology is tech that you can wear, like you would clothes or jewelry. It is predicted that, in the future, technology will become such a big part of our lives that we will automatically use gadgets that are stitched to our clothes or embedded in the things we use and wear. Sounds like science fiction? Actually, the future is closer than you think... read on to find out why.





It began long ago

Believe it or not, the first wearable tech devices were invented in the United States (US) by people who wanted to cheat at games in casinos (places where people gamble) and earn lots of money. Unfortunately for the inventors, these cheating devices never took off. In the 1970s, the one gadget that everyone had was a calculator. So, the Time Computer company of the US decided to combine a watch with a calculator called the Pulsar Calculator Watch.



Then came the Internet

In the early 1990s the Internet had just begun to be used widely, and this inspired a new kind of wearable tech. US inventor Steve Mann created the Wearable Wireless Webcam, a head-mounted camera that transmitted images to a computer that in turn published them on a website. In other words, you could look at exactly what Steve was looking at with the help of this gadget.

A Viking king conquers

By the turn of the century, mobile

—В. F. Skinner





Special Report

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Bluetooth is named after an ancient Viking warrior

phones were in use all over the world. Swedish telecom company Ericsson came up with the idea of Bluetooth technology that could connect two devices across short distances without wires. Bluetooth headsets that allowed people to answer a phone call without holding the phone in hand started getting very popular. Bluetooth headsets are probably the most widely used wearable tech in the world.

Keeping you fit

Another very popular category of wearable tech are devices that



track the wearer's physical activities over a day. This could be as simple as a bracelet (see the image of the Jawbone Up below) that tracks physical activity, hours of sleep, food eaten and calories burned in order to make the wearer a healthier individual.

Or it could be a 'smart' soccer shoe like the Adidas 'miCoach' soccer boots that come with a computer chip fitted into the base of the shoe. The chip records your speed, sprint times, distance, step and stride rates, stores it for up to seven hours and can also share the information with a smartphone or computer.



The Watch Wars

The wearable tech movement has come full circle and the focus is once again on the watch. In the past few months, companies like Samsung and Apple have all launched their smart watches, so called as they can do so much more than tell the time.

Apple Watch



Apple

Watch has

Apple Pay that will

let you use the watch

to pay for things you

buy in shops (only in

the US) starting 2015 The watch display alerts the user of calls, emails and messages – so, there is no need to hunt when the phone rings urgently.

These watches have fullcolour display screens

They have fitness trackers with a motion sensor to track movement and activity

They can play music though the Samsung watch is the only one with a camera

Samsung Gear 2



Gear 2 comes with a heart monitor to ensure your heart is hale and hearty

Google Glass: See the world afresh

What if you could only look at a person while wearing the Google Glass, and instantly that person's name and details appear on the lens in front of your eye? Or imagine if you could look at a historic building while on a tour and instantly get information about it.

All this and more is possible with Google Glass, a special kind of spectacles made by Google. It looks like a fancy set of glasses except for a small attachment on one side that contains all the extra intelligence. The Glass can be

used to translate road signs and restaurant menus in ten different languages by simply looking at the written text. The Glass can also help you navigate a new city by sending turn by turn directions to your screen. It can even shoot photos and videos simply by listening to your spoken command.



What is in store now?

A lot of exciting new products are just around the corner such as:

- 'Smart' clothing that can charge devices using solar energy
- Objects and clothing with trackers that prevent stuff from getting lost
- \bullet We arable air purifiers that ensure a clean personal environment
- Personal climate controllers to heat/cool the body
 There is a lot to look forward to isn't it?







- 'Space flight is hard -- but worth it' - Richard Branson, promoter of Virgin **Galactic**



Should we ban fireworks in Delhi?

The drastic step of banning fireworks in the capital city may be the only way to prevent a heavy rise in pollution levels after the festival of Diwali each year when many burst crackers all over the city.

This year, the government had banned (stopped) the sale of cheap, imported Chinese firecrackers and the use of crackers after 10 PM (a law that was not followed). A lot of schools had also spread the message of a 'green Diwali' minus crackers but all these steps were not of any use.

Pollution levels rose dangerously high after Diwali and were much, much higher than safety levels. On Diwali and the day after, the air in Delhi had unhealthy levels of carbon monoxide and benzene gases. Levels of pollutants were double the safe levels. The pollution was caused by the traffic around Diwali time as well as the crackers.

Pollution especially affects elderly people and



Delhi suffers from smog each year after Diwali

children who suffer from asthma and wheezing (diseases which affect the lungs), as it makes these much worse, giving rise to breathlessness.

So, the next time you think of buying crackers, think twice. You are doing the worst possible damage to the environment.

Spacecraft crashes in the US

SpaceShipTwo, the spacecraft that was to take tourists into outer space, crashed during a test flight in the Mojave Desert of the United States last Friday. The co-pilot of the spacecraft was killed in the accident.

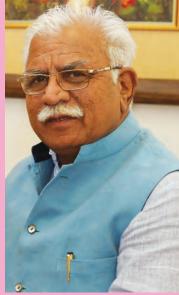
The spacecraft was owned by a company called Virgin Galactic which was expected to become the first company to offer space tourism. Hundreds of people have signed up for a trip on SpaceShipTwo which would take them to the edge of outer space.

On Friday, the company was testing a new kind of fuel (the substance that powers the spaceship) when the crash occurred. But it appears that the crash may not have been caused by the new fuel. In fact officials who were looking into the crash said on Monday that that an incorrect command from the co-pilot may have caused the aircraft to break up. Virgin Galactic was supposed to start its space flights, which involve a short journey to the edge of space, by 2015. But that may be further delayed by the accident although the company has announced plans to build a new spaceship



New Chief Ministers for Maharashtra, Haryana





Devendra Fadnavis, CM of Maharashtra Manohar Lal Khattar, CM of Haryana

The Bharatiya Janata Party (BJP), which runs the central government of India at New Delhi, has come up a winner in the recent state elections in Maharashtra and Haryana. The BJP has therefore formed the government in those states. It is the first time ever that the political party has won in Haryana.

An official of the company that owns and manages One World Trade Centre



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WORLD

Rising like a phoenix

13 years after the twin towers of the World Trade Centre in New York City were destroyed in a terrorist attack, One World Trade Centre has re-opened at the same site. It is now a 104 level tall single skyscraper.

On the 11th of September 2001, terrorists flew planes into the two buildings, causing them to collapse and killing hundreds of office workers inside. Terrorists are people who use violence as a way to get what they want.

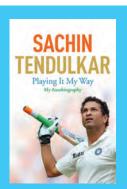
The new building was constructed over the last eight years. Near it is a memorial to those who lost their lives in the September 2001 terrorist attack.

One World Trade Centre towers above the New York skyline. It is the tallest building in the United States.



sports Read it!

Just about a year into his retirement, India's cricket god, Sachin Tendulkar, has published his autobiography. An autobiography is a story of a person's life written in the first person (using the pronoun T). Called 'Playing it my Way' the book relates the Sachin's take on his cricketing years.



SPORTS

Fastest test century ever

Pakistan captain Misbah-ul Haq made history this week when he smashed a century (100 runs) in just 56 balls against Australia. He has equaled a 28 year old record created by West Indies player Viv Richards who smashed his century off 56 balls against England in 1986. Along the way, Misbah also broke the record for the fastest half century in test cricket by reaching the



50 run mark in just 21 balls. (Do remember that these are records for test cricket and not One Day Internationals or T20 matches).

His record smashing performance was all the sweeter for Pakistan as they won the match and the series against Australia, a team they have not beaten in test cricket since 1994. The series, which was played in Dubai in the United Arab Emirates (UAE) was won by Pakistan 2-0.

SPORTS

India win first ODI

Led by stand-in skipper Virat Kohli (captain MS Dhoni has been rested), India won the first One Day International (ODI) against Sri Lanka played at Cuttack in Orissa on November 2. Four more remain to be played until the series ends on November 16. Centuries by India's Shikhar Dhawan and Ajinkya Rahane helped India win the match.

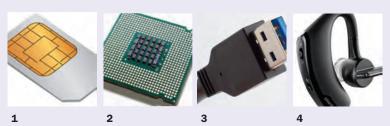


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Tech Bait

Here are objects from the world of technology. Can you identify them?



A microprocessor, the heart of a computer
 A USB connector used for connecting many gadgets to computers
 A. Bluetooth headset for hands-free phone operation

MIS anohile phone SIM

UNSCRAMBLE THE WORDS

Re-arrange the alphabets to find the word **Hint:** All clues are linked to the theme of technology

Answers

1. Gadget

2. Laptop

3. Cable

4. Memory

1. TGGAED

2. POTPLA

3. ECLAB

4. MMEOYR



WORD SEARCH



Top Reads for Kids and Young Adults

- 1. Heroes of Olympus: The Blood of Olympus by Rick Riordan
- 2. National Geographic Kids Almanac: 2015
- 3. Guinness World Records 2015
- 4. The Kingdom of Fantasy: The Search for Treasure by Geronimo Stilton
- 5. Dork Diaries: Once Upon a Dork by Rachel Renee Russell
- Kellee Kussell
- 6. Lockwood & Co.: The Whispering Skull by Jonathan Stroud
- 7. With Love from the Hills by Ruskin Bond
- 8. Super Zero by Jane De Suza
- 9. Who We Are: One Direction Our Autobiography
- 10. The Secret of Falcon Heights by Ranjit Lal



To know more about these books and to buy them, check out www.toptenbooksoftheweek.com

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