

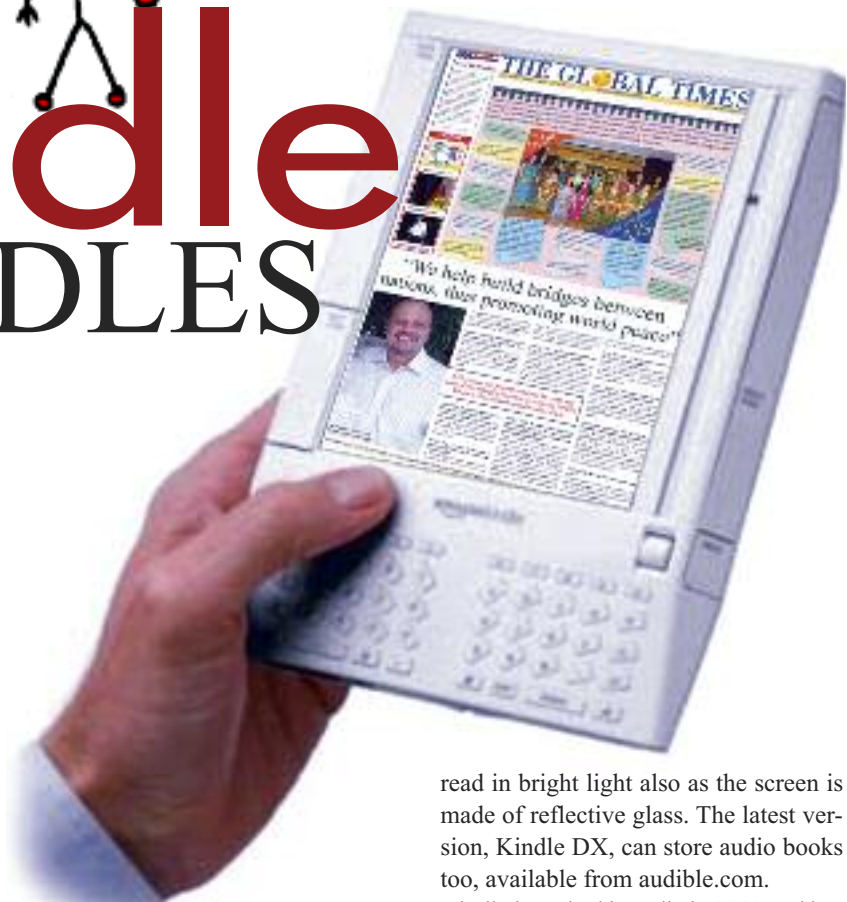


Kindle REKINDLES

Misha Gupta, VIII A, AIS Noida

BOOKS: What comes to one's mind when we think of them? 'What Books? Who has time for them? I have my blackberry, laptop, cell phone to keep me occupied.' To 're-Kindle' people's interest in reading, Amazon launched the new KINDLE, as an application compatible with certain devices as well as an e-book reader, providing users the ability to read Kindle books using a beautiful, easy-to-use interface.

The sleek, attractive and easy to use e-book reader is also fast gaining popularity. Waiting at airports and train stations is no more a pain. Traveling, and don't want to carry a heavy load of books with you? That's where the e-book reader steps in. With an almost real time interface, the e-book reader is touch sensitive, allowing you to flick pages as you would in real life. It's a portable device that needs no wi-fi hotspots. Kindle's 6-inch electronic ink display reads like printed words on paper because the



Tech Talk

screen works using real ink, displaying it electronically, and doesn't use a backlight, eliminating the eye strain associated with other electronic displays. The only drawback is that one has to purchase special e-books from the kindle store available online. The text can be

read in bright light also as the screen is made of reflective glass. The latest version, Kindle DX, can store audio books too, available from audible.com. Kindle launched in India in 2009 and has been getting rave reviews ever since. Priced at \$400 without taxes, it is expensive but a boon for all voracious readers. With time, the prices are expected to go down as well. A whole library sitting in my bag sure excites me. Let's all wait and watch to see how things go... how much are you ready to buy it for?☺

All there is to the universe and its quandary: a bunch of strings!

Mayank Joneja, XII D, AIS Noida

When was the last time you held an insignificant piece of string or a rubber band? This morning, tying your shoelaces before heading out to school? Played with a yo-yo perhaps? (What? I'm 17 and I still have those moments!) or perhaps that strange thread stuck out of the fabric of your dress your mom tells you not to pull and you do anyway. Well, whatever case applies to you, I'm sure that it is highly likely that you are unaware of the fact that this simple string is now on the verge of being declared the single most all important unit of existence. See, we all have perhaps been brought up with the understanding that, (science enthusiasts rejoice, others please bear for a little while), all matter and energy is made of particles. Energy, like light, is made up of photons and neutrinos, whereas matter follows this chain: *Everythingà Atoms and Moleculesà Protons and Electrons (and other particles)à Quarks?*

This last level is what scientists call strings. The basic unit of all existence. Contrary to existing notions which say that the most basic unit is a point size (zero dimensions) particle, the string theory claims it to be this string which when vibrates one way makes a proton, another way makes an electron, or any other particle, and moreover carves a possibility of the existence of multiple dimensions.



String Theory

These strings (which can be plucked like rubber bands) also form the basic particles which are responsible for the basic forces of electromagnetism, gravity and nuclear forces. Also this theory seeks to unify the existing General Theory of Relativity (all rules for the big world) with Quantum Mechanics (all the rules of the sub atomic world) to give one Theory Of Everything.

For all intrigued-check these out:

1. String Theory in less than two minutes (Youtube)
2. Michio Kaku's Lectures on String Theory (Youtube)
3. String Theory (Wikipedia)☺

Man playing God

Scientists spur up a revolution, create synthetic life grown in lab!

Maheep Tripathi, XI D, AIS Noida

A specie without an ancestor that ever roamed among the dinosaurs. A specie that originated not from its mother's womb, but from the computer's motherboard. Life, that makes man equivalent to God. In a feat that is parallel to the origin of life, an accomplishment nothing less than a miracle - Dr. Craig Venter has successfully 'synthesized' life, using nothing but a computer and a few vials of chemicals!

HOW: Researchers at the J. Craig Institute built an artificial genome (DNA)

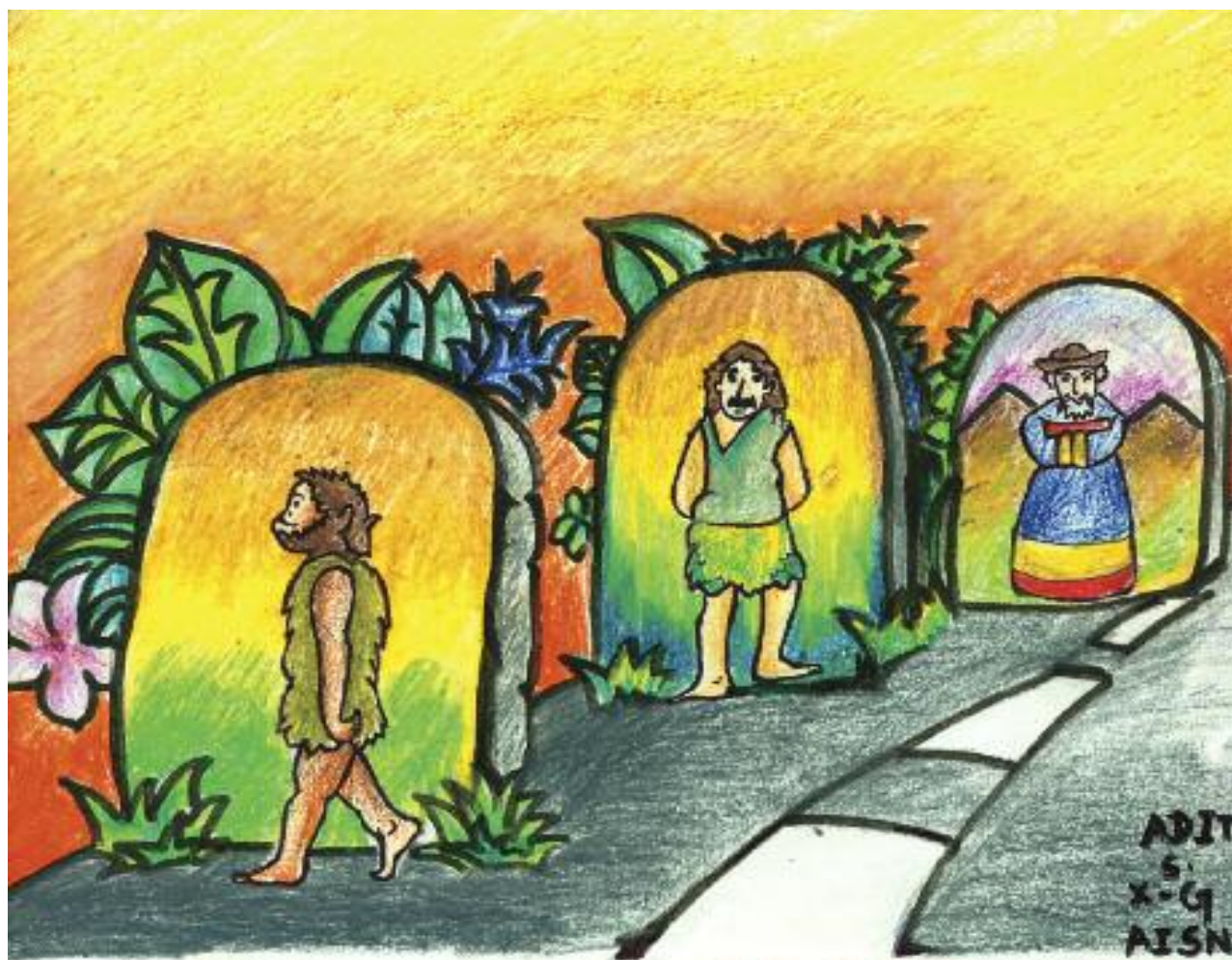


from scratch which was incorporated into living cells. The cells were then able to grow naturally, thus resulting in the creation of the world's first lab-grown life form! Dr. Venter was previously renowned for the success of his project that aimed to map the entire human genome-something that was unthinkable back then five years ago. In an encore performance, Dr. Venter has given the world another huge topic to debate on. From bioethicists to environmentalists, from religious leaders to the military, this new discovery has everybody hooked. But why so?

THE GOOD: Dr. Craig Venter started the project with an ambitious goal of creating fuel from CO₂ - the lab-grown bacteria can convert trapped CO₂ to oil or clean up oil-spills. Now it is completely possible to fashion bacteria that possess desired traits. Hence they can further be tailored for other specific purposes like synthesizing useful chemicals, breaking down pollutants, producing proteins for vaccines, or even detecting explosives. The potential that this discovery holds is unfathomably huge.

THE BAD: The biggest threat faced by this innovation is from the corporate world, which has seen companies getting thousands of tissues, genomes as well as whole organisms patented. Now listen to this- Myriad Genetics, a pharmaceuticals company, 'owns' a breast-cancer causing gene. So a patient wanting to test for the gene has to shell out the price for breaching the patent. Outrageous, isn't it! The danger faced by this resource is no different. Very soon it will be cashed in. It is a shame that we treat the earth's genetic diversity as a corporate market place rather than a marvel of nature.

THE UGLY: Artificially created organisms have not evolved over billions of years unlike other organisms, and may wreak havoc if released in nature. We may be helpless witnesses to horrors such as the wipeout of all crop species if such a synthetic life form goes on rampage. Even though there are potentially many dangers that lurk over this discovery, it is an agreeable fact that the advantages it has in store weigh down heavily on its disadvantages. So we must welcome the idea with open arms for the future is here!☺



Evolving & Adapting

Aditi Sinha, X G, AIS Noida

Spiraling out of an ape emerges a man. The Mentos advertisement of the ape-to-man phenomenon describes the mind boggling evolution theory quite comically, crediting Mentos for the lighting of *dimaag ki batti* of our ancestors. But millions of years ago, even before the evolution of Mentos, the evolution of humans had already triggered off; slowly transforming apes to give us our present identity of Homo sapiens that we are and the progress goes on. "Evolution is an ongoing process but its effects are observable only over a longer time span of time," says Dr. AP Raste, professor of Biology and Principal of Deshbandhu College. And with this theory comes another twist in the highly twisted string of evolution. A

study by a group of scientists at Beijing Genomics Institute, led by Xin Yi, found that Tibetans have developed unusual genes like EPAS 1 that help them live in the thin air of the Tibetan plateau. The 'super athlete' gene or EPAS 1 produces a protein involved in sensing oxygen level and influences the body's metabolism. The mutation of this gene, reportedly, the fastest genetic change ever observed in humans, within 3000 years. This enables them to live above 13,000 feet, where oxygen levels are 40% lower than the plains. Where normal people would tire quickly, with frequent headaches, and suffer high infant mortality, the Tibetans are at bliss up there breathing easy and relaxed even at that level. Now we will definitely have some survivors in the depleting oxygen era for sure!☺

Tibet Trail

- Tibetans have developed unusual genes like EPAS 1 that help them live in less oxygen on the Tibetan plateau.
- The mutation of EPAS 1 gene is the fastest genetic change ever observed in humans, within 3000 years.