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The Hindu
04 Mar, 2016

Indian firm to partner Israel for anti-tank missiles

Rafael of Israel and Kalyani group are setting up a joint venture (JV), Kalyani Rafael Advanced Systems, to build weapon systems in India. It could start with the production of Spike Anti-Tank Guided Missile (ATGM) which the Indian Army is in the process of procuring.

However the final deal for Spike is yet to be cleared and contract negotiations are currently underway. The deal which was cleared in 2014 ran into trouble but informed sources said that the issues have been sorted and negotiations will be completed soon without giving a time frame. Sources said the deal is on the top of the agenda during Prime Minister Narendra Modi's visit to Israel later this year. Under a tripartite agreement the JV is expected to manufacture sub-assemblies and Bharat Dynamics Limited (BDL) will do electro optics and do hot integration at its Hyderabad facility which currently manufactures French Milan ATGMs.

Make in India policy

The work on the facility has already commenced. It is all about when the final contract is signed, according to a source. As reported by *The Hindu* earlier the unit will be set up in the hardware technology park in Hyderabad. Conforming to Foreign Direct Investment (FDI) norms in defence the Kalyani group will hold 51 percent stake with Rafael holding the rest.

"The initiative is in line with the government's 'Make in India' policy and will enable the development and production of high end technology systems within the country," Rafael said in a statement.

The Rs.3,200 crore deal for the ATGMs was cleared in 2014 by the Defence Acquisition Council chaired by Defence Minister Arun Jaitley which put an end to uncertainty after the U.S. offer of joint production of Javelin missiles. The deal includes 8,000 plus missiles, 300 plus launchers and requisite technology transfer to the Indian entity which was initially supposed to be BDL. Spike is a third generation, fire and forget anti-tank missile.

The Hindu
04 Mar, 2016

ASEAN-Plus military drill begins in Pune

Military personnel of adversarial world powers converged upon the Aundh Military Station in Pune to thrall spectators with the largest Multinational Field Training Exercise (FTX) ever conducted on Indian soil.

The week-long exercise, being held from March 2 to 8, is christened 'Force 18' (initially labelled 'FTX-2016').

The spectacle is an elaborate and ambitious military training exercise involving Army units from eighteen countries, often locked as adversaries in the arena of global realpolitik.

They include nine members of the Association of South East Asian Nations and eight observer States, that include India, Japan, Korea, China, Russia, the United States, Australia, and New Zealand. Myanmar was compelled to back out owing to elections and security issues pertaining to border infiltration.

Lt Gen Bipin Rawat, Army Commander of the city-based Southern Command, said the broad objective of 'Force 18' was to build common understanding and achieve inter-operability among the 18 ASEAN-Plus countries.

A unique facet of the exercise is that the Indian Army contingent of 40 soldiers is being led by Lt Col Sophia Qureshi, a woman officer from the Corps of Signals, who now has the rare distinction of becoming the first woman officer to lead an Indian Army training contingent in such a multinational exercise.

The Pioneer
04 Mar, 2016

Soldiers aren't cannon fodder

Neither the Pampore operation nor the Pathankot incident before that should have resulted in so many casualties

In all honesty, the Indian Army has gone through a very patchy period this past month. Despite statements to the contrary by the Chief of Army Staff, the Pathankot operation was an unmitigated disaster. Undoubtedly the terrorists' designs were foiled and all of them neutralised, but the cost was disproportionately high and probably avoidable. Analysts believe incorrect force utilisation and tasking along with faulty command and control structures and poor coordination was responsible for what followed.

There are unconfirmed reports that Lieutenant Colonel Niranjan Kumar, the Bomb Disposal specialist who was killed while defusing a grenade, may have been under pressure from his superiors to hasten up clearance operations. A similar allegation has also been made that the Special Forces elements, conducting the intervention operations at Pampore, of which two officers and a non-commissioned officer were killed, were also forced to speed up operations due to orders from above. If there is even a modicum of truth in these allegations, it reflects poorly on the professionalism of the chain of command and points towards a inexperienced and deeply flawed leadership.

The Pampore operation was unique in many ways. The building selected by the terrorists, an isolated four-storied concrete structure with a sloping tin roof ending in an overhang, as is common in Kashmir, was ideal for what they had planned. It gave them the advantage of height, which allowed them tactical domination and good fields of fire, while the structure offered a fair amount of protection against small arms fire, high explosive grenades and rockets. The sloping roof also ensured troops could not be dropped on the roof from where they could have then abseiled down to the lower floors and made multiple entries.

However, the terrorists lost the initiative once they had ambushed the Central Reserve Police Force convoy and then withdrawn and occupied the building, especially after it was cordoned off, closing all avenues of escape which could only lead to capture or death. The advantage of having pinned them in one location, though not of our choosing, was further amplified by the fact that they had not taken hostages and were in an isolated building, thereby greatly reducing, if not completely nullifying any chances of collateral damage and civilian casualties. It was then only a matter of time before these terrorists were neutralised by carrying out a stand-off fire assault. This has been the usual practice for decades, and building interventions were only carried out if hostages had been taken and there was a likelihood of them being killed, or if it was envisaged that the terrorists may be able to break contact and escape under the cover of darkness.

Even if there were some valid reasons for senior commanders to hasten operations or lay down time restrictions as alleged — though this writer cannot think of any — there were still different options available for neutralising the terrorists without resorting to an assault through the front door and incurring unnecessary casualties. The easiest and most costeffective option would have been to approach the building in an attack helicopter and destroy the floor on which the terrorists had deployed. The Armed Forces have rightly desisted from using the Air Force to carry out air raids while engaged in counter-insurgency operation, ever since it was used for the first and only time in 1966 during the Mizo uprising, as the principle of minimum force must be applied when dealing with our own population, even if they are disaffected and have taken up arms against the state.

However, in this case the circumstances were different and the use of helicopters would have been fully justified, as they would have been directed against non-state foreign terrorists engaged in pinpoint attacks with no collateral damage to our citizens. Such tactics would have sent a strong message to the leadership of terror organisations involved as well as their sponsors within the Pakistan establishment.

Unfortunately, the Armed Forces senior leaders has always been excessively timid, conservative and unwilling to change, especially if tactics in vogue have worked well earlier. They are unquestioning of their political masters and tend to voluntarily lay down selfimposed restrictions on the manner in which operations are conducted.

Kargil is the perfect example of this mindset. Former Prime Minister Atal Bihari Vajpayee gave directions that the Line of Control would not be crossed and the military leadership refused to either question his reasoning or request any modifications. The result was, and as has been the case at Pampore, that assaults were launched along expected approaches resulting in excessive and completely avoidable casualties. While Mr Vajpayee may have gained plaudits from the international community, one can seriously question if his policy gave us any real dividends?

We are still under attack by the Pakistani elements and the US continues to only pay lip service while providing billions of dollars of weapons and other aid to Pakistan. The military brass must carry out introspect and stands up for the men under its command. Our soldiers are not cannon fodder. As somebody has suggested, paying homage to martyrs is not what the brass gets paid for. Senior commanders must remember what General George S Patton said: “No b#####d ever won a war by dying for his country. He won it by making the other poor dumb b#####d die for his country.”

The Pioneer
04 Mar, 2016

Pak intruders find no light at end of tunnel

Two months after the daring fidayeen strike on Pathankot airbase, Border Security Force (BSF) jawans on Thursday detected a 30-metre long cross border tunnel near Allah Mai De Kothi Border outpost along the International Border in RS Pura Sector of Jammu frontier.

The major security breach has rattled the authorities as it went unnoticed for a long time. The tunnel from the Pakistani side runs deep inside the Indian territory, approximately 50 metres ahead of the barbed wire fencing. It was apparently covered with wooden strips under the thick vegetation. According to preliminary investigations carried out by senior BSF officers, the tunnel was 10-feet deep and approximately 30-metre long.

It was well constructed with the expert help and latest technology was used to ensure smooth movement of infiltrators in a small group.

According to Intelligence agencies, some of the terrorist training camps were imparting training to fresh recruits in Ikramabad area in the vicinity of 'Afzal' post towards the Pakistani side. The tunnel is believed to have been made to push trained militants inside the Indian territory to carry out fidayeen attacks in and around Jammu.

Inspector General of BSF, Jammu frontier, Rakesh Sharma told reporters on the International Border that the tunnel was detected by the BSF jawans engaged in the task of clearing the thick vegetation to ensure better visibility in the area around 10 am. The area was selected purposefully to facilitate infiltration of armed terrorists as it fell close to the Nikki Tawi, a rivulet. The area is also dotted with thick growth of elephantine grass and hampers clear line of sight. The tunnel was detected after one of tractors got stuck in a deep pit. Sensing something fishy, BSF jawans there raised an alarm following which senior BSF officers reached the spot and detected the 2.5 feet wide tunnel 50 metre ahead of the barbed wire fencing.

Senior BSF officers of Jammu frontier and other central agencies also visited the spot to assess the situation before addressing the media. Initially, when BSF officers said their Pak counterparts to come for a flag meeting they resisted but under pressure from the Indian side they also visited the zero line. Involvement of Pak rangers and their expert help cannot be ruled out as the other opening of the tunnel fell close to the Afzal BoP of Pak rangers in the area. This has been the fourth cross border tunnel emanating from Pakistan side which has been detected by BSF during the past five years. Earlier, three such tunnels were detected, one in Samba in July 2012 and the other in Akhnoor sector in 2013 and another in August 2014.

The Times of India
04 Mar, 2016

Laser weapons to shoot down drones, missiles on cards

The US military is "very close" to developing laser weapons for use on the battlefield, an army official has revealed. Speaking at a House of Representatives committee, military technology secretary Mary J Miller said the army was aiming to have the weapons deployed as early as 2023. Once developed, the weapons would be used to shoot down missiles, drones and even artillery shells as they move through the sky.

Before laser weapons can be used in battle, however, they'll need to go through stringent tests and trials so soldiers can get to grips with them.

Speaking to the committee, Miller said: "Lasers have been promised for a long time, but they've never held up and delivered what was asked for. So the operators are rightfully skeptical, which is why you see the (armed) services taking the lasers out in operational environments and letting them be used by operators so they can understand what the capabilities are," she said.

In the meantime, less-powerful laser weapons will be rolled out "relatively soon," so members of the military can gain some experience before using the more deadly weapons.

Some laser weapons have been tested before, and the technology is already in use in some branches of the American armed forces.

Also speaking at the committee, David Walker, a US air force technology official, said American planes equipped with lasers were flying "every day," using them as "infrared countermeasure systems" designed to protect against incoming missiles.

Part of the military's attraction to laser weapons is their low cost.

While the systems may take millions to develop, a single shot on the battlefield would cost around £1, according to Popular Science — far less than the price of a single missile, which can stretch into the tens of thousands of pounds.

If laser weapons make it into the theatre of war in the 2020s, they'll only target incoming projectiles or unmanned vehicles for the foreseeable future, since the use of directed energy or blinding laser weapons against people is restricted by the Geneva Conventions.

The Asian Age
04 Mar, 2016

US alarmed by growing stockpile of Pakistan's nuclear

The US is concerned over Pakistan's fast-expanding stockpile of nuclear weapons which combined with its evolving doctrine increases the risk of an "accident", Pentagon's top spy master has said.

"Pakistan's nuclear stockpile continues to grow. We are concerned that this growth, as well as the evolving doctrine associated with tactical nuclear weapons, increases the risk of an incident or accident," Lt. Gen. Vincent Stewart, director of Defence Intelligence Agency told legislature on Wednesday during a Congressional hearing.

"Islamabad continues to take steps to improve its nuclear security, and is aware of the threat presented by extremists to its programme," Gen. Stewart said during his testimony before the House Armed Services Committee on Worldwide Threats.

Pakistan will face internal security threats from militant, sectarian and separatist groups this year, he said, adding that ISIS in Khorasan and Al Qaeda in the Indian subcontinent will also remain significant security concerns for Islamabad.

Meanwhile, Pakistan's finance minister on Thursday said that his country will never roll back its nuclear programme despite financial hardship and threat of mounting external debt.

The Express Tribune reported that Ishaq Dar dismissed reports about Pakistan bartering away its nuclear arsenal.

Deccan Herald
04 Mar, 2016

Use of South China Sea should be governed by global rules: Japan

South China Sea has been at the centre of an escalating conflict between China and its maritime neighbours - Brunei, Malaysia, Vietnam and the Philippines

NEW DELHI, dhns: Amid reports about China deploying surface-to-air missiles in one of the disputed islands in South China Sea, Japan's Deputy Minister for Foreign Affairs Yasumasa Nagamine said in New Delhi that use of seas should be governed by international rules and laws.

Delivering the keynote address on the second day of the three-day Raisina Dialogue in New Delhi, Nagamine stressed that all countries should adhere to international rules and that freedom of navigation must be maintained.

India, too, last week nudged China to refrain from taking any "unilateral action" in the disputed South China Sea.

Noting that the India-Japan partnership should be recognised in regional peace and stability, Nagamine said that the Raisina Dialogue had met the need of the time to shape the future of the Indo-Pacific. He said the military exercise between like-minded countries like Japan, India,

Australia and the United States reflected the current situations in the region, especially in the oceans.

The South China Sea has been at the centre of an escalating conflict between China and its maritime neighbours - Brunei, Malaysia, Vietnam and the Philippines.

New Delhi has been of the view that freedom of navigation in international waters must be protected. It has also been arguing that sovereignty issues must be resolved peacefully by the countries, which are parties to the dispute in accordance with accepted principles of international law, including the United Nations' Convention on the Law of the Sea (UNCLOS) 1982.

India on Thursday also referred to the 2002 Declaration of Conduct of Parties in the South China Sea and called upon all to adhere to the code.

The 2002 code states that 'the Parties undertake to resolve their territorial and jurisdictional disputes by peaceful means, without resorting to threat or use of force'.

New Delhi has of late been raising its pitch on the South China Sea dispute. Beijing, of course, wasn't amused and conveyed to New Delhi its unease, particularly reacting to reference to the row in the joint statement issued after Prime Minister Narendra Modi's meeting with his Japanese counterpart Shinzo Abe last December.

The Indian Express
04 Mar, 2016

Taking arms

The Asia-Pacific region is at peace—but it is buying a lot of weapons

THOUGH parts of Asia are racked by long-running insurgencies, terrorist groups, banditry or low-level civil wars, it is striking that the continent has not suffered a full-scale war between countries since China's brief and bloody punitive invasion of Vietnam in 1979. All the more striking, then, that the region now accounts for almost half of the global market for big weapons—nearly twice as much as the war-ravaged Middle East, and four times more than Europe.

This week the Stockholm International Peace Research Institute, which maintains a database of arms transfers, published data showing that six of the ten largest importers of heavy weapons are in Asia and the Pacific: India, China, Australia, Pakistan, Vietnam and South Korea. From 2011-15 the region as a whole bought 46% of global arms imports, up from 42% in 2010-14. Asia is not witnessing a classic arms race between two great powers and their allies, of the sort Britain and Germany engaged in before the first world war, or a cold-war contest like that between America and the Soviet Union. But certainly Asian countries are competing to modernise their military forces. The "Military Balance", an annual report by the International Institute for Strategic Studies (IISS), a British think-tank, noted this month that most have seen "sustained, multi-year increases in defence spending".

China's rise and recent assertiveness are most often cited for the arms build-up. In the East China Sea, tensions have grown between China and Japan over the uninhabited Senkaku, or Diaoyu, islands. Since 2012 China has been sending ships and planes close to the islands in ways designed to challenge Japan's claim to be administering them. In the South China Sea, China finds itself at odds with a number of South-East Asian countries, especially the Philippines and Vietnam, over even tinier islets, rocks and reefs. By means of massive artificial island-building over the past two years, disregarding the concerns of rival claimants, China seems simply to be taking what it thinks is its own. That helps explain, for example, why Vietnam's arms imports in 2011-15 were eight

times higher than in the previous five years, taking its share of the global total to 2.9%. The country has bought eight combat aircraft, four fast-attack craft and four submarines. A further six frigates and two submarines are on order.

Even were China not filling in the sea so enthusiastically, its military build-up would probably provoke a reaction. In particular the rapid expansion of its navy, with the apparent intention of eventually upsetting American primacy in the western Pacific, represents a big shift in the strategic order. Other regional navies are also modernising—above all by buying submarines. Besides Vietnam’s purchases, India has ordered six from France, and Pakistan has bought eight from China, which is also providing two to Bangladesh. Germany is to deliver two to Singapore and five to South Korea, which has sold three of its own manufacture to Indonesia. Australia is to buy between eight and 12, with fierce competition for the order between France, Germany and Japan.

But Tim Huxley, Asia director of the IISS, says it is misleading to see military spending in the region as “all about China”. Rather, it points to a much longer trend reflecting the region’s rapid economic growth and increased wealth. Countries have a range of external and internal security concerns. For example, despite its tiny size, Singapore is much the biggest defence spender in South-East Asia, outspending even Indonesia, with 45 times more people. Yet Singapore has no territorial claim in the South China Sea. Rather, its (unstated) fears have more to do with potential instability in its own immediate neighbours.

Also encouraging continued military spending is that none of Asia’s big strategic fissures, dating back decades, is really narrowing. India and Pakistan have been arguing and at times going to war over Kashmir since 1947. For China, victory in the civil war in 1949 was incomplete, because Taiwan remained outside its grip, and it has never ruled out the eventual resort to military force to achieve “reunification”, if peaceful means run out of steam. The Korean war ended in 1953 with an armistice but no peace treaty; North Korean dictators—three generations of belligerent Kims—have stoked tension ever since. China’s invasion of northern India in 1962 and subsequent withdrawal left the two countries’ competing claims over each other’s territory unresolved.

At times back-channel talks over Kashmir have led to hints of a breakthrough between India and Pakistan. But none of these disputes—nor those in the South and East China Seas—is subject to anything resembling a peace process, and none is discussed in more than broad-brush terms at any of the various regional security talking shops. Armies, lobbying for a budget to buy the latest kit, can always point to the risk that a dispute might flare up into conflict; and to the need to build up a deterrent capacity.

THAAD’s the way they don’t like it

One country’s deterrence, of course, can be another’s threat. In response to North Korea’s nuclear and missile tests this year, for example, conservative politicians in South Korea are again calling on the government to develop its own nuclear deterrent. They are very unlikely to have their way. But the South has been in talks to deploy an American anti-missile system, known as Terminal High-Altitude Area Defence, or THAAD.

This in turn alarms China, which argues that the associated radar threatens its own security and has lobbied hard to dissuade South Korea from adopting THAAD. Another aspect of China’s assertiveness is its readiness to intervene in other countries’ security policies. It has even suggested to Australia that it should think twice about buying Japanese submarines, because of historical sensitivities over the second world war. This diplomatic expansionism, however, tends to have

much the same effect as the sea-filling kind: raising alarm and hackles, and driving China's neighbours closer to America—and to suppliers of heavy weaponry. (Source –© *The Economist*)

The Asian Age
04 Mar, 2016

Beijing wary of proposed 4-nation bloc

With US pitching for a quadrilateral security dialogue with India, Japan and Australia, a wary China Thursday said it has no objection to “normal cooperation” between the countries but it should not be aimed at a “third party”.

“We have no objection to relevant countries normal cooperation, but we believe that relevant cooperation should not be targeted against third party,” Chinese foreign ministry spokesman Hong Lei told reporters here without directly mentioning China.

He was responding to a question on remarks made by Admiral Harry B. Harris, Jr Commander, US Pacific Command, in New Delhi, proposing a quadrilateral cooperation between the US, India, Japan and Australia.

“One idea to consider is initiating a Quadrilateral Security Dialogue between India-Japan-Australia and the United States. Adding the US into this dialogue can amplify the message that we are united behind the international rules-based order that has kept the peace and is essential to all of us,” he had said.

Though he did not specifically mention China, Admiral Harris said powerful countries were seeking to “bully smaller nations through intimidation and coercion” and made the case that a broad naval collaboration was the best way to avert it, media reports said. He also hoped for a joint patrol in the Asia Pacific region in future.

Mr Hong also gave a similar reply to a question on Malabar exercises held in December last in which Japan was invited to take part along with the US and India.

The Asian Age
04 Mar, 2016

South Korea says UN curbs send strong message to Pyongyang

South Korean President Park Geun-hye on Thursday welcomed tough new UN sanctions on North Korea, saying they sent a powerful message to Pyongyang to discard its nuclear weapons ambitions.

“I sincerely hope that the North will now abandon its nuclear development programme and embark on a path of change,” said Ms Park, who has taken an increasingly hardline stance with Pyongyang following its nuclear test in January and last month's long-range rocket launch.

The new measures send “a strong message from the international community seeking peace on the Korean Peninsula and around the world,” Ms Park added.

Russia expressed hope Thursday that North Korea would “draw the right conclusions” and resume talks after the United Nations adopted the toughest sanctions to date on Pyongyang over its fourth nuclear test and rocket launch.

“We are hoping that the North Korean side will take this decision in an adequate manner, draw the right conclusions and return to the negotiating table to settle the nuclear problem on the Korean peninsula,” the foreign ministry said.

The Statesman
04 Mar, 2016

Seoul: N Korea fires missiles after curbs

UN imposes toughest sanctions for its nuclear test

North Korea fired six shortrange projectiles into the sea off its east coast today, Seoul officials said, just hours after the UN Security Council approved the toughest sanctions on Pyongyang in two decades for its recent nuclear test and long-range rocket launch. The North's launches also come shortly after Seoul's parliament passed its first legislation on human rights in North Korea. Defence spokesman Moon Sang Gyun said the projectiles were fired from the eastern coastal town of Wonsan, adding authorities were trying to determine what exactly North Korea fired. The projectiles could be missiles, artillery or rockets, according to the Defence Ministry.

A South Korean official from the Joint Chiefs of Staff, who did not want to be named, citing office rules, said that North Korea fired six projectiles that flew about 100 to 150 kilometres before landing in the sea. North Korea routinely test-fires missiles and rockets, but it often conducts more weapons launches when angered at international condemnation. Today's launch was seen as a "low-level" response to the UN sanctions, with Pyongyang unlikely to launch any major provocation until a landmark ruling Workers' Party convention in May, according to Yang Moo-jin, a professor at the University of North Korean Studies in Seoul.

The US State Department said it had seen reports of the launches and was monitoring the situation. Pyongyang conducted its fourth nuclear test in January, making the widely disputed claim that it successfully detonated a hydrogen bomb. Last month, it put a satellite into orbit on a longrange rocket that the United Nations and others see as a cover for a test of banned ballistic missile technology.

The new UN sanctions include mandatory inspections of cargo leaving and entering North Korea by land, sea or air; a ban on all sales or transfers of small arms and light weapons to Pyongyang; and expulsion of diplomats from the North who engage in "illicit activities." South Korea's National Assembly passed the human rights bill shortly before the UN sanctions were unanimously approved. The Cabinet Council endorsed the bill today.

Deccan Herald
04 Mar, 2016

We need thinkers, not just technocrats

By Vatsala Vedantam

The world is shaped by its thinkers and dreamers as much as by scientists and engineers.

I was privileged to sit in at a postgraduate session once in a reputed institution. It was not a high tech lab with state-of-the-art facilities. Nor a futuristic steel and glass edifice. This was a thatched hut with a mud floor. There was a mat for the professor who held a wooden baton in one hand while he kept time with the other on a small wooden desk. He sang in a full throated voice as he closely watched the intricate movements before him.

This was a dance class in Kalakshetra where the five post graduate students he was training have gone on to become world renowned artists today. They may not win Nobel prizes or even the approval of a society for whom higher education means a six figure pay check every month. But, for

these students of an illustrious educational institution nurtured by a visionary, the vocation they have chosen to study and practice is a dream come true.

Unfortunately, such dreams do not always materialise in this country where both parents and peers prefer to tread the familiar beaten path of medicine, engineering, information technology or management - courses which are "safe" and assured of good returns. University education in India is measured in terms of rupees invested versus rupees returned.

Educationists no longer care about trivial things like meaningful learning or career fulfillment. The only goal is to make sure that a degree obtained at great expense should reward itself in the most lucrative manner. The rupees invested have to reap profits. Even the very existence of a university stands threatened if they are not on the correct side of the ledger.

Fat pay cheques

This malady has spread to the student community as well judging from the mad rush to professional colleges. Put your money into disciplines that will reap the harvest of fat pay cheques. Private colleges and universities plough all their resources on medicine, science and technology courses because they know that is where the profits lie.

For their part, parents prepare their children's education right from kindergarten to lead them to those disciplines later. They know that that is where they can become millionaires. So, whether it is the institution or the beneficiary of the institution, the goal of education in India is to earn oodles of money.

In the process, higher education has lost out on something valuable - the making of a complete human being who can engage with other human beings in a quest where money is not the only thing that matters.

Our universities now churn out robotic individuals who may have very lucrative careers but have missed out on the finer aspects of life. Literature, music, painting, the performing arts have no place in their lives. The country will be poorer without its thinkers, writers and artists. We need them, as much as we need economists, sociologists and teachers.

If the purpose of education was to enrich lives, then our universities have failed. They may be rich with the exorbitant fees collected for their "prestigious" courses. They may expand further to add more buildings and admit more students. But what they offer is an education that is starved of the virtues that make a thoughtful human being.

Money becomes the only mantra in this quest to get richer. Both the providers and the recipients of such an education have lost something precious in the process. They have missed the secret of how to live a rewarding life where thinking, feeling and creating mattered.

In a recent article, eminent educationist Arnold Weinstein says: "If we actually believe that education is to enrich students' lives, then the humanities are on the right side of the aisle, whatever pay cheques they do or do not deliver."

He goes on to add that mastering a new technology like GPS may provide us with the most efficient route to finding an address, but finding one's way in life is another. Even our smartest computer geeks are at a loss when it comes to mapping their own psychic landscapes, according to this wise teacher.

Higher education is expensive, and studying the humanities is considered a wasteful luxury. Even if students opt for the arts of their own volition, they are pitied by their peers as if they were unfit for anything better! They become the outcasts of education.

The snobbery associated with higher education in India is astonishing. It is a rare parent who realises that an education in the humanities has its own rewards since it will enrich their children's lives.

After all, the world is shaped by its thinkers and dreamers as much as by its scientists and engineers. Our lives would be poorer if we did not have the rich legacy passed on to us by people who thought, felt and shaped the world.

The Hindu
04 Mar, 2016

Is Earth getting an intergalactic SOS?

Scientists have detected repeated bursts of radio waves beyond the edge of the Milky Way.

Astronomers have, for the first time, detected repeating short bursts of mysterious and powerful radio waves from an enigmatic source that is likely located well beyond the edge of the Milky Way galaxy.

The findings indicate that these “fast radio bursts” come from an extremely powerful object, which occasionally produces multiple bursts in under a minute, researchers said.

All previously detected fast radio bursts (FRBs) have appeared to be one-off events, they said. As a result, most theories about the origin of these mysterious pulses have involved cataclysmic incidents that destroy their source — a star exploding in a supernova, for example, or a neutron star collapsing into a black hole.

The new finding, however, shows that at least some FRBs may have other origins. The FRBs, which last just a few thousandths of a second, have puzzled scientists since they were first reported nearly a decade ago. Despite extensive follow-up efforts, astronomers until now have searched in vain for repeat bursts.

Last year, McGill University Ph.D student Paul Scholz was sifting through results from observations performed with the Arecibo radio telescope in Puerto Rico — the world’s largest radio telescope.

The new data run through a supercomputer showed several bursts with properties consistent with those of an FRB detected in 2012.

The repeat signals were surprising — and “very exciting,” Mr. Scholz said. “I knew immediately that the discovery would be extremely important in the study of FRBs.”

He pored over the remaining output from specialised software used to search for pulsars and radio bursts. He found that there were a total of 10 new bursts.

The finding suggests that these bursts must have come from an object, such as a rotating neutron star having unprecedented power that enables the emission of extremely bright pulses.

“Not only did these bursts repeat, but their brightness and spectra also differ from those of other FRBs,” said Laura Spitler, postdoctoral researcher at the Max Planck Institute for Radio Astronomy in Germany.

Scientists piece together tales of ancient Egypt

Dating from the 1st century BC to the 7th century AD, when Egypt was occupied by Greeks, Romans

Tales of tragedy written on papyrus that lay hidden for centuries in an Ancient Egyptian rubbish dump have been revealed after being pieced together with the help of a small army of citizen scientists. The stories range from a doctor's report on the drowning of a 12-year-old slave girl to a rendition of the Book of Exodus in the style of a Greek tragedy — allowing an unknown actor to play Moses 2,000 years before Charlton Heston got his chance in the 1956 blockbuster film *The Ten Commandments*. They have been reconstructed partly thanks to the help of 250,000 volunteers worldwide, who have contributed to transcribing papyrus fragments found at the site of the ancient Egyptian city of Oxyrhynchus, about 120 miles south of modern Cairo.

When the Victorian archaeologists Bernard Grenfell and Arthur Hunt dug into what looked like a sand dune there in January 1897, they found it was full of bits of papyrus that had been tossed on to rubbish tips by the inhabitants of a city that had been the ancient Egyptian equivalent of Birmingham. Grenfell and Hunt eventually uncovered a haul of more than 500,000 fragments that are now housed in the Sackler Library in Oxford and owned by the Egypt Exploration Society, London, under whose auspices the pair had travelled.

But transcribing what is written on the individual pieces — dating mainly from the 1st century BC to the seventh century AD, when Egypt was occupied by the Greeks and Romans — proved to be far more time consuming than digging them up. Between 1898 and 2012, scholars managed to transcribe just over 5,000 of the 500,000 documents. At this point, the first Ancient Lives project was piloted, allowing “citizen scientists” with at least a rudimentary knowledge of the ancient Greek alphabet to look at the documents online and have a go at making out the words written on them. Using algorithms devised by Oxford University astrophysicists to cross-check transcriptions with known texts and to assess the accuracy of the work of individual volunteers, the project, which went fully live in 2014, has allowed even schoolchildren to delve into the secrets of the papyri. Professor Dirk Obbink, of Oxford University, the director of the Ancient Lives project, told *The Independent*:

“By allowing public access to one of the largest unfinished archaeological projects in the world, we have been able to move beyond one scholar with a papyrus and a magnifying glass, to transcribe between 100,000 and 200,000 more texts — some of which had been partially eaten by worms, or used to wrap fish, or worse.” The finds, due to be unveiled by Professor Obbink at the Royal Geographical Society last night, range from official documents — a 3rd-century doctor's official report on the “twisted and lifeless body” of a drowned slave girl — to the literary, including an extract from *Andromeda*, a lost tragedy written by Euripides and thought to have been first produced in 417 BC.

“That was like finding a new speech in a play by Shakespeare,” said Professor Obbink. The Ancient Lives volunteers also helped discover a fragment of a long-lost rendition of the Book of Exodus, written in the style of a Greek tragedy, by a little-known author called Ezekiel, in the second century BC, in Alexandria. “Before, we had only known about this work because it had been quoted by the [4th century AD] church Father Eusebius,” said Professor Obbink. “We didn't know for certain that a text existed: Eusebius might have made it up or misremembered it. “Now we have a

real copy, a long speech by Moses, in iambic trimeters, telling the history of his life and how he was discovered as a baby in the bulrushes. “We can put some flesh and bones on a lost work of literature, one that was presumably performed long before Charlton Heston. “It’s amazing what gets thrown out in the rubbish.

Mail Today
04 Mar, 2016

Climate change may kill 5L by 2050

At least half a million people will die in the year 2050 as a result of the impact climate change will have on food production, according to experts.

The stark forecast is expected to occur because of changes in diet and bodyweight from reduced crop productivity.

Most of these additional deaths will be in China, India, and other low-income countries in the Pacific and Asia, but the effects on food availability will also reach into richer countries.

Writing in *The Lancet*, Dr Marco Springmann from the Oxford Martin Programme on the Future of Food at University of Oxford claimed climate change could cut improvements in food availability by about a third by 2050.

This would lead to around 3.2 per cent less food being available for the average person.

In particular, this will include reductions in fruit, vegetables, and red meat amounting to about 99kcal fewer calories per person per day.

These changes in food availability will also increase non-communicable conditions such as heart disease, stroke, and cancer, said Dr Springmann.

The modelling predicts the effects of climate change on food production could be responsible for around 529,000 extra deaths in 2050.

It's not all bad news, however.

The reduction in food availability is being predicted to cut obesity-related deaths by 260,000, but even this is slightly less than the 266,000 extra deaths predicted as a result of people being underweight.

The reduction in red meat consumption is expected to prevent 29,000 deaths each year, but reductions in fruit and vegetable intake would lead to 534,000 additional deaths.