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New restrictions on blogging site

China's best-known microblogging site has imposed new restrictions which punish those who post comments deemed offensive. Sina Weibo's rules, which came into effect this week, will sanction its 300 million users for spreading false news, divulging private information or launching public attacks. Users will be allocated 80 points and will have points deducted for every infringement. If they fall to zero, their accounts will be closed. The move comes amid government nervousness over the growing influence of weibos - microblogs similar to Twitter - which have taken the country by storm in recent years.

150 complete Everest marathon

More than 150 hardy competitors braved the rarified air and bone-chilling temperatures of Mount Everest on May 29, 2012 to take part in the world's highest marathon, organisers said. The Tenzing-Hillary Everest Marathon is part of annual celebrations marking the first conquest of the 8,848-metre (29,029-foot) summit on May 29, 1953, by Sir Edmund Hillary and his sherpa Tenzing Norgay. The race starts every year at 7:00 am in Gorak Shep, close to Everest Base Camp at an altitude of 5,356 metres, and finishes around 2,000 metres lower in the town of Namche Bazaar. The atmosphere at base camp contains only half as much oxygen as at sea level, meaning runners find themselves gasping for breath even on the slightest incline along 26.2 miles (42 kilometres) of narrow, rocky mountain paths. Organisers describe the route, which passes through Buddhist monasteries, monuments and over suspension bridges, as "probably the most adventurous trail run in the world". The temperature at the start on Tuesday hovered around freezing. "We had 93 foreigners and 62 Nepali runners.

LIVERMORIUM, FLEROVIUM join the periodic table of elements

The International Union of Pure and Applied Chemistry (IUPAC) officially approved new names for elements 114 and 116, the latest heavy elements to be added to the periodic table. Scientists of the Lawrence Livermore National Laboratory (LLNL)-Dubna collaboration proposed the names as Flerovium for element 114, with the symbol Fl, and Livermorium for element 116, with the symbol Lv, late last year. Flerovium (atomic symbol Fl) was chosen to honor Flerov Laboratory of Nuclear Reactions, where superheavy elements, including element 114, were synthesized. Georgiy N. Flerov (1913 to 1990) was a renowned physicist who discovered the spontaneous fission of uranium and was a pioneer in heavy-ion physics. He is the founder of the Joint Institute for Nuclear Research. In 1991, the laboratory was named after Flerov—Flerov Laboratory of Nuclear Reactions (FLNR). Livermorium (atomic symbol Lv) was chosen to honor Lawrence Livermore National Laboratory (LLNL) and the city of Livermore, Calif. A group of researchers from the Laboratory, along with scientists at the Flerov Laboratory of Nuclear Reactions, participated in the work carried out in Dubna on the synthesis of superheavy elements, including element 116. (Lawrencium—Element 103—was already named for LLNL's founder E.O. Lawrence.) The IUPAC states Livermorium was chosen because over the years scientists at Livermore have been involved in many areas of nuclear science: the investigation of fission properties of the heaviest elements, including the discovery of bimodal fission, and the study of prompt gamma-rays emitted from fission fragments following fission; the investigation of isomers and isomeric levels in many nuclei; and the investigation of the chemical properties of the heaviest elements. "These names honor not only the individual contributions of scientists from these laboratories to the fields of nuclear science, heavy element research, and superheavy element research, but also the phenomenal cooperation and collaboration that has occurred between scientists in these two countries," said Bill Goldstein, associate director of LLNL's Physical and Life Sciences Directorate. Scientists at LLNL have been involved in heavy element research since the Laboratory's inception in 1952 and have been collaborators in the discovery of six elements—113,114,115,116,117, and 118. Livermore also has been at the forefront of investigations into other areas related to nuclear science such as cross-section measurements, nuclear theory, radiochemical diagnostics, separations chemistry including rapid automated aqueous separations, actinide chemistry, heavy-element target fabrication, and nuclear forensics. The creation of elements 116 and 114 involved smashing calcium ions (with 20 protons each) into a curium target (96 protons) to create element 116. Element 116 decayed almost immediately into element 114. The scientists also created element 114 separately by replacing curium with a plutonium target (94 protons). The creation of elements 114 and 116 generate hope that the team is on its way to the "island of stability," an area of the periodic table in which new heavy elements would be stable or last long enough for applications to be found. **International Union of Pure and Applied Chemistry (IUPAC)** is an international federation of National Adhering Organizations that represents chemists in individual countries. It is a member of the International Council for Science (ICSU). The international headquarters of IUPAC is located in Zürich, Switzerland. The administrative office, known as the "IUPAC Secretariat", is located in Research Triangle Park, North Carolina, United States. This administrative office is headed by the IUPAC executive director. IUPAC was established in 1918 as the successor of the International Congress of Applied Chemistry for the advancement of chemistry. Its members, the National Adhering Organizations, can be national chemistry societies, national academies of sciences, or other bodies representing chemists. There are fifty-four National Adhering Organizations and three Associate National Adhering Organizations. IUPAC's Inter-divisional Committee on Nomenclature and Symbols (IUPAC nomenclature) is the recognized world authority in developing standards for the naming of the chemical elements and compounds. Since its creation, IUPAC has been run by many different committees with different responsibilities. These committees run different projects which include standardizing nomenclature, finding ways to bring chemistry to the world, and publishing works. IUPAC is best known for its works standardizing nomenclature in chemistry and other fields of science, but IUPAC has publications in many fields including chemistry, biology and physics. Some important work IUPAC has done in these fields includes standardizing nucleotide base sequence code names; publishing books for environmental scientists, chemists, and physicists; and leading the way in improving education in science **Flerovium** (formerly ununquadium) is the radioactive chemical element with the symbol Fl (formerly Uuq) and atomic number 114. The element is named after Soviet physicist Georgiy Flerov, the founder of the Joint Institute for Nuclear Research in Dubna, Russia, where the element was discovered. The name was adopted by IUPAC on May 31, 2012. **Livermorium** (formerly ununhexium) is the synthetic superheavy element with the symbol Lv (formerly Uuh) and atomic number 116. The name was adopted by IUPAC on May 31, 2012

To Be Vanished Indian Vulture

The Indian Vulture (Gyps indicus) is an Old World vulture and is closely related to the Griffon Vulture, G. fulvus. It breeds mainly on hilly crags in central and peninsular India. The birds in the northern part of its range once considered as subspecies are now considered a separate species, the Slender-billed Vulture Gyps tenuirostris. These were lumped together under the name **Long-billed Vulture**. The species breeds mainly on cliffs, but is known to use trees to nest in Rajasthan. Like other vultures it is a scavenger, feeding mostly from carcasses of dead animals which it finds by soaring over savannah and around human habitation. They often move in flocks. The Long-billed Vulture is a typical vulture, with a bald head, very broad wings and short tail feathers. It is smaller and less heavily-built than the Eurasian Griffon, usually weighing between 5.5 and 6.3 kg (12–13.9 lbs) and measuring 80–103 cm (31–41 in) long and 1.96 to 2.38 m (6.4 to 7.8 ft) across the wings. It is distinguished from that species by its less buff body and wing coverts. It also lacks the whitish median covert bar shown by Griffon. **Why Population declines?** The Indian Vulture and the Indian White-rumped Vulture, G. bengalensis species have suffered a 99%–97% population decrease in Pakistan and India and between 2000-2007 annual decline rates of this species and the Slender-billed Vulture averaged over 16%. The cause of this has been identified as poisoning caused by the veterinary drug diclofenac. **Diclofenac** is a non-steroidal anti-inflammatory drug (NSAID) and when given to working animals it can reduce joint pain and so keep them working for longer. The drug is believed to be swallowed by vultures with the flesh of dead cattle which were given diclofenac in the last days of life. Diclofenac causes kidney failure in several species of Vultures. In March 2005 the Indian Government announced its support for a ban on the veterinary use of diclofenac. Another NSAID, meloxicam, has been found to be harmless to vultures and should prove to be an acceptable substitute for diclofenac. When meloxicam production is increased it is hoped that it will be as cheap as diclofenac. As of August 2011 the ban for veterinary use has been in place for approximately a year but diclofenac was still being used for animals throughout India. Captive-breeding programmes for several species of Indian vulture have been started. The vultures are long lived and slow in breeding, so the programmes are expected to take decades. Vultures reach breeding age at about 5 years old. It is hoped that captive-bred birds will be released to the wild when the environment is clear of diclofenac.

HOULA MASSACRE

Houla massacre was an attack that took place on May 25, 2012, in the midst of the Syrian Uprising, in two opposition-controlled villages in the Houla Region of Syria, a cluster of villages north of Homs. According to the United Nations (U.N.), 108 people were killed, including 34 women and 49 children. While a small proportion of the deaths appeared to have resulted from artillery and tank rounds used against the villages, the U.N. later announced that most of the massacre's victims had been "summarily executed in two separate incidents", and that pro-government militias known as Shabiha were the most likely perpetrators. The Syrian government alleged that Al-Qaeda terrorist groups were responsible for the killings, while Houla residents and opposition groups alleged that the Syrian military and government-hired militias known as Shabiha were the perpetrators. Townspeople described how Shia and Alawite Shabiha, men from Shia/Alawite villages to the south and west of Houla (Kabu and Felleh were named repeatedly) entered the town after shelling of the ground for several hours. According to one eyewitness, the killers had written Shia slogans on their foreheads. The fifteen nations of the U.N. Security Council unanimously condemned the Syrian government for firing heavy weapons at civilians. The U.S., U.K., and eleven other nations jointly expelled Syrian ambassadors and diplomats from their territo-



Genome could enhance tomato taste

The successful sequencing of the tomato genome will lead to tastier varieties within five years say scientists. They believe that the elusive flavour of home grown tomatoes will by then be widely available in supermarkets. Writing in the journal Nature, the researchers say the genetic information could reduce the need for pesticides. The authors believe the genome will also boost conventional breeding techniques over genetic modification. While the sheer numbers and varieties of tomatoes available in UK shops have increased substantially in the past 20 years, many consumers would complain that this growth has been at the expense of flavour. Scientists like Professor Graham Seymour at the University of Nottingham would tend to agree. Back in the early 1990s a genetically modified tomato called the Flavr Savr was the first GM crop licensed for human consumption. It was not a commercial success as public concerns over the technology eventually lead to its demise. "It's very likely at the moment that it will just be better breeding through conventional techniques. The genome sequence allows us to target those gene variants in the wild species and bring them into the cultivated lines and do that relatively effectively." Dr Gerard Bishop agrees that the knowledge gleaned from the genome will boost conventional breeding. "It will allow us to breed more pest resistant varieties - And because some of the wild species come from desert locations, there are going to be genes we can breed in that will help mitigate climate change." But will the publication of the genome shed any light on the perennial debate about whether a tomato is a fruit or a vegetable? The question gets short shrift from Professor Seymour.



Current Events

UN nuclear watchdog chief begins Iran talks

The UN nuclear watchdog chief has begun talks in Tehran with Iran's top officials over the country's controversial nuclear programme. Yukiya Amano, the head of the International Atomic Energy Agency, met the head of Iran's nuclear energy organisation, Fereydoun Abbasi-Davani, hours after his pre-dawn arrival on Monday, according to ISNA news agency.



After the talks, Abbasi-Davani's office issued a statement saying issues were raised "in a frank manner and proposals were made to remove ambiguities and to develop co-operation", AFP news agency reported. Amano was also expected to meet Iran's chief nuclear negotiator Saeed Jalili and Foreign Minister Ali Akbar Salehi, ahead of a crunch meeting in Baghdad on Wednesday between Iran and a group of world powers to discuss concerns over its suspected nuclear weapons drive. Al Jazeera's Imran Khan, reporting from Tehran, said Amano's visit was "crucial".

"Many people say that a man of this stature wouldn't visit [Iran] at this crucial time unless they were very close to signing a framework deal [to inspect suspected weapons sites]," our correspondent said. Khan said this trip represents the potential end of a stalemate, as the last IAEA chief to visit Iran was Mohamed ElBaradei in 2009. By promising co-operation with UN inspectors, diplomats say Iran might aim for leverage ahead of the broader negotiations, where the US and its allies want Iran to halt works they say are cover for developing nuclear weapons. Western sanctions on Iran's energy exports, and threats by Israel and Washington of military action, have pushed up world oil prices. The nuclear watchdog wants access to sites, officials and documents to shed light on activities in Iran that could be used to develop the capability to make nuclear weapons, especially at the Parchin military complex southeast of Tehran. Two meetings between Iran and senior Amano aides in Tehran in January and February failed to make any notable progress. Such a deal would also not be enough to allay international concerns. World powers want Iran to curb uranium enrichment, which can have both civilian and military purposes. Iran insists its nuclear programme is intended only to generate electricity and other civilian uses. Unlike Israel, assumed to have the Middle East's only nuclear arsenal, Iran is a signatory to treaties that oblige it to work with the IAEA. Leaders of the G8, worried about the

effect of high oil prices on their faltering economies, raised the pressure on Iran on Saturday, signalling their readiness to tap into emergency oil stockpiles this summer if tougher new sanctions on Tehran strain supplies. In-depth coverage of a growing regional debate "All of us are firmly committed to continuing with the approach of sanctions and pressure in combination with diplomatic discussions," US President Barack Obama said. Israel, convinced a nuclear-armed Iran would pose a mortal threat, has, like the US, not ruled out air strikes to stop Iran's atomic progress if it deems diplomacy has failed. In Baghdad, the powers' main goal will be to get Iran to stop the higher-grade uranium enrichment it started two years ago and has since expanded, shortening the time needed for any weapons bid. Iran says it needs the uranium enriched to a fissile concentration of 20 per cent for its medical research reactor. An adviser to Iran's Supreme Leader Ayatollah Ali Khamenei said there were hopes the Baghdad meeting would be successful. The IAEA wants Iran to address issues raised by an agency report last year that revealed intelligence pointing to past and possibly ongoing activity to help develop atomic arms. Iran says the intelligence is fabricated, and has so far resisted requests for inspectors to visit Parchin.

Spain, Canada expel Syrian Ambassadors following Houla massacre

Spain and Canada have expelled Syrian Ambassadors. The Spanish government yesterday decided to expel the Syrian ambassador to Madrid. Hussam Edin Aala has been told to leave the country following the deaths of 108 people in the Syrian city of Hula. Four other Syrian diplomats have also been expelled from Spain. Canada also joined seven Western nations in expelling Syrian diplomats as part of a coordinated move to express outrage at the recent massacre in Syria's Houla region. Canadian Foreign Affairs Minister John Baird announced that three Syrian diplomats, including a charge d'affaires, and their families have to leave the country in five days. He said, another Syrian diplomat waiting to come to Canada would be refused entry.

Sir Cliff Richard died

Sir Cliff Richard has led the tributes for Bee Gee Robin Gibb who has died aged 62 after a lengthy battle with cancer. "We are a fraternity of people who sing pop and rock and Robin is another one of us who has gone too soon," he said. Many musicians including Ringo Starr, Stevie Nicks and Bryan Adams have been paying their respects via Twitter. Former UK Prime Minister Tony Blair, a friend of Gibb, said he would "miss him very much". "Robin was not only an exceptional and extraordinary musician and

songwriter, he was a highly intelligent, interested and committed human being," added Mr Blair. British-born Gibb's musical career began when he formed the Bee Gees with his brothers Barry and Maurice in 1958.



He had an incredibly witty sense of humour and was fun to be around" The group are among the biggest-selling of all time with hits spanning five decades, notching up album sales of more than 200 million worldwide. Speaking of their contribution to music, Sir Cliff Richard said: "The legacy will be what the Bee Gees did, which was stunningly good stuff, right on a par with The Beatles." Meanwhile, broadcaster Paul Gambaccini described the singer as "one of the major figures in the history of British music". He echoed Sir Cliff and said: "Everyone should be aware that the Bee Gees are second only to Lennon and McCartney as the most successful songwriting unit in British popular music." Robin Gibb had "one of the best white soul voices ever", Gambaccini said, adding that the group's accomplishments had been "monumental". Ringo Starr on 'cool' Robin Gibb "Not only have they written their own number one hits, but they wrote huge hit records for Barbra Streisand, Diana Ross, Dionne Warwick, Celine Dion, Destiny's Child... the list goes on and on." Referring to the Bee Gees, he said: "They had every award, every gold disc, every platinum disc, the Grammys, the lot, and had been doing it so long but were still so good at it." The singer Dionne Warwick, whose biggest hit Heartbreaker was written by the Gibb brothers, said of Robin: "He was wonderful. He was a jokester. "He had an incredibly witty sense of humour and was fun to be around. All three of them were sensational gentlemen first, just fun loving guys." She touched upon the family members' close bond: "I think what was most attractive to me was how grounded they were.

Govt constitutes committee to review functioning of PSCs

The government has constituted a committee to review the functioning of Petroleum Service Companies, PSCs in the country. The committee, headed by the Prime Minister's Economic Advisor C. Rangarajan, will review the existing PSCs, including in respect of the current profit-sharing mechanism with the Pre-Tax Investment Multiple and will also give recommendation for necessary modification for the future PSCs. The committee, constituted by the Petroleum Ministry, will suggest a

suitable mechanism for managing the contract implementation of the companies. It will also review the structure and elements of the guidelines for determining the formula for the price of domestically produced gas and for monitoring actual price fixation. The committee will submit their report by the end of August this year.

Staines becomes Staines-upon-Thames to shake off Ali G link

The Surrey town of Staines has officially changed its name to Staines-upon-Thames in an attempt to boost its riverside image. Councillors voted for the change last year after the town became synonymous with Sacha Baron Cohen's spoof rapper Ali G. The name officially changed at 14:00 BST and followed a day of celebrations, including a regatta, in the town. Critics, including the town's football club, have labelled it "pretentious". Spelthorne Borough Council hopes the change will attract more business to the town, which sits on the banks of the River Thames. Councillor Colin Davis, who was behind the name change, said the town's image had needed help for some time. "Ali G may have had a role, but I think it goes back further than that," he said. And he said the new name would help people from outside the town understand its riverside links. He added: "I regard Ali G as someone who put Staines on the map, we're just telling people where it is." However, Steve Parsons, who is the club secretary of Staines Town Football Club and campaigned against the change, said: "The council have decided they don't want to be linked with the Ali G show. "But the one they need to worry about is Keeping Up Appearances, where Mrs Bucket changed her name to Bouquet.



Alex Tribick, chairman of the Spelthorne Business Forum, defended the change as a "progressive". He said: "It's not pretentious, it's progress and the fact of the matter is there was a public consultation that returned with a two to one majority in favour of a change." The Lord-Lieutenant of Surrey, Dame Sarah Goad, was responsible for officially changing the name.

Serbian nationalists claim victory in presidential election

Tomislav Nikolic, nationalist challenger to incumbent and pro-European Serbian President Boris Tadic, has won the presidential run-off vote, according to initial estimates. Tadic has conceded defeat. Nationalist presidential hopeful Tomislav Nikolic is leading the presidential run-off vote in Serbia with a two-percent lead over pro-European incumbent Boris Tadic, initial estimates by independent election monitor CESID showed. Nikolic led with 49.4 percent in 70 percent of the polling stations surveyed while Tadic obtained 47.4 percent. "Serbia has got a new president tonight: Tomislav Nikolic," Aleksandar Vucic of Nikolic's Serbian Progressive Party (SNS) claimed. Nikolic twice lost a run-off to Tadic, in 2004 and 2008. Tadic conceded defeat, congratulating Nikolic on "a fair and well-earned victory." He urged him to continue leading Serbia into Europe. "Serbia will not turn away from the

Eggs thrown as Taiwanese president sworn in

Ma Ying-jeou, Taiwan's incumbent president who was re-elected in January, has been sworn into office for a second four-year term.



In his inaugural speech at Taipei's presidential palace on Sunday, Ma, a member of the Nationalist Party (KMT), vowed to improve economic and political ties with China and pursue free trade agreements with other countries. He promised to improve cross-strait relations without compromising the island's sovereignty. "Our cross-strait policy must maintain the status quo of no unification, no independence and no use of force," he said. He also added that he would promote peaceful cross-strait development on the basis of the 1992 consensus, an agreement that recognises Taiwan as a sovereign region within the "One China" principle. Ma, 62, also said that Taiwan would continue to strengthen its national defence forces in the face of China's growing military power. "Over the next four years, we shall continue to purchase weapons of a defensive nature that we cannot manufacture ourselves, and shall complete the transition to a volunteer armed force. "And, with a rock solid defence and effective deterrence military strategy and innovative and asymmetrical thinking, we shall establish a streamlined yet professional and sturdy national defence force," he said. Many protesters blame Ma for rising living costs and accuse him of being too China-friendly. Ma's inauguration was protested by about 1,500 people gathered near the main opposition Democratic Progressive Party (DPP) headquarters in Taipei. Hundreds of the protesters pelted eggs at a portrait of the head of state. Ma has come under fire over a recent series of moves including "double hikes" in fuel and electricity prices amid a slowing economy and rising inflation. He has also been criticised for policies which opponents of any rapprochement with Beijing see as overly friendly. On Saturday, tens of thousands of people took to the streets to protest the rising living costs under Ma's government. A government plan to allow imports of US beef treated with a growth hormone also triggered protests by local farmers. "He is a dictator. He is an authoritative president. He lied to us four years ago and now there are problems with ractopamine plus the price of everything is going up. I want him to step down," said Mr. Lai, a cosmetics retailer in Taipei. "I am the most unsatisfied about his 'one country two system' approach towards China. We are unhappy because Taiwan is a sovereign country. Now he is too close to China and we are very unhappy. For us, having a sovereign country that will soon be unified by China is terrifying," said Liu Yi-yuan, a 61-year-old architect. Ma's popularity with Taiwanese residents has fallen from 66 to 23 per cent since he was first inaugurated as president in 2008, the latest poll released by the United Daily News, a local newspaper, showed.

European path," Nikolic vowed. "These elections were not about who will take Serbia to the EU, but who will solve the economic problems created by the Democratic Party," he claimed. Low turnout Many of the 6.7 million eligible voters shunned the polling stations, with turnout at just under 37 per cent two hours before they shut at 8 p.m. local time. Observers say this could have benefited Nikolic, because his voters were more likely to go and cast their votes. Surveys published ahead of the run-off vote had showed Tadic leading with 58 percent of the vote compared to Nikolic's 42 percent. In the first round of voting on May 6, the incumbent president also polled slightly ahead of Nikolic, a one-time ally of the late Serbian strongman Slobodan Milosevic. The result led the nationalists to accuse Tadic of fraud, spurring fears of possible violence after Sunday's run-off vote. Serbia's state prosecutor and electoral officials have dismissed the charge. On course for Europe The outcome of Sunday's presidential election is widely considered integral to Serbia's hopes of becoming a member of the European Union. Tadic, leader of the Democratic Party (DS), who led Serbia in securing EU candidacy status in March, has pledged to remain dedicated to European integration and economic development if re-elected. Although Nikolic has warned in the past that EU membership must not come at any cost, he said on Sunday that the country, if led by him, "will not stray from its European path."

NATO summit highlights

More similar than different, both of America's recent imperial ideologies have failed. Thousands of demonstrators descended on Chicago to protest the NATO summit [GALLO/GETTY] San Pedro, CA - As the general election phase of the American presidential election gets underway, the recent NATO summit serves as a potent reminder of just how little difference there ultimately is between the neo-con extremists who dominated US foreign policy under George W Bush, and the neo-liberals who run just about everything in the Obama administration. Most notably, dozens of Iraq and Afghanistan war veterans returned their medals in a mass action that recalled Operation Dewey Canyon III, in April, 1971, when more than a thousand members of Vietnam Veterans Against the War held five days of marches and demonstrations against the Vietnam War in Washington, DC, including a memorial service near the Tomb of the Unknown and a ceremony on the Capitol steps where more than 800 veterans returned their combat medals. Sgt Alejandro Villatoro introduced the other veterans at the NATO protests: "At this time, one by one, veterans of the wars of NATO will walk up on stage. They will tell us why they chose to return their medals to NATO. I urge you to honour them by listening to their stories. Nowhere else will you hear from so many who fought these wars about their journey from fighting a war to demanding peace. Some of us killed innocents. Some of us helped in continuing these wars from home. Some of us watched our friends die. Some of us are not here, because we

Pan-Green Coalition

The Pan-Green Coalition or Pan-Green Camp, is an informal political alliance of the Republic of China, commonly known as "Taiwan", consisting of the Democratic Progressive Party (DPP), Taiwan Solidarity Union (TSU), and the minor Taiwan Independence Party (TAIP). The name comes from the colours of the Democratic Progressive Party, which originally adopted green in part because of its association with the environmental movement. In contrast to the Pan-Blue Coalition, the Pan-Green Coalition favors Taiwan independence over Chinese reunification, although members in both coalitions have moderated their policies to reach voters in the center. This strategy is helped by the fact that much of the motivation that voters have for voting for one party or the other are for reasons that have nothing to do with relations with mainland China. This is particularly true among swing voters. For much of the 1990s the parties which later formed the Pan-Green Coalition greatly benefited from the perception that they were less corrupt than the ruling Kuomintang (KMT). However, due to the controversies and the alleged corruption cases involving the former DPP nominated President Chen Shui-bian, the public perception of the Coalition is seemed to have been altered somewhat. The Pan-Green Coalition formed in the aftermath of the 2000 ROC Presidential election, after which Lee Teng-hui was expelled from the Kuomintang and created his own party, the Taiwan Solidarity Union, which maintains a pro-independence platform. The internal dynamics of the Pan-Green Coalition are different from those of the Pan-Blue coalition. Unlike the Pan-Blue coalition, which consists of relatively equal-sized parties with very similar ideologies, the pan-green coalition contains the DPP, which is much larger and more moderate than the TSU.[citation needed] So rather than coordinating electoral strategies, as in the case of the parties within the Pan-Blue coalition, the presence of the TSU keeps the DPP from moving too far away from its Taiwan independence roots. In local elections competition tends to be fierce between Pan-Green candidates from different parties and, as a rule, joint candidates are not proposed. The Green Party Taiwan is not part of the Pan-Green Coalition.

took our own lives. We did not get the care promised to us by our government. All of us watched failed policies turn into bloodshed." Like their Vietnam-era forebearers, these anti-war veterans have broad, though often unacknowledged support among the American people. In the most recent poll, support for the Afghanistan War is down to 27 per cent, with 66 per cent opposed - levels similar to the Vietnam War in 1971, with support down dramatically, 20 per cent lower than just two years ago. Yet, President Obama recently signed a 10-year security pact with Afghan President Hamid Karzal during a surprise trip to Afghanistan. There are virtually no traces of al-Qaeda left in Afghanistan, but our continued involvement there may continue creating enemies for decades to come.

This is not how most people expected things to be. Obama had, after all, given an anti-war speech in October 2002, hadn't he? And that was a major reason netroots activists gave him a decisive advantage in the 2008 Democratic primary. He was the candidate people trusted to end Bush's wars, and set out a new direction. Once in office, however, Obama's policies showed far more continuity than change when compared to Bush's - a pattern that's only grown more pronounced over time, as the NATO summit clearly underscored. This isn't to say there aren't some important differences between neo-cons and neo-liberals. Two in particular stand out: First off, the neo-cons only represent one faction of the conservative ideological kaleidoscope, with their focus and influence limited largely to foreign affairs. In contrast, neo-liberals represent an integrated economic, military/foreign policy, social issues policy framework, applying naïve faith in market-based solutions to anything that moves. Second, the neo-cons are stupendously reckless, impulsive, undisciplined and dangerous, and could easily plunge the world into any number of military disasters, while the calmer, more methodical neo-liberals are far more prone toward drifting, or stumbling into disaster, rather than enthusiastically plunging in head first. These temperamental differences also lead the neo-liberals to be more multi-lateralist. In the long run, however, the end results tend to be depressingly similar. Allies may find the neo-liberals more pleasant and less unpredictable to work with, but it's all the same empire in the end. Neither the neo-cons nor the neo-liberals have any intention to realistically face up to the facts of imperial decline or the damage America's empire does to its own democracy, much less anyone else's. And neither group has any clue about how to build a sustainable economy with broad prosperity for all. Obama was elected president largely based on the illusion his policies would not substantially overlap with the neo-con thrust of Bush's policies, but would constitute a fundamental repudiation of

them. Instead, Obama's finally managed to "rationalise" Bush's policies - in both a managerial and a propaganda sense - far more effectively than Bush ever dreamed of. Yes, the term "global war on terror" is gone, but the concept lives on, more unquestionable than ever by virtue of not even being named. Torture is out, but assassination by drone is in. More dissenters than ever have been prosecuted, or are under investigation, with far less vigorous public dissent than Bush ever faced. War criminals walk free under the rubric of "looking forward, not back", while whistleblowers like Bradley Manning are prosecuted for aiding the terrorists. If Obama were still a state senator, he might even be morally outraged.



Meanwhile, the shifting focus from ground troops to drone warfare, while continuing Reagan's Star Wars missile defence fantasy, betrays a much stronger commitment on Obama's part than Bush's to the long-term neo-con endeavour of transforming America's military into a highly agile, post-modern, cyber-age fighting force, what the neo-cons called "transform[ing] US Forces to exploit the 'revolution in military affairs'" [RMD] - one of "four core missions" identified in the Project for a New America's September 2000 campaign document, "Rebuilding America's Defenses". The report cited two defining aspects of RMD: "global missile defences" and "control of space and cyberspace", but the shift to a central focus on information technology - heralded by the use of GPS technology in the first Gulf War - has ripple effects that profoundly impact plans for every service branch of America's military. Although the document was largely overlooked at the time, and Bush proved singularly inept at fulfilling the first "core mission" to "defend the American homeland", in many ways "Rebuilding America's Defenses" was eerily prophetic of America's military response to 9/11 - despite the fact that the report barely even mentioned terrorists themselves, except for the possibility they might take over a communications satellite. At one point, the report frankly noted, "While the unresolved conflict with Iraq provides the immediate justification, the need for a substantial American force presence in the Gulf transcends the issue of the regime of Saddam Hussein." Elsewhere, it said, "The process of transformation, even if it brings revolutionary change, is likely to be a long one, absent some catastrophic and

catalyzing event - like a new Pearl Harbor." 9/11 was just such an event - and yet, for all their bluster, and all their enthusiasm, when all was said and done, the neo-cons were simply not up for the job. It's worth noting here that the other two "core missions" identified were: fight and decisively win multiple, simultaneous major theatre wars; perform the "constabulary" duties associated with shaping the security environment in critical regions On the first point, the neo-cons typical lack of impulse control not only drew them to the idea of multiple simultaneous wars in principle, but also in practice, invading Iraq while leaving Afghanistan not just unfinished, but deteriorating - yet another indication of their inability to execute their own fantasies. Obama's firm commitment to multi-lateralism draws jeers - and worse - from the neo-con crowd, but ultimately it translates into a more realistic way of fighting multiple wars at once. On the second point, Obama's neoliberal efficiency has manifested itself in a much more thorough and extensive attention to "fighting terrorism" in a wider range of countries than the neo-cons ever managed. Which brings us to the recent NATO summit, and the accompanying "No NATO" demonstrations.

While America's corporate media routinely downplayed the demonstrations, the range of issues and contradictions they highlighted was simply overwhelming, the organisers themselves implicitly admitted, when they moved the scheduled G8 meeting to Camp David, as private a locale as such a conference can have. In Maryland, the Occupy G8 Peoples Summit convened to discuss a radically different economic vision, reflecting the bottom-up perspective of the Occupy movement and similarly-minded movements in Greece, Spain, Britain and the Arab world. That vision might seem hopelessly utopian, but every aspect of the modern welfare state once seemed equally utopian, from universal education, to minimum wage laws, to retirement insurance - and every aspect of the modern welfare state is now threatened by unaccountable elites who seem all too eager to destroy it. Neo-liberals like Obama may oppose the extremist austerity measures embodied in proposals like the Ryan Budget (even Romney has now admitted they would lead to renewed recession), but even if Obama were to win resoundingly in November, he's still on record as favouring a multi-trillion-dollar "grand bargain" that would drastically slash core welfare state programmes like Medicare, Medicaid and Social Security. Chicago saw a much wider array of activities spanning a full week, most prominently, a demonstration led by the National Nurses Union calling for a 0.5 per cent "Robin Hood" tax on financial transactions, and the already-mentioned joint anti-war march and demonstration led by members of Iraq Veterans Against the War (IVAW) and

Afghans for Peace. Many NNU members and their supporters showed up wearing red shorts and green felt Robin Hood-style hats. NNU co-president Karen Higgins said the nurses want to fund healthcare instead of warfare. "We pay sales tax. It is time for Wall Street to start paying back what they owe the rest of the country and they need to pay sales tax." Other countries have such a tax, as did the US from 1914 through 1966. It could raise up to \$350 billion a year, according to the NNU. Doing this would at least start to shift us back toward the sort of tax structure that helped produce the decades-long robust economic success of the early post-WWII years from 1946 through 1968. Of course, those years were far from perfect - women and minorities were limited to second-class citizen status, at best. But the basic promise of broadly-shared prosperity for all is not something easily forgotten, once glimpsed - even tasted. And if possible for virtually all white men, then why not for everyone? This is the question that haunts America - and the world - today. It is a question that neither neo-cons nor neo-liberals can possibly ever answer. And that is why, sooner or later, their failed ideologies must fall.

The faster-than-fast Fourier transform

The Fourier transform is one of the most fundamental concepts in the information sciences. It's a method for representing an irregular signal as a combination of pure frequencies. It's universal in signal processing, but it can also be used to compress image and audio files, solve differential equations, and price stock options, among other things. The reason the Fourier transform is so prevalent is an algorithm called the fast Fourier transform (FFT), devised in the mid-1960s, which made it practical to calculate Fourier transforms on the fly. Ever since the FFT was proposed, however, people have wondered whether an even faster algorithm could be found.

At the Association for Computing Machinery's Symposium on Discrete Algorithms (SODA), a group of Massachusetts Institute of Technology (MIT) researchers present a new algorithm that, in a large range of practically important cases, improves on the fast Fourier transform. Under some circumstances, the improvement can be dramatic—a tenfold increase in speed. The new algorithm could be particularly useful for image compression, enabling, say, smartphones to wirelessly transmit large video files without draining their batteries or consuming their monthly bandwidth allotments. Like the FFT, the new algorithm works on digital signals. A digital signal is just a series of numbers—discrete samples of an analog signal, such as the sound of a musical instrument. The FFT takes a digital signal containing a certain number of samples and expresses it as the weighted sum of an equivalent number of frequencies. "Weighted" means that some of those frequencies count more toward the total than others. Indeed, many of the frequencies may have such low weights that they can be safely disregarded. That's why the Fourier transform is useful for compression. An eight-by-eight block of pixels can be thought of as a 64-sample signal, and thus as the sum of 64 different frequencies. But as the researchers point out in their new paper, empirical studies show that on average, 57 of those frequencies can be discarded with minimal loss of image quality. Heavyweight division Signals whose Fourier transforms include a relatively small number of heavily weighted frequencies are called "sparse." The new algorithm determines the weights of a signal's most heavily weighted frequencies; the sparser the signal, the greater the speedup the algorithm provides. Indeed, if the signal is sparse enough, the algorithm can simply sample it randomly rather than reading it in its entirety. "In nature, most of the normal signals are sparse," says Dina Katabi, one of the developers of the new algorithm. Consider, for instance, a recording of a piece of chamber music: The composite signal consists of only a few instruments each playing only one note at a time. A recording, on the other hand, of

South Sudan–Sudan border Conflict

South Sudan–Sudan border war is an armed conflict between the nations of South Sudan and the Republic of Sudan in 2012 over oil-rich regions between the South Sudan's Unity and the Sudan's South Kordofan. The oil rich region Heglig is well under controlled of the Republic of Sudan. South Sudan's independence was preceded by two civil wars, from 1955 to 1972 and from 1983 to 2005, in which 2.5 million people were killed and more than 5 million externally displaced. Relations between the two states have been marked by conflict over the Greater Nile Oil Pipeline and the disputed region of Abyei, even though Sudan was the first state to recognise South Sudan. In January 2012, South Sudan shut down all of its oil fields in a row over the fees Sudan demanded to transit the oil. In May 2011, it was reported that Sudan had seized control of Abyei, a disputed oil-rich border region, with a force of approximately 5,000 soldiers after three days of clashes with South Sudanese forces. The precipitating factor was an ambush by the South killing 22 northern soldiers. The northern advance included shelling, aerial bombardment and numerous tanks. Initial reports indicated that over 20,000 people fled. The interim South Sudanese government declared this as an "act of war," and the United Nations sent an envoy to Khartoum, the Sudanese capital, to intervene. South Sudan says it has withdrawn its forces from Abyei. A deal on militarization was reached on 20 June 2011. The United Nations Interim Security Force for Abyei, consisting of Ethiopian troops were deployed under a UNSC resolution from 27 June 2011. In early December 2011, Jau, a town in Unity state in South Sudan, was occupied by Sudanese forces. In early March 2012, the Sudanese Air Force bombed parts of Pariang county. Both countries accuse the other of supporting rebels on their soil as part of the ongoing internal conflict in Sudan and internal conflict South Sudan.

World's view

United Nations

On 27 March, a spokesman for Ban Ki-moon, the Secretary-General of the United Nations, called for the two countries to end the conflict and "utilise to the fullest extent existing political and security mechanisms to peacefully address their differences". The President of Kenya, Mwai Kibaki, suggested that Kenya could mediate between the two countries, stating "Kenya is keen on good and stable relations between the two countries". On 23 April 2011, Ban Ki-moon condemned Sudan's bombing of border areas in South Sudan, demanding Khartoum cease all hostilities "as a matter of urgency".

Arab League

On 15 April the Arab Parliament called on South Sudan for restraint and to withdraw from the town of Heglig. A statement signed by Arab Parliament head Salem Deqbasi said that the Arab Parliament's bureau called on South Sudan to "heed the voice of reason" and immediately pull its forces out of the areas it had occupied inside Sudanese territory, including Heglig. On April 26, the Arab League escalated its rhetoric, condemning South Sudan's "aggression" and saying Heglig belongs to Sudan. The Arab League went further to say it supported Sudan's "right to defend itself", and condemned South Sudan's alleged support of rebels in Sudan.

African Union

On 25 April 2012, the African Union condemned Sudan's bombing of parts of South Sudan, and called on both sides to cease all hostilities. The Peace and Security Council also put forth a 7-point roadmap in which the two sides would be given two weeks to restart negotiations. The AU urged both sides to refrain from "inflammatory statements and propaganda that could fuel the conflict".

United States

On 11 April, the US State Department condemned South Sudan's seizure of Heglig and in statement said "We condemn South Sudan's military involvement in the attack on and seizure of Heglig, an act which goes beyond self-defense and has increased tensions between Sudan and South Sudan to dangerous levels." Later on, however, the US took a different tone, condemning Khartoum's bombardment of South Sudanese territory and "military incursion into South Sudan". To South Sudan, the US release recognized the "right of South Sudan to self-defense", but urged "restraint in its reaction to Sudan's attack in Unity State". The US welcomed the South Sudanese withdrawal from Heglig and called for all South Sudanese troops to be withdrawn from areas across the 1 January 1956 border. In his message to the Sudanese and South Sudanese people, President Obama reiterated that "All those who are fighting must recognize that there is no military solution."

Iran

On 15 April, according to IRIB World Service, an Iran Broadcasting channel, Iranian Foreign Ministry Spokesman Ramin Mehmanparast said that Iran fully monitors the developments in the region, and calls on South Sudan to immediately and unconditionally pull back its forces and return to its territory behind the designated borders.

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COUNTRIES CONSIDER TIME OUT ON THE 'LEAP SECOND'

After ten years of talks, governments are headed for a showdown vote this week on an issue that pits technological precision against nature's whims. The United States, France and others are pushing for countries at a U.N. telecom meeting to abolish the leap second, which for 40 years has kept computers in sync with the Earth day. Leap seconds are necessary to prevent atomic clocks from speeding ahead of solar time. They are added at irregular intervals, effectively stretching atomic time by a heartbeat to make up for the irregular wobble in the Earth's rotation. Critics warn that scrapping the leap second would break the last link between the passing of time and the course of the sun across the sky. But backers say machines shouldn't any longer be tethered to the imprecise cycle of sunrise and sunset. "This would be an important decision because the problem of introducing the leap second would disappear and we would have a more steady time than we have today," Vincent Meens, an official at the International Telecommunication Union who has chaired technical talks on the issue, said Tuesday. Operators of cell phone networks, financial markets and air traffic control systems could then rely on the near-absolute precision offered by atomic clocks without having to worry about stopping their systems for the length of a heartbeat every year or two. "Most of the people who operate time services favor discontinuing leap seconds," said Judah Levine, a physicist at the National Institute of Standards and Technology in Boulder, Colorado. "The main problem is that the leap second is usually implemented by stopping the clock for one second. However, the world doesn't stop," he said. Satellite navigation systems like GPS don't use leap seconds, which adds confusion, said Levine. "In addition, the leap second occurs in the middle of the day in Asia and Australia, which is particularly inconvenient." In a world increasingly reliant on computers for mission-critical measurements, any glitch could be costly as well as fatal, said Elisa Felicitas Arias, director of the time department at the Paris-based International Bureau of Weights and Measures. "You can make a dramatic error if, for example, you are trying to land an aircraft," she said, noting that rocket launches, too, are never scheduled on days when a leap second might occur. "This is something we are trying to correct." Critics say the risks are overblown and leap seconds have been used successfully since 1972, despite being hard to predict more than six months in advance. China has warned that any change could hurt astronomers, who need to be able to compare observations spanning thousands of years as part of their work. Canada, too, has raised objections to the proposed plan, while Britain has warned that it could spell the end of Greenwich Mean Time, or GMT, as a meaningful measure. "Leap seconds are an inconvenience to the telecommunications people, but there are many other users of time who should be considered," said Ken Seidelmann, a research professor at the University of Virginia in Charlottesville and former director of astrometry at the U.S. Naval Observatory. Killing off the leap second would also result in atomic clocks slowly outrunning the solar day by a rate of about 90 seconds a century. After many thousands of years, atomic clocks would say it's midday when outside the sun has yet to rise. "This is replacing a small problem with a big problem further down the line," said Daniel Gambis, an astronomer at the Paris Observatory and the man who alerted timekeepers around the world to the next leap second, due on June 30. Arias said solutions could be found for such problems, but conceded that severing the link between the proposed new standard time—as measured by atomic clocks—and the solar time people are accustomed to might seem troubling to many. Still, the time for change has come, she argued. Unless a last minute consensus is reached, delegates at the ITU meeting in Geneva are expected to vote on the issue Thursday or Friday.

all possible instruments each playing all possible notes at once wouldn't be sparse—but neither would it be a signal that anyone cares about. The new algorithm—which associate professor Katabi and professor Piotr Indyk, both of MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL), developed together with their students Eric Price and Haitham Hassanieh—relies on two key ideas. The first is to divide a signal into narrower slices of bandwidth, sized so that a slice will generally contain only one frequency with a heavy weight. In signal processing, the basic tool for isolating particular frequencies is a filter. But filters tend to have blurry boundaries: One range of frequencies will pass through the filter more or less intact; frequencies just outside that range will be somewhat attenuated; frequencies outside that range will be attenuated still more; and so on, until you reach the frequencies that are filtered out almost perfectly. If it so happens that the one frequency with a heavy weight is at the edge of the filter, however, it could end up so attenuated that it can't be identified. So the researchers' first contribution was to find a computationally efficient way to combine filters so that they overlap, ensuring that no frequencies inside the target range will be unduly attenuated, but that the boundaries between slices of spectrum are still fairly sharp. Once they've isolated a slice of spectrum, however, the researchers still have to identify the most heavily weighted frequency in that slice. In the SODA paper, they do this by repeatedly cutting the slice of spectrum into smaller pieces and keeping only those in which most of the signal power is concentrated. But in an as-yet-unpublished paper, they describe a much more efficient technique, which borrows a signal-processing strategy from 4G cellular networks. Frequencies are generally represented as up-and-down squiggles, but they can also be thought of as oscillations; by sampling the same slice of bandwidth at different times, the researchers can determine where the dominant frequency is in its oscillatory cycle. Two University of Michigan researchers—Anna Gilbert, a professor of mathematics, and Martin Strauss, an associate professor of mathematics and of electrical engineering and computer science—had previously proposed an algorithm that improved on the FFT for very sparse signals. "Some of the previous work, including my own with Anna Gilbert and so on, would improve upon the fast Fourier transform algorithm, but only if the sparsity k —the number of heavily weighted frequencies—"was considerably smaller than the input size n ," Strauss says. The MIT researchers' algorithm, however, "greatly expands the number of circumstances where one can beat the traditional FFT," Strauss says. "Even if that number k is starting to get close to n —to all of them being important—this algorithm still gives some improvement over FFT."

Gold-filled silicon wafer helps target, burn breast cancer cells

By shining infrared light on specially designed, gold-filled silicon wafers, scientists at The Methodist Hospital Research Institute have successfully targeted and burned breast cancer cells. If the technology is shown to work in human clinical trials, it could provide patients a non-invasive alternative to surgical ablation, and could be used in conjunction with traditional cancer treatments, such as chemotherapy, to make those treatments more effective. The research is presented in the first issue of the new Advanced Healthcare Materials, a Wiley journal. "Hollow gold nanoparticles can generate heat if they are hit with a near-infrared laser," said Research Institute Assistant Member Haifa Shen, M.D., Ph.D., the report's lead author. "Multiple investigators have tried to use gold nanoparticles for cancer treatment, but the efficiency has not been very good—they'd need a lot of gold nanoparticles to treat a tumor." Instead, Shen and his colleagues turned to a technology developed by the study's principal investigator, Mauro Ferrari, Ph.D., The Methodist Hospital Research Institute (TMHRI) president and CEO, to amplify the gold particles' response to infrared light.

"We developed a system based on Dr. Ferrari's multi-stage vector technology platform to treat cancers with heat," Shen said. "We found that heat generation was much more efficient when we loaded gold nanoparticles into porous silicon, the carrier of the multi-stage vectors." Shen and his team found that in the presence of 808-nm light, the gold-filled silicon particles heated up a surrounding solution by about 20 C (35 F) in seven minutes. Water particles immediately around the particles were presumed to have been hotter. And experiments showed that tumor cell growth was lowest in the presence of gold-loaded silicon nanoparticles in three types of breast cancer cells—MDA-MB-231 and SK-BR-3 (human), and 4T1 (mouse). The silicon wafers the scientists are using are the result of painstaking work by Ferrari's group to design nanoparticles that preferentially bind to breast cancer cells, rather than, say, healthy liver or immune system cells. The shape and size of the silicon particles, as well as their surface chemistry, are all crucial, Ferrari's group found. Too big or the wrong shape, and the silicon nanoparticles bind to multiple cell types—or none at all. Polyamine structures are attached to the wafers to improve their attraction to cancer cell surfaces and their solubility. The wafers are about one micrometer in diameter (one-thousandth of a millimeter). By contrast, the typical breast cancer cell is about 10 to 12 times that size. Shen says the gold particles, too, must be designed with a specific use in mind, albeit for indirect reasons. "The hollow gold particles we load into the porous silicon must be the right size and have the correct-sized space inside them to interact with the infrared light we are using," he said. "But the wavelength of infrared we use will have to change depending on where the tumor is. If it's close to the skin, we can use shorter wavelengths. Deeper inside the body, we have to use longer wavelengths of infrared to penetrate the tissue. The hollow space of the gold particles must be modified in response to that." Both silicon and gold have low toxicity profiles in the human body, and are popular materials in current investigations using medical nanotechnology. Silicon is steadily broken down by physiological processes into an acid that is removed through the kidneys. And gold is chemically inert. And infrared—the type of light used by TV remote controls and garage door openers—is also far less dangerous than light with shorter wavelengths, such as ultraviolet, which can cause DNA damage, and X-rays. Understanding why hollow gold particles heat up in the presence of certain wavelengths of infrared is complex enough to require some background in physical chemistry. But the upshot is that the energy of certain wavelengths of light is largely absorbed by the particles, and that energy is released as vibrational (heat) energy. Absorption is influenced both by the diameter of the space within the hollow gold particles, and by the properties of gold itself. Shen says he'd like to know whether the silicon-gold nanotechnology can be used to wipe out whole tumors, rather than just cancerous cells. "We are planning pre-clinical studies to study the technology's impact on whole tissues, breast cancer cells and possibly pancreatic cancer cells," Shen said. "We would also like to see whether this approach makes chemotherapy more effective, meaning you could use less drugs to achieve the same degree of success in treating tumors. These investigations are next." Coauthors of the Advanced Healthcare Materials paper were Jian You, whose contributions were equal to Shen's, Guodong Zhang, Arturas Ziemys, Qingpo Li, Litao Bai, Xiaoyong Deng, Donald R. Erm, Xuewu Liu, Chun Li, and Mauro Ferrari. The research was supported with grants to Ferrari from the Department of Defense and the National Institutes of Health.

Scientists create novel RNA repair technology

Scientists from the Florida campus of The Scripps Research Institute have identified a compound that can help repair a specific type of defect in RNA. The methods in the new study could

accelerate the development of therapeutics to treat a variety of incurable diseases such as Huntington's disease, spinocerebellar ataxia, and Kennedy disease. The new study, published in ACS Chemical Biology, describes a method to find compounds that target defective RNAs, specifically RNA that carries a structural motif known as an "expanded triplet repeat." The triplet repeat, a series of three nucleotides repeated many more times than normal in the genetic code of affected individuals, has been associated with a variety of neurological and neuromuscular disorders. "For a long time it was thought that only the protein translated from this type of RNA was toxic," said Matthew Disney, an associate professor at Scripps Florida who led the new study. "But it has been shown recently that both the protein and the RNA are toxic. Our discovery of a small molecule that binds to RNA and shuts off its toxicity not only further demonstrates that the RNA is toxic but also opens up new avenues for therapeutic development because we have clearly demonstrated that small molecules can reverse this type of defect." In the new research, the scientists used a query molecule called 4', 6-diamidino-2-phenylindole (DAPI) as a chemical and structural template to find similar but more active compounds to inhibit a toxic CAG triplet repeat. One of these compounds was then found effective in inhibiting the RNS toxicity of the repeat in patient-derived cells, which demonstrated an improvement in early-stage abnormalities. "The toxic RNA defect actually sucks up other proteins that play critical roles in RNA processing, and that is what contributes to these various diseases," Disney said. "Our new compound targets the toxic RNA and inhibits protein binding, shutting off the toxicity. Since the development of drugs that target RNA is extremely challenging, these studies can open up new avenues to exploit RNA drug targets that cause a host of other RNA-mediated diseases." Disney and his colleagues are already hard at work to extend the laboratory's findings. The lead author of the study, "Chemical Correction of Pre-mRNA Splicing Defects Associated with Sequestration of Muscblind-Like 1 Protein by Expanded r(CAG)-containing Transcripts," is Amit Kumar of Scripps Research.

Mars was really wet in its early days: Study

Several studies in the past have shown that, Mars used to be warmer and wetter. Now a new research claims to have found additional evidence that the Red Planet was really wet earlier and its atmosphere was much thicker than today. Early Mars would have been saturated, with air density 20 times what it is now, claims Georgia Tech Assistant Professor Josef Dufek. Currently, the Martian atmosphere is less than one per cent the density of Earth's. Liquid water can't last long, if at all; on the surface (though other studies indicate there is much ice, and perhaps liquid water, beneath the surface). Dufek is analyzing ancient volcanic eruptions and surface observations by the Mars rover Spirit. His new findings are published in a journal. "Atmospheric pressure has likely played a role in developing almost all Mars' surface features," Dufek said. "It's climate, the physical state of water on its surface and the potential for life are all influenced by atmospheric conditions," he was quoted as saying by Live Science. Dufek's first research tool was a rock fragment propelled into the Martian atmosphere during a volcanic eruption roughly 3.5 billion years ago. The deposit landed in the volcanic sediment, created a divot (or bomb sag), eventually solidified and remains in the same location today. Dufek's next tool was the Mars rover. In 2007, Spirit landed at that site, known as Home Plate, and took a closer look at the imbedded fragment. Dufek and his collaborators at the University of California-Berkeley received enough data to determine the size, depth and shape of the bomb sag. Dufek and his team then went to the lab to create bomb sags of their own. They created beds of sand using grains the same size as those ob-

served by Spirit. The team propelled particles of varying materials (glass, rock and steel) at different speeds into dry, damp and saturated sand beds before comparing the divots with the bomb sag on Mars. No matter the type of particle, the saturated beds consistently produced impact craters similar in shape to the Martian bomb sag, they found. By varying the propulsion speeds, the researchers also determined that the lab particles must hit the sand at a speed of less than 40 meters per second to create similar penetration depths. In order for something to move through Mars' atmosphere at that peak velocity, the pressure would have to be a minimum of 20 times denser than current conditions, which suggests that early Mars must have had a thicker atmosphere. "Our study is consistent with growing research that early Mars was at least a transiently watery world with a much denser atmosphere than we see today," said Dufek. "We were only able to study one bomb sag at one location on the Red Planet. We hope to do future tests on other samples based on observations by the next rover, Curiosity." Curiosity is scheduled to land on Mars on August 5.

80 pc students clear CBSE exams

Over 80 percent students on Monday cleared the 2012 Class XII CBSE examinations, with girls once again outshining the boys and the Chennai region beating others in the overall pass percentage. The results were declared across the country on Monday, with the total pass percentage standing at 80.19 percent, a fall of 0.69 percent over last year, said a statement issued by the CBSE. In all, 8,15,749 students registered for the Class XII examination this year, which was also an increase of about 5.94 percent over 2011. Girls continued to fare better than boys with 86.21 percent clearing the exam as compared to 75.80 percent boys. Among the regions, Chennai once again put up the best performance with a pass percentage of 90.59. Last year, the pass percentage of Chennai was 91.32. Pass percentage of regular students stood at 82.51 as compared to 38.85 in case of private/patrachar (correspondence) candidates. For the first time, photocopies of the evaluated answer books will be provided to candidates who make a request. According to the CBSE statement, the step comes following a decision of the Supreme Court in August last year in that regard. Applications for the photocopies of the answer books will be accepted by the Board from 31st day of the declaration of the result on the Internet. Detailed modalities will be hosted on the website shortly, it said. The statement said the first chance compartmental examination will be held on 16th July 2012. Regular candidates will route their requests through the head of institution. It said forms for verification of marks will also be available on the Boards website www.cbse.nic.in. For urgent verification, applications can be made on-line within 5 days from the date of declaration of result and the fee will be Rs 300 per subject. Application can be made either online from the 6th day or offline within 21 days from the date of declaration of result, the fee of which will be Rs 200 per subject. The fee can be remitted either in cash or through demand draft favouring Secretary, Central Board of Secondary Education payable at the respective regional offices. To help students overcome the exam-related psychological problems, CBSE tele-counselling will continue up to 7th June. This year, 50 principals, trained counsellors from CBSE-affiliated government and private schools and few psychologists are participating in tele-counselling. Of them, 40 are available in India, 10 others are located in Dubai, Doha, Qatar and Kuwait, the statement said.

13-year-old boy cracks IIT-JEE exam

A 13-year-old boy from Bihar has cracked the highly competitive Indian

MADELEINE MILLER WINS ORANGE PRIZE FOR FICTION

American Madeleine Miller has won the prestigious Orange Prize for fiction for her debut novel, "The Song of Achilles." Joanna Trollope, who chaired the judging panel, described Miller's retelling of the ancient Greek myth as "inventive, passionate, uplifting and different" in the central London awards ceremony



Wednesday. Two other Americans had joined Miller, a classics teacher turned novelist, on the six-book shortlist for the prize — Cynthia Ozick for "Foreign Bodies" and Ann Patchett for "State of Wonder." Also on the shortlist were "The Forgotten Waltz" by Ireland's Anne Enright, "Painter of Silence" by British writer Georgina Harding and "Half Blood Blues," a Booker Prize finalist by Canada's Esi Edugyan. The 30,000-pound (US\$48,000) prize is open to any novel by a woman published in English. Madeline Miller is an American novelist, whose debut novel The Song of Achilles was released in September 2011. Miller spent ten years writing The Song of Achilles, while she worked as a Latin and Greek teacher. The novel is set in Greece and tells the story of a love affair between Achilles and Patroclus. In May 2012, The Song of Achilles won the Orange Prize for Fiction, making Miller the fourth debut novelist to win the prize. The Orange Prize for Fiction (known as the "Orange Broadband Prize for Fiction" from 2007 to 2008) is one of the United Kingdom's most prestigious literary prizes, annually awarded to a female author of any nationality for the best original full-length novel written in English, and published in the United Kingdom in the preceding year. The prize was originally due to be launched in 1994 with the support of Mitsubishi but public controversy over the merits of the award caused the sponsorship to be withdrawn. Funding from Orange, a UK mobile network operator and Internet service provider, allowed the prize to be launched in 1996 by a committee of male and female "journalists, reviewers, agents, publishers, librarians, booksellers", including current Honorary Director Kate Mosse. **Shortlisted Writers** **Esi Edugyan, Half Blood Blues** **Ann Enright, The Forgotten Waltz** **Georgina Harding, Painter of Silence** **Cynthia Ozick, Foreign Bodies** **Ann Patchett, State of Wonder** *The prize was established to recognise the contribution of female writers, whom Mosse believed were often overlooked in other major literary awards, and in reaction to the all-male shortlist for the 1991 Man Booker Prize. The winner of the prize receives £30,000, along with a bronze sculpture called the Bessie created by artist Grizel Niven, the sister of actor and writer David Niven. Typically, a longlist of nominees is announced around March each year, followed by a shortlist in June; within days the winner is announced. The winner is selected by a board of "five leading women" each year. In 2005, judges named Andrea Levy's Small Island as the "Orange of Oranges", the best novel of the preceding decade.*

Institute of Technology-Joint Entrance Examination (IIT-JEE).



Satyam Kumar, hailing from Bakhorapur village in Bhojpur district, qualified with an all-India rank of 8,137. "Though I am happy with this success, I was expecting a rank under 500. Since it could not be achieved, I will now go for another attempt," Satyam said. Satyam is currently studying in Rajasthan's Kota city, well-known for its IIT-JEE coaching centers, and is awaiting his class 12 results. "I have two dreams, first to develop an advanced social networking site and then to become an IAS officer. I hope that I will score a better rank next year and after finishing my studies, I will work towards materialising my dreams," he said. Satyam lives with his younger brother Shivam, a class 7 student, and uncle in Dadabari area in Kota city and the coaching institute where he studies bears their entire expenses. "Satyam did not have a formal education in his childhood days as his father, a farmer, was too poor and could not afford his schooling," his uncle R P Singh said.

Arpit Agarwal tops IIT-JEE 2012

Arpit Agarwal, a student of Faridabad's Modern Vidya Niketan School, reportedly topped IIT-JEE 2012 with a score

of 385 out of 408. The second position was grabbed by Bijoy Kochar from Chandigarh, followed by Nishant Kaushik from Bhilai at the third position. According to JEE Chairman GD Reddy a total of 24,112 have secured ranks in various categories and 19,426 have been shortlisted for counselling for admission to 9,647 seats in the IITs and other institutes. The results for the IIT-JEE 2012 were declared on Friday morning. The results can be accessed on all the IIT websites: <http://www.jee.iitb.ac.in>, <http://www.jee.iitk.ac.in>, <http://www.jee.iitr.ac.in>. More than 5.6 lakh students had appeared for the IIT-JEE on April 8, 2012. The maximum number of applications are for IIT-JEE 2012 came from Kanpur zone followed by Madras zone. The exams were held at 1,067 centres across the country for admission to nearly 9,600 undergraduate seats in the 15 IITs. The 15 IITs are IIT-Bhubaneswar, IIT-Bombay, IIT-Delhi, IIT-Gandhinagar, IIT-Guwahati, IIT-Hyderabad, IIT-Indore, IIT-Kanpur, IIT-Kharagpur, IIT-Madras, IIT-Mandi, IIT-Patna, IIT-Rajasthan, IIT-Roorkee, IIT-Ropar. Institute of Technology at Banaras Hindu University, Varanasi and Indian School of Mines, Dhanbad along with Rajiv Gandhi Institute of Petroleum Technology, Rae Bareilly, Indian Institutes of Science Education and Research (IISER) at Bhopal, Kolkata, Mohali, Pune, Thiruvananthapuram and Indian Maritime University (TS Chanakya, Navi Mumbai, Mumbai campus, Marine Engineering & Research Institute, Kolkata, National Maritime Academy, Chennai, Marine Engineering and Research Institute, Mumbai and Visakhapatnam) also take in students on the basis of JEE results. The IIT-JEE 2012 was not without controversy with the IITs admitting that two questions in the question paper were incorrect. The examination committee gave zero

OPINION - EDITORIALS

A MORAL DILEMMA FOR AID GROUPS

D.S. Rajput

Hunger is a political problemEarly warnings ignoredGerman development policy looks to the landWe need new food ethicsGenetically modified food to fight hunger?European agricultural policy threatens developing worldBiodiversity and its effect on food supply Food wars: hunger as a threat to global securityEducation is key to fighting hungerA hotter world means more famine

In the drought-stricken Horn of Africa, many Somalis depend on foreign aid for their survival. But humanitarian aid workers are coming to terms with the limitations of how much good they can do in a land torn by war.

Abshiرو Mohammed has built a make-shift roof over his head out of canvas and wooden sticks. The thin farmer who lives in southern Somalia has to feed five children, but he doesn't know what with. And on top of the hunger comes disease.

"We don't have a latrine here, so diarrhea and cholera are spreading quickly," the farmer said. "We're all doing poorly, and there are more refugees coming - we don't know where it will all end."

Hunger, suffering and death are ubiquitous realities of everyday life in Somalia. It has been this way for more than 20 years now, but as a consequence of the worst drought in decades, the current situation has deteriorated in large swaths of the country to a level unlike anything the east African nation has experienced before.

Approximately 750,000 Somalis are currently on the brink of starvation, among them up to 400,000 children, according to estimates by the United Nations. Depending on the region, food reserves will run out in just a couple more weeks or months.

Calls for international aid

For the hundreds of thousands of Somalis who are fleeing to Mogadishu, the capital - which has been somewhat secured by African Union troops - or across the borders to Kenya and Ethiopia, the only hope of survival lies in emergency international aid.

"The people who come here are weak, and nobody is helping," complained Musseh Hassan, who helps run one of the estimated 200 refugee camps in Mogadishu.

"We are calling on international aid organizations to quickly do something to help these people."

The UN estimates that Somalia needs around \$1 billion (724 million euros) in emergency aid to help alleviate the effects of the drought. In many of the drought-stricken regions, subsequent rainfall has created a heightened risk of cholera and other waterborne epidemics, and that demands additional precautionary measures. On a more positive note, three-quarters of the aid needed have already been covered.

Many aid organizations have capitalized on the increased media coverage of the crisis in the Horn of Africa and called for targeted donations to Somalia. Groups that have not been active in Somalia before have now begun to operate in Mogadishu alongside organizations established there long ago.

Civil war

Not only does hunger rage in Somalia but a devastating armed conflict also plagues the country. The Islamist al-Shabab movement, which sees itself as part of the al-Qaeda terrorist network, has brought much of the country outside of Mogadishu under its control. They are engaged in a brutal civil war with Somalia's transitional government and recently also with the Kenyan army.

Critics argue that delivering emergency aid outside of Mogadishu almost certainly helps al-Shabab. According to their logic, those who call themselves humanitarians only prolong the conflict and exacerbate the suffering rather than alleviate it.

Florian Westphal, the deputy communications director of the International Committee of the Red Cross in Geneva, sees the situation differently.

"You can't generally say that emergency aid prolongs conflicts," Westphal said. "But aid does represent a considerable resource in warzones, which is attractive to the belligerents."

The Geneva Conventions allow humanitarian workers to help those in need regardless of what side of the conflict they are on. The conventions make an exception for combatants who participate directly in the conflict.

"We try to help those who need our help most urgently," Westphal said. "Sometimes that leads to conflicts, because often there are more people in need on one side of a conflict than the other."

Westphal said that in such a murky situation only decades of experience on the ground building contacts helps. For those who lack firsthand knowledge, the risk of compromising their neutrality becomes much greater.

Kickback for militias

Some aid organizations work in regions controlled by the Islamist al-Shabab.

"Food and medical treatment, that's no problem for al-Shabab so long as we don't become politically active," said a French aid worker who preferred to remain unnamed.

He said he is aware that aid may end up falling into the hands of active al-Shabab fighters, but it's a risk he and his colleagues are willing to take.

Rashid Abdi, a Somalia analyst with the International Crisis Group, even goes so far as to demand direct negotiations with the Islamists.

"The Islamists, of course, want to turn the work of the aid organizations to their own advantage," Abdi said.

"Shabab would want to keep a portion of the food aid, 10 percent or so - but that is the price you have to pay when you want to save hundreds of thousands of people."

The UN World Food Program (WFP), however, is not prepared to make those kinds of concessions.

"We explain to the elders and village communities over and over again that we have to remain independent," WFP spokeswoman Stephanie Savariaud said. "Those who don't have anything to eat have to receive something to eat regardless of their clan or political affiliation."

Local cartels

In addition to the complications of operating in a politically charged warzone, an internal UN report from early 2010 found that half of the WFP's food aid does not even reach hungry Somalis.

Local partner organizations and Somali WFP employees siphon off around 30 percent of the aid in order to sell it on the market or to the rebels.

WFP commissioned subcontractors steal 10 percent and armed groups that control the various regions take another 10 percent, the report found. It's a business that brings in hundreds of millions of euros.

Much food aid never makes it to the hungry, but instead is stolen and sold

The international president of Medecins Sans Frontieres without Borders (MSF), Indian national Unni Karunakara, doubts that the crisis in Somalia can be solved with more money and aid.

Limits of humanitarian aid

Karunakaras' criticism is reminiscent of a hotly debated thesis within the aid community originally presented by the head of Medecins Sans Frontieres in Germany, Ulrike von Pilar. She posed the fundamental question: When does humanitarian aid, which sees neither perpetrators nor victims but only those in need, reach its limits? How far can an aid organization limit its reports about the conditions on the ground in order to not be denied future assistance?

Pilar's questions stem from the genocide in Rwanda in 1994. For the first and only time, MSF called for military intervention, a step that contradicts almost all the fundamental principles of humanitarian engagement. But Pilar defended her support for a military operation, arguing that doctors cannot prevent genocide and therefore have to pressure policymakers.

MSF failed with its call for intervention during the Rwandan genocide. France sent troops, but only to open "humanitarian corridors," which also allowed war criminals to escape unmolested. The example demonstrates how easily the word "humanitarian" can be abused.

German soldiers are currently engaged in "humanitarian work" in Afghanistan, which actually serves the goal of providing military assistance to one side of the conflict.

After the outbreak of the famine in Somalia, the African Union also called for military intervention by African troops to open "humanitarian corridors" - which in reality were meant to help in the fight against al-Shabab.

20 YEARS AFTER THE EARTH SUMMIT WHAT DOES THE FUTURE HOLD?

C.S. Rajput

n June 2012, movements and leaders will meet in Rio for Rio+20, two decades after the Earth Summit was organised in 1992 to address urgent ecological challenges such as species extinction, biodiversity erosion and climate change. The Earth Summit gave us two very significant international environmental laws: the United Nations Convention on Biological Diversity and the United Nations framework Convention on Climate Change. It also gave us the Rio principles, including the Precautionary Principle and the Polluter Pays Principle. The world has changed radically since 1992, and sadly, not for the better. Ecological sustainability has been systematically sacrificed for a particular model of the economy, which is itself in crisis. 1995 created a tectonic shift in what values guide our decisions, and who makes the decisions. Rio was based on values of ecological sustainability, social justice and economic equity - across countries and within countries. It was shaped by ecological movements, ecological science and sovereign governments. The establishment of WTO, and the paradigm of global corporate rule, inaccurately called "free trade" (more accurately described as corporate globalisation) changed the values and the structures of governance and decision making.

"Instead of polluters paying and being regulated at the national and international level to stop pollution, the biggest atmospheric polluters who have contributed most to climate change are now laying the rules on how to deal with climate change."

Conservation of the Earth's resources, and equitable sharing was replaced by greed and the grabbing and privatisation of resources. Sustainable economies and societies were replaced by non-sustainable production systems, and a relentless drive to spread the virus of consumerism. Decision making moved into the hands of global corporations, both directly and indirectly.

It is therefore not surprising that when we meet at Rio+ 20, the ecological crisis is deeper than what it was at the time of the Earth Summit, and the will and capacity of governments is weaker. While the corporations wrote the rules of WTO and global free trade, they have also subverted the environmental rules which were supposed to regulate their commercial activities to ensure sustainability. They have mutated environmental laws which are supposed to regulate commerce into laws for commercialising and commodifying the earth's resources and ecological functions.

They have subverted the Climate Treaty and the Biodiversity Convention. Instead of polluters paying and being regulated at the national and international level to stop pollution, the biggest atmospheric polluters who have contributed most to climate change are now laying the rules on how to deal with climate change. The biotechnology industry which has caused genetic pollution by releasing genetically engineered organisms into the environment is making the rules on how to manage biodiversity and how to govern Biosafety. The attempt to introduce BRAI, the Biotechnology Regulatory Authority of India, is one example.

The original objective of the Climate Treaty was to put in place legally binding emission reduction targets for the historic polluters, who in the pre-globalisation period were concentrated in the rich industrial North. The treaty was destroyed at the Climate summit in Copenhagen, by an attempt to replace it with a non binding Copenhagen Accord. The Kyoto Protocol introduced emissions trading, which in effect meant the polluter got paid, not punished. The big industrial polluters were first paid by allowing them to get private rights to our atmospheric commons. They then got paid by profiting from carbon trading. Profits increased and emissions increased.

Climate chaos is worse today than it was in 1992. And the polluters look for new avenues to make money and grab resources. Now they want to commodify the ecological functions and services that nature provides. This will be the big Climate debate in Rio+20.

"None of us are immune to the crisis, or the response to it. None of us are bystanders. we are all immersed in the processes that are either threatening the planet and our own future or finding creative ways to shape a sustainable and just future."

The original objective of the Convention on Biological Diversity was the conservation of biodiversity and its sustainable and equitable use. This objective has been subverted and is being increasingly replaced by objectives of trade in genetic resources, profits and privatisation. The Nagoya Protocol on Access and Benefit Sharing restricts access only to global players, ignoring the access of local communities. It treats as utilisation only utilisation for research and commerce - ignoring the survival needs of local communities. It is in fact legalised Biopiracy, because it enables the transfer of genetic wealth from local communities to global corporations, it undermines the biodiversity economies and cultures which have conserved biodiversity, and are necessary for conserving it for the future.

In both the Climate Treaty and the Biodiversity convention, trade and commerce is replacing conservation and the commons. Rights of Corporations is replacing the Rights of Nature and People. And this change in values, from conserving and sharing to exploiting and privatising, is justified in the name of economic progress and economic growth. Yet the economic paradigm for which the Earth and Society are being pillaged and destroyed, is itself in deep crisis. Look at the farmers suicides and hunger and malnutrition crisis in India.

Look at the protests in Greece, Spain or the Occupy movement of the 99% in the US. This isn't the kind of world we want to live in, and it's we who have to decide what world we do want. We know we can change it, and we're having a great time going about it."

A paradigm shift is desperately needed. And it will not come those who have created the crisis, and who are looking for new ways to extend the life of the Greed economy by commodifying and privatising all life on earth. They will come to Rio+20 to paint the Greed Economy Green, and call it the Green Economy. And they will have powerful governments on their side. Movements for ecological sustainability, social justice and deep democracy will come to Rio+20 with another paradigm, one centred on the Rights of Mother Earth, the rights of future generations, of women, indigenous communities and farmers.

It is this epic contest between a destructive and dying outmoded paradigm and a life enhancing emergent paradigm that will be the most significant aspect of Rio+20. The outcome of this contest will determine the future of humanity. It will not enter the negotiations, which can only be the lowest common denominator in the current context of corporate influence. But it will provide the energy for the People's Summit, and many government initiatives at Rio Centro. This contest will continue beyond Rio, in every country, in every village and town, every farm and workplace, every home and street.

None of us are immune to the crisis, or the response to it. None of us are bystanders. We are all immersed in processes that are either threatening the planet and our own future, or finding creative ways to shape a sustainable and just future. Every day is an earth summit in our lives. And each of us is negotiating our collective fate on the earth.

EDITORIAL

DEVELOP INDIA

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THE TRAGIC SPACE BETWEEN THE UNACCEPTABLE AND THE IMPOSSIBLE

The Houla Massacre of a week ago in several small Muslim villages near the Syrian city of Homs underscores the tragic circumstances of a civilian vulnerability to brutal violence of a criminal government. Most of the 108 civilians who died in Houla were executed at close range in cold blood, over 50 of whom were children under the age of 10. It is no wonder that the Houla Massacre is being called 'a tipping point' in the global response to Syrian violence that started over 15 months ago.

The chilling nature of this vicious attack upon the most innocent among us, young children, seems like a point of no return. What happened in Houla, although still contested, seems confirmed as the mainly the work of the Shabiha, the notorious militia of thugs employed by Damascus to deal cruelly with opposition forces and their supposed supporters.

This massacre also represents a crude rebuff of UN diplomacy, and the ceasefire its 280 unarmed observers were monitoring since it was put into effect on April 12. In this regard the events in Houla reinforced the impression that the Assad regime was increasingly relying on tactics of depraved criminality and state terror to destroy the movement that has been mounted against it. Such defiance also challenged the UN and the international community to do more when confronted by such evil, or face being further discredited as inept and irrelevant.

Tragedy or tipping point?

But is not the Syrian situation better understood as a 'tragic predicament' rather than presented as a tipping point that is raising false expectation that external initiatives can somehow redeem the situation? What kind of hitherto unimaginable action plan undertaken by the UN or NATO could hope to stop the violence and change the governing structure of Syria for the better?

There has long existed an international consensus that the Syrian response to a popular uprising should be effectively repudiated, but this awareness was coupled with a growing realisation that there were no good options. Even those who supported the Annan Plan in the UN acknowledged from its inception that it was a desperate last resort with almost no chance of succeeding. Cynics claimed that it was accepted by Assad to gain time, and mute outside pressures.

There was a widely shared sentiment at the UN that it was unacceptable to stand back and watch further crimes against humanity take place, something must be done, but what? Remembering the awful failure of the world to stop the genocide in Rwanda in 1994 or the massacres in Srebrenica in 1995, there existed the feeling that the developments in Syria were building up to a comparable humanitarian catastrophe, already more than 10,000 Syrians had died, that must somehow be stopped.

A scarcity of viable solutions

Diplomacy had been arduously pursued since the outset, originally by Turkey, then the Arab League, and finally by Kofi Annan, the Envoy of the UN Secretary General, each phase with a seeming receptivity in Damascus but clearly without noticeable effects on its violent tactics.

The parties, including Bashar al-Assad sweet talked international emissaries, announced their willingness to stop the killing and other abuses, and even accepted monitoring arrangements, but then before the negotiators had even left the country the two sides resumed their brutal combat as if nothing had happened, and for this, the opposition led by the Syrian Free Army deserves a share of the blame. In effect, diplomacy has been given multiple chances, and continues to be put forward as the only way to make a difference in the conflict, and yet it clearly lacks the capacity to stop the bloodshed and suspend the political struggle for control of the Syrian state. This naturally turns our attention to more coercive options. Russia has been blamed for preventing stronger action being endorsed by the UN Security Council. Indeed Russia has used its veto to block such initiatives as the imposition of an arms embargo or sanctions on Syria, and is under great pressure to join the current buildup of support for the exertion of increased outside pressure. Amnesty International, for instance, has issued an appeal to the Security Council to call upon the International Criminal Court to issue indictments against the Syrian leadership for their role in the commission of severe crimes against humanity, culminating in the Houla Massacre.

Making matters worse

Military intervention has been strongly advocated for several months by some irresponsibly belligerent political figures in the United States, most notably by John McCain, but there seems little appetite for such a military undertaking even at the Pentagon, and certainly not according to the court of public opinion. Also Syria has no substantial coveted oil reserves. The logistics and politics surrounding such a proposed intervention in Syria make it an unrealistic option. There is not the political will to mount the sort of major military operation on the ground that would combine regime change with an enforced stability until normalcy could be established by a new national leadership.

Unlike Libya where NATO's reliance on air power turned the tide decisively, if destructively, in favour of rebel forces, this scenario is viewed as not workable in Syria where there continues to exist more public support for the regime and more substantial military and paramilitary resources at its disposal, especially if it continues to receive assistance from Iran. All in all, the military option would likely make matters worse for the Syrian people, increasing the magnitude of internal violence without having the effect of bringing the conflict to a desirable end.

The dilemma exposes the weakness of empathetic geopolitics in a world that continues to be dominated by territorially supreme sovereign states. In the Syria situation this tragic reality is revealed in all its horror. It is unacceptable in a media wired world where events are reported visually almost as they are occurring, or immediately thereafter, there is no way to avert the gaze of the outside world.

It is morally unacceptable to stand by, watch, and do nothing. But the UN lacks the authority and capability to impose the collective will of international society except when it can mobilise an effective geopolitical consensus as it did in Libya (but by way of deceiving Russia and China as to the scope of the response contemplated by the authorization of force in March of 2011). For reasons explained above, plus the lingering resentment due to the Libyan deception on the part of Russia and China, there has not emerged a geopolitical consensus favouring military intervention, and none is likely. Just as doing nothing is unacceptable, mounting a military intervention is unrealistic, and hence, impossible.

Does a solution exist?

What is left to fill the gap between the unacceptable and the unrealistic is diplomacy, which has proved to be futile to this point, but hanging on to the slim possibility that it might yet somehow produce positive results, is the only conceivable way forward with respect to the Syrian situation. It is easy to deride Kofi Annan and the frustrations arising from the repeated failures of Damascus to comply with the agreed framework, but it remains impossible to find preferable alternatives.

If diplomacy is finally admitted to be a deadend as seems so likely it raises serious questions as to whether in a globalising world the absence of stronger global institutions of a democratic character is not a fatal flaw. Moral awareness without the political capacity to act responsively points up a desperate need for global reform, but the grossly unequal distributions of power and wealth in the world makes such adjustments impossible to make within the foreseeable future. And so the peoples of the world go on living in this tragic space between the unacceptable and the impossible. It will take a miracle to close this gap!

marks to the candidates for the two questions. Only those candidates who attempted both Paper 1 and Paper 2 will be considered for the ranking. Marks in Physics in IIT-JEE 2012 will be equal to marks in Physics section of Paper 1 plus marks in Physics section of Paper 2. Similar procedure will be followed for Chemistry and Mathematics. The sum of the marks obtained in the individual subjects in IIT-JEE 2012 will be the aggregate marks for the candidate. In order to qualify a candidate needs to score at least 10 per cent marks in each of the three subjects and a minimum of 35 per cent to get a rank.

Chemicals in household items, cosmetics causing cancer

Common chemicals found in household products, cosmetics and even medicines may be causing cancers, fertility problems and other illnesses including diabetes and obesity, a study by Europe's environmental watchdog has warned.

In its study, the European Environment Agency (EEA) has claimed that endocrine disrupting chemicals (EDCs) present in household products and cosmetics could be harmful to humans. The study is based on a review of scientific studies literature commissioned by agency over the past 15 years.

"Scientific research gathered over the last few decades shows us that endocrine disruption is a real problem, with serious effects on wildlife, and possibly people," 'The Daily Telegraph' quoted Jacqueline Mc Glade, EEA Executive Director.

"It would be prudent to take a precautionary approach to many of these chemicals until their effects are more fully understood," she said, adding that the real problem was not a single chemical but the "cocktail effect" of many of them.

The agency warned that five classes of chemicals needed more scrutiny. These included phthalates, which are often found in pesticides biphenyl A and other PCBs, which are used to make plastics parables that are increasingly found in sunscreen and chemicals used in contraceptive pills.

Scientists growing 'human spare parts' in lab

British scientists have claimed that they were the first to grow human body parts at a laboratory at the University College London, it could soon make organ donation a thing of the past. A team, led by Prof Alexander Seifalian of Nanotechnology and Regenerative Medicine, claims it's actually focusing on growing replacement organs and body parts to order, using a patient's own cells.

"This is a nose we're growing for a patient next month. It's a world first. Nobody has ever grown a nose before," Prof Seifalian was quoted by a newspaper.

In fact, the scientists say that when the nose is transferred to the patient, it doesn't go directly onto the face but will be placed inside a balloon inserted beneath the skin on their arm. After four weeks, during which time skin and blood vessels can grow, the nose can be monitored, then it can be transplanted to the face, they say.

Added Adelola Oseni, a team member: "Other groups have tried to tackle nose replacement with implants but we've found they don't last. They migrate, the shape of the nose changes. But our one will hold itself completely, as it's an entire nose shape made out of polymer."

Looking like very thin Latex rubber, the polymer is made up of billions of molecules, each measuring just over one nanometre (a billionth of a metre), or 40,000 times smaller than the width of a human hair.

Working at molecular level allows the material itself to be intricately detailed. "Inside this nanomaterial are thousands of small holes. Tissue grows into these and becomes part of it. It becomes the same as a nose and will

even feel like one," Seifalian said. Other parts in the making include the trachea -- windpipe -- to be used in the world's first synthetic organ transplant, and an artery, say the scientists. "We are the first in the world working on this. We can make a metre every 20 seconds if we need to. However, the full success of these implants needs to be tested with a larger number of patients in clinical trials," said Seifalian.

Camelot gives Aidan O'Brien fourth Classic win

Odds-on favourite Camelot created history as he won the 233rd Epsom Derby on Diamond Jubilee weekend for jockey Joseph O'Brien and his trainer father Aidan.

The 8-13 chance produced a late charge to beat Main Sequence by five lengths, with the winner's stablemate Astrology a short head behind in third. You can't even dream of days like this. No-one can describe the feeling, things like this don't happen Joseph, 19, delivered an ice-cool ride as the O'Briens became the first father/son, trainer/jockey combination to land the big race.

Camelot, the 2,000 Guineas winner at Newmarket last month, was giving Aidan his fourth straight English Classic success. The Irish trainer landed the 1,000 Guineas with Homecoming Queen, while Was claimed the Oaks at Epsom on June 1, 2012.



O'Brien senior said: "You can't even dream of days like this. "I was always happy. I know his [Joseph's] body language by now and he looked confident. "No-one can describe the feeling, things like this don't happen." He could now seek a clean sweep of all the Classics by aiming Camelot at the St Leger at Doncaster in September, and the chance to become the first horse to win the Triple Crown since Nijinsky in 1970.

Recent Derby winners

2012: Camelot 8-13 fav

2011: Pour Moi 4-1

2010: Workforce 6-1

2009: Sea The Stars 11-4

2008: New Approach 5-1

2007: Authorized 5-4 fav

"The Triple Crown would be incredible." The Queen watched on from the Royal Box , with a bumper crowd of 130,000 cheering the runners home as late afternoon sunshine graced the Surrey course.

And she saw a mighty performance from horse and jockey as the teenage rider bided his time near the rear of the field while Thought Worthy and Astrology contested the lead around Tattenham Corner.

Camelot was sent out wide and reeled in his rivals after Main Sequence pressed Astrology in the closing stages. It was the trainer's third Derby victory following wins for Galileo in 2001 and High Chaparral a year later. O'Brien had sent out 39 runners in the big race in the 10 years since then without success, but had made no secret of the regard in which he held Camelot.

Camelot was the shortest-priced winner since Gainsborough (also 8-13) landed the 1918 wartime Derby staged at Newmarket.

The horse's co-owner Derrick Smith, who was celebrating 100 Group wins, said: "This is the one everyone wants. It's just unbelievable. To win the Epsom Derby is a dream come true.

"What a horse and what a ride from young Joseph. You could see from the three-furlong pole it was all over.

"I've had such fun out of it and to be here with all my family is great. The Triple Crown must be on the agenda but we will sit down with Aidan and make the final decision."

China 'arrests high-level US spy' in Hong Kong - reports

Relations between China and the US have been tense in recent months Continue reading the main story



A Chinese security ministry official has been arrested on suspicion of spying for the US and passing on state secrets, Hong Kong media reports say. The man, who was private secretary to a vice-minister in the security ministry, was arrested earlier this year, various press reports say.

US Secretary of State Hillary Clinton declined to comment on the reports. If confirmed, it would be the third major incident to hit China-US relations in the past few months.

It would also be the highest-level spy case involving China and the US to become public since 1985, when intelligence official Yu Qiangsheng defected to the US.

The official had been recruited by the CIA, local press and Reuters report. 'Pretty woman trap' Hong Kong-based Oriental Daily quotes the monthly New Way as saying on 25 May that the official "fell into a pretty woman trap" set up by the CIA.

After the two were photographed in secret liaisons, he was blackmailed and agreed to supply secret information to the US, the reports say.

"The destruction has been massive," a source told Reuters.

The official was arrested between January and March on allegations that he had passed information to the US for several years on China's overseas espionage activities, Hong Kong press and Reuters report.

China's foreign ministry did not respond immediately to a request for comment faxed by Reuters on Friday. China-US relations have been fraught with tension in recent months, following two high-profile cases.

In March, rising political star Bo Xilai was sacked as Communist party chief in the city of Chongqing, after his police chief fled to the US consulate in the city of Chengdu in neighbouring Sichuan province.

And earlier this month, blind activist Chen Guangcheng left for a new life in New York, after he caused a diplomatic crisis by escaping from house arrest and seeking refuge in the US embassy in Beijing.

It would put further pressure on China's security chief, Zhou Yongkang. Rumours were swirling about his possible downfall in the wake of Mr Bo's sacking, wrote the BBC's Beijing correspondent Damian Grammaticas at the time.

Most China-US spy cases involve industrial espionage. Last year, an Indian-born engineer was found guilty in the US state of Hawaii of selling military secrets to China to do with the B-2 bomber.

In 2003, a US woman who had been recruited to spy on China by the FBI was arrested along with her lover, a former FBI agent, but a judge later dismissed the charges against her.

Bilderberg 2012: the technocrats are rising at this year's annual conference

It's all change at Bilderberg this year, with a new chairman, new media and Occupy Bilderberg knocking at the gates.

Everything's set. The hotel is being primed and hoovered, the security is arriving, the press is nowhere to be seen, and I just had a really boring crab salad. It's shaping up to be a vintage Bilderberg.

We were lunching in the Palm Court restaurant of the Westfields Marriott hotel, in Chantilly, Virginia. A few days from now, this hotel will be dripping with billionaires and bankers, industry CEOs and finance ministers, here for the annual Bilderberg summit. "The leaders of the world are coming to our hotel", beams one member of staff. "Are you here for the brunch?"

We are. Most of the other guests have left by now. The hotel is edging towards lockdown. All that's left is a team of nervy conference organizer who start filming us with their iPhones, several dozen security operatives, me,

my wife and a really rather boring 'spook', brunching on an adjacent table.

He droned on for the full length of a crab salad about his "internal and external drivers", about how "I got a panel of three-star admirals together" to secure a "\$30m contract" and how "CACI excels in capture management". He talked fondly of CACI International Inc (a giant defense contractor), although more recently he's had "a nice success rate with Booz Allen" (another giant defense contractor). His world was the deathly dull blur between the federal government and private defense corporations. The grim feeding trough of "systems solutions", "security logistics" and "mission assurance". My crab ended just as he was declaring, wisely: "When you leave the navy and you go to a contractor, you say: what's my mission?"

The Bilderberg Group, Bilderberg conference, or Bilderberg Club is an annual, unofficial, invitation-only conference of approximately 120 to 140 guests from North America and Western Europe, most of whom are people of influence. About one-third are from government and politics, and two-thirds from finance, industry, labour, education and communications. Meetings are closed to the public.

South Africa deal not to show 'rude' Jacob Zuma painting

A South African art gallery has agreed not to display a controversial painting of President Jacob Zuma with his genitals exposed after reaching a deal with the ANC.

The painting has sparked fierce debate about the balance between freedom of expression and the right to dignity. Hundreds of ANC supporters protested outside the gallery on Tuesday.

The painting, The Spear, was defaced last week. It will also be removed from the Goodman Gallery's website. Under the deal, the ANC has agreed to drop its legal action demanding that the gallery remove the painting from its exhibition and the website.

The red, yellow and black acrylic painting showing Mr Zuma echoing Soviet images of Lenin was taken down after it was covered in red and black paint.



On Monday, South Africa's City Press newspaper said it was removing the image of the painting from its website following threats by the ANC.

In a joint news conference, ANC spokesman Jackson Mthembu said: "Maybe we should not have gone to through lawyers, we should have talked directly."

"Brett [Murray, the artist] is very saddened by the hurt that the painting has caused," she said.

The ruling party said the painting was "rude, crude and disrespectful" towards President Zuma and wants all images of the painting online and elsewhere taken down.

In an affidavit served on the City Press newspaper, Mr Zuma said: "The portrait depicts me in a manner that suggests I am a philanderer, a womaniser and one with no respect." President Zuma, who has four wives, has previously sued local media companies 11 times for defamation.

Liberia ex-leader Charles Taylor get 50 years in jail

Liberia's ex-President Charles Taylor has been sentenced to 50 years in jail by a UN-backed war crimes court. Last month Taylor was found guilty of aiding and abetting rebels in Sierra

Milky Way, Andromeda galaxies set to crash -- in 4 billion years

The Milky Way is set to collide with its closest neighbor, the Andromeda galaxy, astronomers working with the Hubble Space Telescope said Thursday. Galactic residents need not brace for impact just yet, however: The predicted collision would take place in 4 billion years.

Andromeda, officially known as Messier 31, or M31, is located about 2.5 million light-years away from the Milky Way — which would make it our closest fellow spiral galaxy. Spiral galaxies have flat, rotating, disc-shaped bodies with spiral arms anchored by a supermassive black hole at the center. "Because Andromeda is getting closer to us, astronomers have speculated for a long time whether it might collide with our Milky Way and whether the galaxies might merge together," said Roeland van der Marel, an astronomer with the Space Telescope Science Institute in Baltimore. "However, to know if this will in fact happen, it's necessary to know not only how Andromeda is moving in our direction, but also what its sideways motion is. Because that will determine whether Andromeda will miss us at a distance — or whether it might be heading straight for us."

The galaxy's gradual sideways movement is really hard to measure because, on the short human time scale, Andromeda almost doesn't seem to budge. Over a few billion years, though, such minimal movement would make a big difference. So the scientists used the Hubble Space Telescope to painstakingly measure the tiny sideways shifts in the galaxy's stars over a 5-to-7-year period. They could then use that movement to extrapolate what the path of the galaxy would most likely be — and it turned out to bring Andromeda straight into the Milky Way's spiral arms. Andromeda's smaller companion galaxy, M33, could join the collision, making it a galactic group hug.



Over about 2 billion years, the two spiral galaxies would merge, forming a more globular, non-rotating galaxy known as an elliptical galaxy. The sun would probably get flung out farther from the Milky Way's center, but Earth would almost certainly remain undisturbed, relatively speaking: It's extremely unlikely that any star would come close enough to our solar system for its gravity to disrupt our planet's position around the sun.

Andromeda is headed toward us at 250,000 mph — a speed that would allow it to reach the moon from the Earth in an hour. It will accelerate up to five times the current speed as gravity pulls the two galaxies inexorably into one another's spiral arms, scientists said.

As for what the new elliptical galaxy would be called, Van der Marel said there wasn't an official name — but that some researchers had previously referred to the galactic mashup by smashing their names together: "Milkomeda."

Leone during the 1991-2002 civil war. Special Court for Sierra Leone judges said the sentence reflected his status as head of state at the time and his betrayal of public trust.

Taylor, 64, insists he is innocent and his lawyer has told the BBC he will appeal against the sentence.

While Mr Taylor never set foot in Sierra Leone, his heavy footprint is there" In Sierra Leone, where victims of the war gathered in silence to watch the hearing on a large screen in a courtroom in the capital, Freetown, the sentence was welcomed.

The chairman of the country's Amputees' Association, Edward Conteh, told the BBC's Focus on Africa programme it came as a "relief" as Taylor was likely to spend the rest of his life in jail.

"It is a step forward as justice has been done, though the magnitude of the sentence is not commensurate with the atrocities committed," AP news agency quotes Deputy Information Minister Sheku Tarawali as saying.

'Heinous crimes'

Taylor, wearing a suit and yellow tie, showed no emotion during the hearing. "The accused has been found responsible for aiding and abetting some of the most heinous crimes in human history," Judge Richard Lussick said.

The Hague

Sentencing the 64-year-old former president to 50 years means in effect that Charles Taylor will spend the rest of his life locked up in jail.

His defence team were hoping judges would take into account the fact that Taylor has a family: he is a father of 14 children and an educated man. But the judges decided his role in aiding and abetting the RUF rebels in Sierra Leone was serious enough to warrant 50 years.

It is a sentence that human rights groups say will set a precedent and send a message out to other world leaders - that if they commit crimes against humanity they will be forced to face the consequences, regardless of how powerful they are.

The crimes - which took place over five years - included cutting off the limbs of their victims and cutting open pregnant women to settle bets over the sex of their unborn children, he said. The prosecution had wanted an 80-year prison term to reflect the severity

of the crimes and the central role that Taylor had in facilitating them. But the judge said that would have been excessive - taking into account the limited scope of his involvement in planning operations in Sierra Leone. However, Judge Lussick said in return for a constant flow of diamonds, Taylor provided arms and both logistical and moral support to the Revolutionary United Front (RUF) rebels - prolonging the conflict and the suffering of the people of Sierra Leone.

These concerns - and other mitigating facts rejected by the judges, such as Taylor's role in ending the conflict - would be brought before the appeals chamber, the defence lawyer said.

Timeline

- 1989: Launches rebellion in Liberia
- 1991: RUF rebellion starts in Sierra Leone
- 1997: Elected president after a 1995 peace deal
- 1999: Liberia's Lurd rebels start an insurrection to oust Mr Taylor
- June 2003: Arrest warrant issued; two months later he steps down and goes into exile to Nigeria
- March 2006: Arrested after a failed escape bid and sent to Sierra Leone
- June 2007: His trial opens - hosted in The Hague for security reasons
- April 2012: Convicted of aiding and abetting the commission of war crimes
- May 2012: Sentenced to 50 years in jail

Charles Taylor profile

Why Taylor will be jailed in UK Taylor, who accused the prosecution of paying and threatening witnesses in his war crimes trial, had asked judges to consider his age when making their decision, saying he was "no threat to



society". But the trial chamber said that, given his social background and standing, "rehabilitation" was not likely. The fact that he had not expressed remorse or apologised for his part in the conflict also affected the sentence, the judge said.

SPACEX DRAGON RETURNS TO EARTH, ENDS HISTORIC TRIP

Triumphant from start to finish, the SpaceX Dragon capsule parachuted into the Pacific on Thursday to conclude the first private delivery to the International Space Station and inaugurate NASA's new approach to exploration.

"Welcome home, baby," said SpaceX's elated chief, Elon Musk. The old-fashioned splashdown was "like seeing your kid come home," he said. He said he was a bit surprised to hit such a grand slam.

"You can see so many ways that it could fail and it works and you're like, 'Wow, OK, it didn't fail,'" Musk said, laughing, from his company's headquarters in Hawthorne, Calif. "I think anyone who's been involved in the design of a really complicated machine can sympathize with what I'm saying." The goal for SpaceX will be to repeat the success on future flights, he told reporters.

The unmanned supply ship scored a bull's-eye with its arrival, splashing down into the ocean about 500 miles off Mexico's Baja California peninsula. A fleet of recovery ships quickly moved in to pull the capsule aboard a barge for towing to Los Angeles.

It was the first time since the shuttles stopped flying last summer that NASA got back a big load from the space station, in this case more than half a ton of experiments and equipment. Thursday's dramatic arrival of the world's first commercial cargo carrier capped a nine-day test flight that was virtually flawless, beginning with the May 22 launch aboard the SpaceX company's Falcon 9 rocket from Cape Canaveral and continuing through the space station docking three days later and the departure a scant six hours before hitting the water.

The returning bell-shaped Dragon resembled NASA's Mercury, Gemini and Apollo spacecraft of the 1960s and 1970s as its three red-and-white striped parachutes opened. Yet it represents the future for American space travel now that the shuttles are gone.

"This successful splashdown and the many other achievements of this mission herald a new era in U.S. commercial spaceflight," NASA Administrator Charles Bolden said in a statement.

Alan Lindenmoyer, manager of NASA's commercial crew and cargo program, was emotional as he turned to Musk and assured him that NASA was now his customer and that resupply services were about to unfold on a regular basis.

"You have turned those hopes into a reality," Lindenmoyer said. Noted Musk: "It really shows that commercial spaceflight can be successful. I mean, this mission worked first time right out the gate."

Musk, the billionaire behind PayPal and Tesla Motors, aims to launch the next supply mission in September under a steady contract with NASA, and insists astronauts can be riding Dragons to and from the space station in as little as three or four years. The next version of the Dragon, for crews, will land on terra firma with "helicopter precision" from propulsive thrusters, he noted. Initial testing is planned for later this year.

President Barack Obama is leading this charge to commercial spaceflight. He wants routine orbital flights turned over to private business so the space agency can work on getting astronauts to asteroids and Mars. Toward that effort, NASA has provided hundreds of millions of dollars in seed money to vying companies.

NASA astronauts are now forced to hitch rides on Russian rockets from Kazakhstan, an expensive and embarrassing outsourcing, especially after a half-century of manned launches from U.S. soil. It will be up to SpaceX or another U.S. enterprise to pick up the reins. Several companies are jockeying for first place.

It will take a few days to transport the fresh-from-orbit Dragon by barge to the Port of Los Angeles. From there, it will be trucked to the SpaceX rocket factory in McGregor, Texas, for unloading and inspection. Reports from the scene are that the spacecraft looks "really good," Musk said, with no major

changes needed for future Dragons, just minor tweaks.

SpaceX — or more properly Space Exploration Technologies Corp. — plans to hustle off a few returning items while still at sea to demonstrate to NASA a fast 48-hour turnaround. That capability would be needed for future missions bearing vital experiments.

The capsule returned nearly 1,400 pounds of old space station equipment and some science samples, a little more than it took up. Because it was a test flight, NASA did not want to load it with anything valuable. It carried up mostly food.

This was only the second time a Dragon has returned from orbit. In December 2010, SpaceX conducted a solo-flying shakedown cruise. Like the Dragon before it, this capsule will likely become a traveling exhibit.

Russia's Soyuz capsules for carrying crews also parachute down but on land, deep inside Kazakhstan. All of the government-provided cargo vessels of Russia, Europe and Japan are filled with station garbage and burn up on descent.

NASA's Commercial Crew and Cargo Program

NASA's Commercial Crew and Cargo Program is investing financial and technical resources to stimulate efforts within the private sector to develop and demonstrate safe, reliable, and cost-effective space transportation capabilities. The Program manages Commercial Orbital Transportation Services (COTS) partnership agreements with U.S. industry totaling \$800M for commercial cargo transportation demonstrations. The Program also invested \$50M in initial commercial crew development activities.

SpaceX Launches Falcon 9/ Dragon on Historic Mission

A SpaceX Falcon 9 rocket thundered into space and delivered a Dragon cargo capsule into orbit on May 22, 2012. The launch began an ambitious mission to show that the company is ready to deliver cargo to the International Space Station.

"We're now back on the brink of a new future, a future that embraces the innovation the private sector brings to the table," said NASA Administrator Charles Bolden. "The significance of this day cannot be overstated. While there is a lot of work ahead to successfully complete this mission, we are off to a good start."

Working with an instantaneous launch window, SpaceX, short for Space Exploration Technologies of Hawthorne, Calif., proceeded through a flawless countdown. Liftoff from Space Launch Complex-40 at Cape Canaveral Air Force Station in Florida came at 3:44 a.m. EDT, just as the station was crossing 249 miles above the North Atlantic.

"Every bit of adrenaline in my body released at that moment," said Elon Musk about the moment the rocket lifted off the pad. Musk is the founder, CEO and chief designer of SpaceX. "People were really giving it their all. For us, it was like winning the Super Bowl."

The launch came three days after the rocket aborted a previous launch attempt. William Gerstenmaier, NASA's associate administrator for Human Exploration and Operations Mission Directorate, lauded the company for getting the craft ready for the successful launch.

"They stayed focused and kept moving forward," Gerstenmaier said. "Things are moving in the right direction."

Dragon is carrying about 1,200 pounds of supplies for the crew of the station and experiments designed by students. The spacecraft can hold 7,300 pounds of material for delivery to the station, but since this is a test flight, the manifest was limited to important but not critical materials. Food and clothing make up the bulk of the supplies.

The launch put the Dragon on a course to rendezvous with the space station in three days. A detailed series of navigation and other systems tests will be performed in space before the capsule is allowed to move close enough to the station for astronauts to grab it with the robot arm and connect it to the Earth-facing port of the Harmony module.

The tests include a careful approach to the station that calls for the spacecraft to pause several times. The space station crew also will show that they can communicate directly with the uncrewed Dragon capsule. If all the testing goes well, they will go ahead with the rendezvous and berthing.



"There's still a thousand things that have to go right, but we are looking forward to this exciting mission," said Alan Lindenmoyer, manager of NASA's Commercial Crew and Cargo Program.

The Dragon will remain connected to the station for about three weeks, allowing astronauts to empty it before loading used scientific equipment inside for the return to Earth. Reversing the process of connecting the spacecraft to the station, astronauts will use the robotic arm to remove the Dragon capsule. The Dragon will then de-orbit and return to Earth under parachutes, splashing down in the Pacific Ocean off the California coast.



Dragon SpaceX Becomes First Commercial Spacecraft to Attach to the Space Station

Space Exploration Technologies (SpaceX) made history when its Dragon spacecraft became the first commercial vehicle in history to successfully attach to the International Space Station. Previously only four governments – the United States, Russia, Japan and the European Space Agency – had achieved this challenging technical feat.

The vehicle was grappled by station's robotic arm at 9:56 a.m. Eastern. It was pulled in Dragon's passive common berthing mechanism successfully attached to the orbiting laboratory at 12:02 PM Eastern.

Broadcast quality videos, including video inside of the SpaceX factory, may be downloaded at vimeo.com/spacexlaunch and high-resolution photos are posted at spacexlaunch.zenfolio.com.

SpaceX CEO and Chief Designer Elon Musk will join NASA Space Station Program Manager Mike Suffredini, NASA COTS Program Manager Alan Lindenmoyer and NASA Flight Director Holly Ridings for a press conference to discuss the remarkable achievement at 1:00 PM Eastern.

When asked for his initial thoughts on Dragon's capture and move into the history books, Elon Musk stated, "just awesome".

This is SpaceX's second demonstration flight under a 2006 Commercial Orbital Transportation Services (COTS) agreement with NASA to develop the capability to carry cargo to and from the International Space Station. Demonstration launches are conducted to determine potential issues so that they might be addressed; by their very nature, they carry a significant risk. If any aspect of the mission is not successful, SpaceX will learn from the experience and try again.

Mission Highlights:

May 22/Launch Day: SpaceX's Falcon 9 rocket launched the Dragon spacecraft into orbit from the Cape Canaveral Air Force Station.

May 23: Dragon orbited Earth as it traveled toward the International Space Station.

May 24: Dragon's sensors and flight systems were subjected to a series of complicated tests to determine if the vehicle is ready to berth with the space station; these tests included maneuvers and systems checks in which the vehicle came within 1.5 miles of the station.

May 25: NASA gave Dragon the GO to attempt berthing with the station. Dragon approached. It was captured by station's robotic arm and attached to the station.



INTELSAT SIGNS FIRST COMMERCIAL FALCON HEAVY LAUNCH AGREEMENT WITH SPACEX

Intelsat, the world's leading provider of satellite services, and Space Exploration Technologies (SpaceX), the world's fastest growing space launch company, announced the first commercial contract for the Falcon Heavy rocket.

"SpaceX is very proud to have the confidence of Intelsat, a leader in the satellite communication services industry," said Elon Musk, SpaceX CEO and Chief Designer. "The Falcon Heavy has more than twice the power of the next largest rocket in the world. With this new vehicle, SpaceX launch systems now cover the entire spectrum of the launch needs for commercial, civil and national security customers."



"Timely access to space is an essential element of our commercial supply chain," said Thierry Guillemain, Intelsat CTO. "As a global leader in the satellite sector, our support of successful new entrants to the commercial launch industry reduces risk in our business model. Intelsat has exacting technical standards and requirements for proven flight heritage for our satellite launches. We will work closely with SpaceX as the Falcon Heavy completes rigorous flight tests prior to our future launch requirements."

This is the first commercial contract for SpaceX's Falcon Heavy launch vehicle. Under the agreement, an Intelsat satellite will be launched into geosynchronous transfer orbit (GTO).

About the Falcon Heavy

Falcon Heavy is the most powerful rocket in the world and historically is second only to the Apollo-era Saturn V moon rocket. Capable of lifting 53 metric tons (117,000 pounds) to low Earth orbit and over 12 metric tons (26,000 pounds) to GTO, Falcon Heavy will provide more than twice the performance to low Earth orbit of any other launch vehicle. This will allow SpaceX to launch the largest satellites ever flown and will enable new missions. Building on the reliable flight proven architecture of the Falcon 9 launch vehicle, Falcon Heavy is also designed for exceptional reliability, meeting both NASA human rating standards as well as the stringent U.S. Air Force requirements for the Evolved Expendable Launch Vehicle (EELV) program, making it an attractive solution for commercial, civil and military customers.

About SpaceX

SpaceX designs, manufactures and launches the world's most advanced rockets and spacecraft. With a diverse manifest of 40 launches to deliver commercial and government satellites to orbit, SpaceX is the world's fastest growing launch services provider. In 2010, SpaceX became the first commercial company in history to put a spacecraft into orbit and return it safely to Earth. With the retirement of the space shuttle, the SpaceX Falcon 9 rocket and Dragon spacecraft are carrying cargo, and one day astronauts, to and from the space station for NASA. Founded in 2002 by Elon Musk, SpaceX is a private company owned by management and employees, with minority investments from Founders Fund, Draper Fisher Jurvetson, and Valor Equity Partners. The company has over 1,800 employees in California, Texas, Washington, D.C., and Florida. For more information, visit SpaceX.com.

About Intelsat

Intelsat is the leading provider of satellite services worldwide. For over 45 years, Intelsat has been delivering information and entertainment for many of the world's leading media and network companies, multinational corporations, Internet Service Providers and governmental agencies. Intelsat's satellite, teleport and fiber infrastructure is unmatched in the industry, setting the standard for transmissions of video, data and voice services. From the globalization of content and the proliferation of High Definition, to the expansion of cellular networks and broadband access, with Intelsat, advanced communications anywhere in the world are closer, by far. For more information about Intelsat, visit intelsat.com. Intelsat is the world's leading provider of fixed satellite services. With Intelsat, advanced communications anywhere in the world are closer, by far.

Career in Chartered Accountancy

Introduction

Chartered accountancy is the core of all business, be it big or small. A chartered accountant's work involves auditing, taxation, accounting and financial planning. It can be a very challenging and rewarding job. Career prospects after doing chartered accountancy are exciting. Chartered accountancy can be the first step to other rewarding careers in finance, investment consultancy and fund management.

The Chartered Accountancy course is conducted by the Institute of Chartered Accountants of India, which has its headquarters in New Delhi, 5 regional offices (Calcutta, Kanpur, Chennai, Mumbai and New Delhi) and 81 branches under these regional centres.

First Step

The qualifications for becoming a CA have changed over the years. Initially — and that was decades ago — one could think of becoming a CA only after finishing graduation and a candidate had to undergo five years of articleship training. In 1991-92, ICAI allowed candidates who had cleared their Plus Two examinations to appear for the Foundation Course of the CA programme. In October 2001, ICAI introduced PE-1 and PE-2 system of examinations in place of the Foundation and the Intermediate examinations. However, in 2006, ICAI revamped the system and launched CPT, IPCC and FC.

The unique feature of the chartered accountancy is its curriculum, which is theoretical education with complementary practical training. A student would undergo theoretical education and practical training concurrently from the very beginning. This balanced approach helps the students to appreciate the underlying practical applications of the theoretical education scheme.

Common Proficiency Test (CPT)
CPT is an entry level test of four subjects i.e. Accounting, Mercantile Laws, General Economics and Quantitative Aptitude.

Integrated Professional Competence Course (IPCC)

This is first stage of CA curriculum wherein only working knowledge of core and allied subjects to accountancy profession is covered. The subjects of IPCC are classified into two groups which a student can study and appear in the examination group-wise or both the groups together. IPCC is designed to improve knowledge of accountancy linked to accounting standards to build strong foundation for developing knowledge of financial reporting at the final stage. The students update their knowledge of business communication, business strategies, taxes, information technology and audit.

CA Final

CA Final covers advanced application knowledge of core subjects like financial reporting, strategic financial management, advanced management accounting, advanced auditing and professional ethics and information systems control and audit. In addition, principles of e-governance, corporate and allied laws, international taxation and VAT are important features of the updated subject contents.

Articleship

The students after passing Group I of IPCC will register for Articleship for a period of three years with experienced CAs. Certain rules do apply - CAs with 16 years of experience and above can take on about 8 articles, those with less experience can train fewer articles and these teachers or 'Principals' as they are called, can be changed during the course of training. An agreement of training needs to be executed before it begins. During the training time, articles learn the technical details of the work and as time passes, they are given larger assignments with less supervision. All articulated clerks are paid a stipend depending on their city's population.

Start Early

In today's cut throat competitive world, it is advisable that a student starts planning right after class 10. For chartered accountancy, a student can register with the Board of Studies and prepare for entry level test while pursuing 10+2. It is better to take mathematics at this level. Students of commerce stream definitely have an advantage while pursuing this career. The latest scheme of CA is designed to encourage young talented students having aptitude for accounting education to make an early entry into the profession.

Is it the Right Career for Me?

It is generally believed that only stu-



dents of commerce should pursue CA course. However, CA being a very practical course, the students from science and arts streams can equally benefit and make a successful career. Students of science and arts stream have to make extra efforts in order to understand some complex accounting nuances and have to get basic knowledge of various management topics. But it can be easily concluded that students of science and arts streams can be successful CAs, if they are ready to toil.

What would it Cost Me?

Unlike other professional courses, the fee for becoming a CA is very less, which is inclusive of the cost of study material. For registering with IPCC you have to shell out Rs 9000 while the fee for CPT is Rs 6700.

Funding/Scholarship

There is not much scope for any scholarships while pursuing chartered accountancy.

Job Prospects

On completion of the training, the candidates need to gain membership to the ICAI before they can start practicing as a CA. A member wishing to practice in India or abroad needs to obtain a Certificate of Practice from the ICAI, the yearly fee of which is Rs. 400. Once the membership is taken, the practicing member cannot work in any other business or occupation without taking permission from the council; they are only permitted to work in areas as specified in the CA regulations. More information on enrolment or the examinations can be requested from the Institute's offices or the Headquarters at Indraprastha, New Delhi or the Board of Studies, C1 - Sector 1, Noida - 201301.

Remuneration

For CA Inter: Generally candidates holding CA inter-qualification are paid somewhere between Rs 7,500 and 15,000 depending on the type of firm. Payments can be higher for candidates possessing other qualifications such as MCom or an MBA. On the other hand starting salaries can be as little as Rs 4,500 to 5,000 in some small towns of the country.

For CA Final (FCA): Starting salaries range between Rs 12,000 to 30,000 depending on the type of firm and nature of the economy. A full fledged CA can expect a salary between Rs 30,000 to 75,000 after serving a stint of more than 5 years at a top firm.

Demand and Supply

It can be easily concluded that the country needs about 7,500 to 10,000 fresh CAs every year seeing the growth of Indian economy in the last 5 years.

Market Watch

Chartered Accountants have been one of the most sought after professionals in India. Much of the reputation of CAs is due to the fact that their rigorous training (both theoretical and practical) makes them practically jack of all trades as far as the domain of finance is concerned. In spite of the sea change in global trade systems and practices, the requirement of CAs has remained steady.

The demand for CAs has been growing between 10% to 15% over the past

3 – 4 years. The demand however depends on the state of the economy and there is direct bearing on the demand of CAs when the economy is in downtrend. But the statutory clause for mandatory appointment of CAs provides substantial cushion support to the CA fraternity as compared to other comparable peers.

International Focus

The qualification of CA is globally recognized hence industry outlook for CAs is bright indeed. Much recognition for CA degree is due to the fact that the CA course has been able to keep pace with changes in industry scenario. Several new modules and topics have not only been incorporated into the CA course but have been very effectively implemented to give increasing more power to the CA degree. In spite of the fact that several top-notch B-schools (including IIMs) have produced some of the most brilliant B-school grads, it is noteworthy that CAs has been able to retain their prominence in present world order.

Roles

Different Roles, Different Names
A Chartered Accountant's work area has become so wide and involves so many activities that sometimes a CA is perceived as almost an enigma. A CA can start career with auditing activities, which is the basic work area of a CA. From here a more fulfilling career in finance can be pursued after getting enough exposure of intricacies of finance. As an investment consultant and as a fund manager a CA can play the role of a top decision maker. CAs also work in project management and consultancy services.

Top Companies/ Verticals

Following are the areas where CAs find an opportunity:

Banks (Both private and public)
Public Limited Companies (mandatory for the purpose of law)
Auditing Firms (such as KPMG, Price Waterhouse, etc.)
Finance Companies, Mutual Funds, Portfolio Management Companies, Investment Houses, Stock Broking Firms
Legal firms, Legal houses, Patent Firms, attorneys, Trade Mark and Copyright Registers

Tips for Getting Hired

Accounting is a precision oriented job. Pay attention to how you dress, speak and conduct yourself in company. These also add a personal charisma which helps in maintaining good relations with peers and clients. You need to understand the business world. It is also important that you show this understanding. Start looking at the bigger picture in terms of company numbers. This business acumen is a prerequisite for a CA. Leadership and analytical skills are vital to a chartered accountant. Besides these, work on your communication skills both oral and written. Be prepared to work long and hard when needed especially in the taxation months.

How to become a Chartered Accountant?

The Examination Department of the Institute of Chartered Accountants of India conducts the following examinations corresponding to different levels of the Chartered Accountancy course, in accordance with the Chartered Accountants Regulations 1988:

Common Proficiency Test (CPT)

Professional Competence Examination (PCE)

Integrated Professional Competence Examination (IPCE)

Final Examination

Examinations, other than CPT like **PCE, IPCE and Final** are generally conducted *twice a year*, in **May** and **November**. **CPT** is conducted twice a year, in **June** and **December**.

New Announcement about CA Examination

Syllabus

CPT Syllabus visit to <http://www.developindiagroup.co.in/>

IPCC Syllabus visit to <http://www.developindiagroup.co.in/>

ATC Syllabus visit to <http://www.developindiagroup.co.in/>

CA Final Syllabus (New) visit to <http://www.developindiagroup.co.in/>

How to become a Chartered Accountant? visit to <http://www.developindiagroup.co.in/>

How to Apply on-line

ICAI Examination - JUNE 2012

Step 1: Create Your Account: for every upcoming exam by clicking at the link "If you are a new user, please click here" (The users who had created login account for any previous exams will have to re-create the account) and authenticating your Student Registration Number (eg: NRO0123456) with your date of birth, your VALID email-id and mobile number. (In Case your Name is not displayed on entering the registration number and Date of Birth, you can still create the login as a PROVISIONAL CANDIDATE by providing correct particulars. You must submit the copy of registration letter and other relevant documents with your application form in case your login is created as Provisional Candidate.) Double check your email-id: provided by you in the above step, since the login-id and password created by you for filling up the application form would be sent to this email address and mobile only.

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Step 3: Login Again to Take print out of PDF form on A4 size paper with Portrait orientation. Do Not print on both sides of the paper. If PDF is not generated Click Here.

Check and ensure that Control Number, Bar code and Payment Particulars are appearing correctly in PDF before taking the print out. In case of any issues please report to onlineexamforms@icai.in

Step 4: Affix Photograph & Signature: Paste your Photograph, Sign the form using Black Ink Pen and get the form attested by Member of the Institute/gazetted officer/Head of Educational Institute & Parent/Guardian, as mentioned in the form printed in Step 3 above.

Step 5: Send us the printout: Send the printout of the form by SpeedPost/Registered Post without folding and Superscribing the envelope as "Online Application for CPT(PP)- June 2012" so as to reach us on or before 30 th April, 2012 at the following address.

Address:

Additional Secretary (Exams)

The Institute of Chartered Accountants of India

ICAI Bhawan, Indraprastha Marg,

New Delhi - 110 002.

ICAI Examination - JUNE 2012

Common Proficiency Test will be held on Sunday, the 17th JUNE, 2012 in two sessions as per details given below

Session	Section	Subject	Maximum Marks	Timings	Reporting Time
Morning	AB	Fundamentals of Accounting	100	10.30 A.M. to 12.30 P.M. (IST)	9.00 A.M. to 11.00 A.M. UAE local time
		Mercantile Laws	100	12.30 P.M. TO 1.30 P.M. (IST)	11.00 A.M. to 12.00 Noon UAE local time
Afternoon	CD	General Economics	100	2.00 P.M. to 4.00 P.M. (IST)	1.00 P.M. to 2.00 P.M. UAE local time
		Quantitative Aptitude	100	4.00 P.M. to 5.00 P.M. (IST)	2.00 P.M. to 3.00 P.M. UAE local time

P.M. Nepal local time 1.45 P.M. Nepal local time

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PE II -Course Registration Discontinued

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