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## All New Essays

1. Some people believe that information technology has made the world a better place than before, whereas others contend that it has brought more problems than solutions. Which view do you agree with and why?
2. Why can some people not balance their personal and professional life? Do you think it is important to balance these two lives? 4
3. Medical Technology helps to live longer. Is that a curse or blessing?
4. "Experience is better than book knowledge". Do you agree or disagree?
5. Should governments spend more money on education or healthcare?
6. Do you think experiential learning is better than the traditional learning methods?
7. Some people think the purpose of education is to prepare the future workforce and make good members of society. Others think the purpose of education should lead to self-fulfillment. What is your opinion?
8. What is your opinion on deducting marks on student's work if it is late?
9. Do you think the design of a building affects positively or negatively in people's work and life?"
10. Which is the best method of obtaining study materials-online, from books or peer discussions?
11. Do you think music promotes learning?
12. Effective learning requires time, comfort and peace, so it is impossible to combine study and employment. Study and employment distract one from another. To what extent do you think the statements are realistic? Support your opinion with examples.
13. Some people think the purpose of education is to prepare the future workforce and make good members of society. Others think the purpose of education should lead to self-fulfilment. What is your opinion?
14. Traffic congestion is increasing in major cities around the world. Why do you think this is happening?
15. People are living longer these days. What do you think has made this possible?
16. Our lifestyle can affect our health. How should health/ medical department respond to this?
17. How can we deal with the problem of declining immigration due to cultural shock?
18. Why can some people not balance their personal and professional life? How do you think we can balance them?
19. The internet has transformed the way information is shared and consumed, but it has also created problems that did not exist before. What are the most serious problems associated with the internet and what solutions can you suggest?
20. More and more people are migrating to cities in search of a better life, but city life can be extremely difficult. Explain some of the difficulties of living in a city. How can governments make urban life better for everyone?
21. Happiness is considered very important in life. Why is it difficult to define? What factors are important in achieving happiness?

22. Some people think that the main factors influencing a child's development these days are things such as television, friends, and music. Others believe that the family still remains more important. Discuss both opinions and give your opinion.
23. Communication has evolved significantly in the last decade. Discuss pros and cons of development of communication.
24. Do you think cashless society is realistic and why? What are the advantages and disadvantages?
25. "It is important to maintain and protect beautiful buildings of the past, even if it is expensive for owners to do so. What do you think of this statement? Give reasons and examples from your own experience."
26. Do you think parents should be held responsible for their children's behaviours?
27. Some people think the purpose of education is to prepare the future workforce and make good members of society. Others think the purpose of education should lead to self- fulfillment. What is your opinion?
28. Do you think parents have more influence on children or external factors such as the internet or tv have more influence on children?
29. Learning a new language at an early age is helpful for children. Is it more positive for their future aspect or have some opposite effects? Agree or disagree?
30. What are the positives and negatives of connecting with the outside world using the modern means of communication?
31. Studying effectively requires comfort, peace and time which cannot be obtained by combining employment and education. To what extent do you agree or disagree?
32. "It is important to maintain and protect beautiful buildings of the past, even if it is expensive for owners to do so. What do you think of this statement? Give reasons and examples from your own experience."
33. Do you think parents should be held responsible for their children's behaviours?
34. Is prison punishment or rehabilitation?
35. Should individual limit the use of car and use alternative things instead to protect environment?
36. In order to reduce traffic congestion, should we increase the number of roads or improve the quality of public transport?
37. Do you think prisons punish or rehabilitate the inmates?
38. What are the positive and negative aspects of the connection to outside world including mobile phone, email and social networking?
39. In the 18th century due to industrialization, a lot of people migrated to developed countries. This affected lifestyle and increased problems in developed countries. What is your opinion about this?
40. Different people are successful in different fields. Some people work long hours to get success, but others feel that we should spend free time for fun than money. Which style closely related to you and explains your opinion?
41. Sports and games create disturbance in students' life because students cannot fully concentrate on their studies. To what extent do you agree or disagree?
42. Nowadays, people put too much time at work and they seldom have time for their personal life. Discuss this issue and support your answer with examples.
43. Do you believe that industrial revolution was the main factor for problems in developed nation?
44. Some people think spreading advertisements in schools is a great resource for public schools that need more fund, but others think it takes advantage of students by treating them as a captive audience for corporate sponsors.
45. Most high-level jobs are done by men. Should governments encourage that a certain percentage of these jobs be reserved for women? What is your opinion?
46. What does generosity mean to you?
47. What is your view on the idea that it takes failure to achieve success?
48. Competitive environment in school or university is good or bad? Discuss and give your own experiences as examples.
49. Some people suggest that each family should only have one car and encourage alternative vehicle. To what extent do you agree or disagree?

50. Some people like repetitive routine, such as eating the same food, do you like this way?
51. It is important to preserve the beautiful buildings of the past, even if it will be expensive to do so. To what extent do you agree or disagree with it.
52. What is your opinion on deducting marks on student's work if it is late?
53. Whether studying films at school is as important as studying literature?
54. Do students need to study more or pass exams?

## All New Summaries

### 1. GREENHOUSE GASES

When an individual drives a car, heats a house, or uses an aerosol hair spray, greenhouse gases are produced. In economic terms, this creates a classic negative externality. Most of the costs (in this case, those arising from global warming) are borne by individuals other than the one making the decision about how many miles to drive or how much hair spray to use. Because the driver (or sprayer) enjoys all the benefits of the activity but suffers only a part of the cost, that individual engages in more than the economically efficient amount of the activity. In this sense, the problem of greenhouse gases parallels the problems that occur when someone smokes a cigarette in an enclosed space or litters the countryside with fast-food wrappers. If we are to get individuals to reduce production of greenhouse gases to the efficient rate, we must somehow induce them to act as though they bear all the costs of their actions. The two most widely accepted means of doing this are government regulation and taxation, both of which have been proposed to deal with greenhouse gases.

### 2. BEAUTY CONTEST

Since Australians Jennifer Hawkins and Lauryn Eagle were crowned Miss Universe and Miss Teen International respectively, there has been a dramatic increase in interest in beauty pageants in this country. These wins have also sparked a debate as to whether beauty pageants are just harmless reminders of old fashioned values or a throwback to the days when women were respected for how good they looked.

Opponents argue that beauty pageants, whether its Miss Universe or Miss Teen International, are demeaning to women and out of sync with the times. They say they are nothing more than symbols of decline.

In the past few decades Australia has taken more than a few faltering steps toward treating women with dignity and respect. Young women are being brought up knowing that they can do anything, as shown by inspiring role models in medicine such as 2003 Australian of the Year Professor Fiona Stanley.

In the 1960s and 70s, one of the first acts of the feminist movement was to picket beauty pageants on the premise that the industry promoted the view that it was acceptable to judge women on their appearance. Today many young Australian women are still profoundly uncomfortable with their body image, feeling under all kinds of pressures because they are judged by how they look.

Almost all of the pageant victors are wafer thin, reinforcing the message that thin equals beautiful. This ignores the fact that men and women come in all sizes and shapes. In a country where up to 60% of young women are on a diet at any one time and 70% of school girls say they want to lose weight, despite the fact that most have a normal BMI, such messages are profoundly hazardous to the mental health of young Australians.

### 3. SONGBIRD

Males do the singing and females do the listening. This has been the established, even cherished view of courtship in birds, but now some ornithologists are changing tune.

LászlóGaramszegi of the University of Antwerp, Belgium, and colleagues studied the literature on 233 European songbird species. Of the 109 for which information on females was available, they found evidence for singing in 101 species. In only eight species could the team conclude that females did not sing.

Females that sing have been overlooked, the team say, because their songs are quiet, they are mistaken for males from their similar plumage or they live in less well studied areas such as the tropics.

Garamszegi blames Charles Darwin for the oversight. “He emphasised the importance of male sexual display, and this is what everyone has been looking at.”

The findings go beyond modern species. After carefully tracing back an evolutionary family tree for their songbirds, Garamszegi’s team discovered that, in at least two bird families, singing evolved in females first. They suggest these ancient females may have been using their songs to deter other females from their territories, to coordinate breeding activities with males, or possibly to attract mates.

#### 4. OBITUARIES

Whether written to appear in a national publication or in an anthology dedicated to the lives of a group of adventurers, political figures, or other noteworthy people, obituaries are often the trickiest type of text to produce. An obituarist must consider all the events of a person’s life, the feelings of their friends and acquaintances who live on after they have died, and the impression the obituary will make upon its readers who have not personally known the deceased. A poorly written obituary can cause great offence to people at a time of great sadness, and it can cause great embarrassment to the editors of the publication in which it is found. When Canadian scientist Yvonne Brill passed away at the age of 88, many people were angered by her obituary in *The New York Times* because the first line commented upon her cooking and mothering skills rather than her development of rocket and jet propulsion technologies. Selecting what to include and what not to include in an obituary is of course not an easy task. Obituaries are usually written either chronologically or thematically, according to both the subject in question and the stylistic inclination of the obituarist. It is commonplace for accounts of professional greatness, such as Brill’s achievements in engineering, to be placed alongside less well-known insights into the private lives of a person. The fact that Brill was a wonderful cook and mother would certainly have been interesting to readers who had not personally known her, and it is likely that these facts were of equal importance to her professional status for her children. However, for people who cared most about her pioneering efforts for women in engineering, her most prominent obituary was a great failure, highlighting the difficulty faced by obituarists on every occasion that they write.

#### 5. AMAZON RAIN FOREST

I got the idea to start Amazon 16 years ago. I came across the fact that web usage was growing at 2,3 percent per year. I’d never seen or heard of anything that grew that fast and the idea of building an online bookstore with millions of titles – something that simply couldn’t exist in the physical world – was very exciting to me. I had just turned 3 years old and I’d been married for a year. I told my wife MacKenzie that I wanted to quit my job and go do this crazy thing that probably wouldn’t work – since most start-ups don’t – and I wasn’t sure what would happen after that. MacKenzie told me I should go for it. I was working at a financial firm in New York City with a bunch of very smart people and I had a brilliant boss that I much admired. I went to my boss and told him I wanted to start a company selling books on the internet. He took me on a long walk in Central Park, listened carefully to me and finally said, ‘That sounds like a really good idea but it would be an even better idea for someone who didn’t already have a good job.’ That logic made some sense to me and he convinced me to think about it for 48 hours before making a final decision. Seen in that light, it really was a difficult choice but, ultimately, I decided I had to give it a shot. I didn’t think I’d regret trying and failing. And I suspected I would always be haunted by a decision to not try at all. After much consideration, I took the less safe path to follow my passion and I’m proud of that choice.

#### 6. TRUE REALITY

The true reality of life can be known only when we maintain a balance between the mathematical elements of nature, on the one hand, and consciousness and will, on the other. There are two things in nature we have no doubt about; our existence and the outside world. But there is something which makes us aware of these two elements and that is our thought. Whatever we feel, our conclusions, our fears, and aspirations, all revolve around our thinking. Our flesh and bones cannot perceive things in nature. It is the capability of our thoughts alone. Even a physically disabled man with a sane mind gets rational thoughts. So, there is some great power that picks impressions from surroundings, concludes ideas, and gives reasoning and judgment. And that power is the power of thinking. This is the real, “I myself”. This, ‘I

myself', has an existence apart from its physical reality. It is the real self or person who deals with others in society. Its physical body is a medium through which he can verbalise his thoughts. The real person is embodied in the thoughts of the personality. So, judge not a person's physicality, but his thoughts.

## 7. HOW DO WE MEASURE EFFICIENCY

How do we measure efficiency? To economists – or to a certain type of economist – it is simply a question of profitability, even when it concerns what most people consider a social provision such as public transport. What is lost when railway lines and bus routes to small, out-of-the-way communities are cut in the name of efficiency? After all, if a line or a route is only used occasionally by a few people, it would be much cheaper to rip up the lines and let everyone use their cars. For many governments, the way to turn inefficient national services into profitable businesses has been to sell off these services – and their responsibilities – to private enterprises. Cost, in terms of profit and loss, is, of course, an important factor, but other factors need to be considered when dealing with the livelihoods of whole communities, however small. Among these are the social, environmental, human and cultural costs incurred by cutting off more remote communities from greater opportunities, including economic activities that benefit society as a whole. Taking away such links – the usual result of privatisation – may well lead to economic benefits in the short term, but, as the last twenty to thirty years have shown, also leads to long-term social and cultural damage. Of course, no business with its eye on profits is going to “waste” money supporting underused services. Only large collective bodies such as national and local governments can do that. These services are, after all, a social provision, not businesses.

## 8. ACADEMIC RESEARCH

One of the many critiques of academic research that one runs across is that a lot of research done by a faculty at universities across America doesn't 'do' anything: it doesn't lead to some new product that can be marketed; it doesn't create jobs; it doesn't have an obvious social value. After all, people argue, do we really need studies that chart the maturation of catfish? Or that explore the nuances of a minor poet? What is all this for?

As a consequence of attitudes like these, many people — particularly politicians and business persons — argue that the research function should be stripped from academia, or at least those parts of academia that aren't the major research institutions. Then universities wouldn't need so many faculties, and costs could be contained.

Academics like me offer lots of standard objections to this line of thinking: that research keeps one fresh and up-to-date in the discipline; that the faculty often works with students on their research, thus providing students with invaluable training for their future careers and so on. All of this is true, but I want to add a different point: the power of chance.

In 199, I took an appointment at the University of Alabama-Huntsville. I had a police officer student who invited me for a ride along. I went — ultimately many times. The book that emerged from the research project I established from that first ride was later included on a list of 'must read' books on public administration by the Government of Canada.

I have no problem with accountability. But if you had asked me what my purpose was when I took my first ride along, and you had demanded to know what use the research could be put to, I would have told you, 'I have no idea'.

While many people believe that research should be removed from the universities because it costs money but does not provide any immediate benefit, the writer asserts that research is useful because it updates

students and prepares them for the future, and that sometimes you do not know the significance of your actions at the beginning.

## 9. NATIONAL IDENTITY

Is the purpose of history to promote a strong national identity and support national myths? Certainly, it has been used in this way for centuries, and this is often reflected in the history curriculum. We can all remember history at school as being a matter of learning lots of facts and dates, and long lists of kings and queens – a grand narrative of how we got from a not so civilized past to the great nation we are today. Putting aside the fact that national identity is a complex and divisive question – especially in countries like the UK, which is comprised of several nationalities – this approach to history emphasizes a broad understanding, rather than a detailed understanding. Yet history is, or should be, a critical, sceptical discipline: some historians see their work as disproving myths, demolishing orthodoxies and exposing politically-motivated narratives which claim to be objective. What students need to develop are more critical and analytical skills; in other words, to think for themselves. They can do this by studying certain historical problems in depth. This involves being critical of the narratives presented by historians and sceptical of the myths preserved in the national memory.

## 10. CHILDREN AND SPEECH

By a miraculous process, which we still, do not fully understand. Children know all about the correct order of the various parts of speech in a sentence. They have never heard of nouns, verbs, adjectives and articles but they instinctively know what follows what. They learn the rules for ordering the words without one lesson. They know that “was” is not likely to follow “the”. They also know that the sentence doesn’t make sense. You are much more likely to get an ‘error’ of “wall” substituted for “waterfall” because it is a possible (and more likely) alternative. In this case, the child has also chosen a word that starts with the same letter. Usually, the child is not guessing when they read a word incorrectly. They are using a large number of clues to figure out the most likely alternative.

They are making approximations. The child who read “was” for “waterfall” was using the strategy of the sound of the first letter but was not making use of either meaning or grammatical cues. This is useful information for the adult who is listening. This child was not reading for meaning. So they were not reading at all. Reading is not pronouncing words. I could probably pronounce most words in an instruction book for servicing a phantom jet. But I wouldn’t have the faintest idea what it was all about. No matter what age-if your child is not understanding what they are reading, they are not reading. So, abandon ship. Find something that they can understand and start with easier or more interesting material. Children can arrange the words in correct order in a sentence even if they have never taken a lesson about them. They usually choose the words based on the first letter. If there is no understanding, then it cannot be called reading. We should give children only those materials to read which they can understand. Children can arrange the words in correct order in a sentence even if they have never taken a lesson about them and they usually choose the words based on the first letter even if they do not know the meaning of these words, therefore, If there is no understanding then it cannot be called reading, therefore, We should give children only those materials to read which they can understand.

## 11. PARENT’S BORN ORDER AFFECTS THEIR PARENTING

Parents' own birth order can become an issue when dynamics in the family they are raising replicate the family in which they were raised. Agati notes common examples, such as a firstborn parent getting into "raging battles" with a firstborn child. "Both are used to getting the last word. Each has to be right. But the parent has to be the grown up and step out of that battle," he advises. When youngest children become parents, Agati cautions that because they "may not have had high expectations placed on them, they in turn may not see their kids for their abilities." But he also notes that since

youngest children tend to be more social, "youngest parents can be helpful to their firstborn, who may have a harder time with social situations. These parents can help their eldest kids loosen up and not be so hard on themselves. Mom Susan Ritz says her own birth order didn't seem to affect her parenting until the youngest of her three children, Julie, was born. Julie was nine years younger than Ritz's oldest, Joshua, mirroring the age difference between Susan and her own older brother. "I would see Joshua do to Julie what my brother did to me," she says of the taunting and teasing by a much older sibling.

"I had to try not to always take Julie's side." Biases can surface no matter what your own birth position was, as Lori Silverstone points out. "As a middle myself, I can be harder on my older daughter. I recall my older sister hitting me," she says of her reactions to her daughters' tussles.

"My husband is a firstborn. He's always sticking up for the oldest. He feels bad for her that the others came so fast. He helps me to see what that feels like, to have that attention and then lose it." Silverstone sees birth order triggers as "an opportunity to heal parts of ourselves. I've learned to teach my middle daughter to stand up for herself. My mother didn't teach me that. I'm conscious of giving my middle daughter tools so she has a nice way to protect herself."

Whether or not you subscribe to theories that birth order can affect your child's personality, ultimately, "we all have free will," Agati notes. It's important for both parents and kids to realize that, despite the characteristics often associated with birth order, "you're not locked into any role."

## 12. AUSTRALIAN EDUCATION

When Australians engage in debate about educational quality or equity, they often seem to accept that a country cannot achieve both at the same time.

Curriculum reforms intended to improve equity often fail to do so because they increase breadth or differentiation in offerings in a way that increases differences in quality. Further, these differences in quality often reflect differences in students' social backgrounds because the 'new' offerings are typically taken up by relatively disadvantaged students who are not served well there. Evidence from New South Wales will be used to illustrate this point.

The need to improve the quality of education is well accepted across OECD and other countries as they seek to strengthen their human capital to underpin their modern, knowledge economies. Improved equity is also important for this purpose, since the demand for high level skills is widespread and the opportunities for the low skilled are diminishing.

Improved equity in education is also important for social cohesion. There are countries in which the education system seems primarily to reproduce existing social arrangements, conferring privilege where it already exists and denying it where it does not. Even in countries where the diagnosis might be less extreme, the capacity of schooling to build social cohesion is often diminished by the way in which schools separate individuals and groups.

## 13. GEOTHERMAL ENERGY

What is the solution for nations with increasing energy demands, hindered by frequent power cuts and an inability to compete in the international oil market? For East Africa at least, experts think geothermal energy is the answer. More promising still, the Kenyan government and international investors seem to be listening. This is just in time according to many, as claims of an acute energy crisis are afoot due to high oil prices, population spikes and droughts.

African countries can solve their energy problems by using geothermal energy.

Geothermal energy works by pumping water into bedrock, where it is heated and returns to the surface as steam which is used directly as a heat source or to drive electricity production. Currently over 60% of Kenya's power comes from hydroelectric sources but these are proving increasingly unreliable as the issue of seasonal variation is intensified by erratic rain patterns.

Although a large portion of energy in Kenya comes from hydroelectricity, it is an unreliable source of energy.

Alternative energy sources are needed; and the leading energy supplier in Kenya, Kenya Electricity Generating Company (KenGen), hopes to expand its geothermal energy supply from 13% to 25 % of its total usage by 2020. The potential of geothermal energy in the region was first realised internationally by the United Nations Development Program, when geologists observed thermal anomalies below the East African Rift system. Locals have been utilising this resource for centuries; using steam vents to create the perfect humidity for greenhouses, or simply to enjoy a swim in the many natural hot lakes. The geography of Africa is suitable for the generation of geothermal energy and locals are already doing it.

Along the 6000 km of the rift from the Red Sea to Mozambique, geochemical, geophysical and heat flow measurements were made to identify areas suitable for geothermal wells. One area lies next to the extinct Olkaria volcano, within the Hell's Gate National Park, and sits over some of the thinnest continental crust on Earth.

This is a result of the thinning of the crust by tectonic stretching, causing hotter material below the Earth's surface to rise, resulting in higher temperatures. This thin crust was ideal for the drilling of geothermal wells, reaching depths of around 3000 m, where temperatures get up to 342°C, far higher than the usual temperature of 90°C at this depth. Water in the surrounding rocks is converted to steam by the heat. The steam can be used to drive turbines and produce electricity.

## 14. PLANT RESEARCH

Plants serve as the conduit of energy into the biosphere, provide food and materials used by humans, and they shape our environment. According to Ehrhardt and Frommer, the three major challenges facing humanity in our time are food, energy, and environmental degradation. All three are plant related.

All our food is produced by plants, either directly or indirectly via animals that eat them. Plants are a source of energy production. And they are intimately involved in climate change and a major factor in a variety of environmental concerns, including agricultural expansion and its impact on habitat destruction and waterway pollution.

What's more, none of these issues are independent of each other. Climate change places additional stresses on the food supply and on various habitats. So, plant research is instrumental in addressing all these problems and moving into the future. For plant research to move significantly forward, Ehrhardt and Former say technological development is critical, both to test existing hypotheses and to gain new information and generate fresh hypotheses. If we are to make headway in understanding how these essential organisms function and build the foundation for a sustainable future, then we need to apply the most advanced technologies available to the study of plant life, they say.

## 15. CULINARY IDENTITY OF AUSTRALIA

In its periodic quest for culinary identity, Australia automatically looks to its indigenous ingredients, the foods that are native to this country. 'There can be little doubt that using an indigenous product must qualify a dish as Australian', notes Stephanie Alexander. Similarly, and without qualification, Cherkoff states that 'A uniquely Australian food culture can only be based upon foods indigenous to this country', although, as Craw remarks, proposing Australian native foods as national symbols relies more upon their association with 'nature' and geographic origin than on common usage.

Notwithstanding the lack of justification for the premise that national dishes are, of necessity, founded on ingredients native to the country-after all, Italy's gastronomic identity is tied to the non-indigenous tomato, Thailand's to the non-indigenous chilli-the reality is that Australians do not eat indigenous foods in significant quantities. The exceptions are fish, crustaceans and shellfish from oceans, rivers and lakes, most of which are unarguably unique to this country.

Despite valiant and well-intentioned efforts today at promoting and encouraging the consumption of native resources, bush foods are not harvested or produced in sufficient quantities for them to be a

standard component of Australian diets, nor are they generally accessible. Indigenous foods are less relevant to Australian identity today than lamb and passionfruit, both initially imported and now naturalised.

## 16. RESONANCE THEORY

The history of marketers seeking the advice of physicists is a short one, but an understanding of the Theory of Resonance may give communications experts the edge. Resonance Theory explains the curious phenomenon of how very small pebbles dropped into a pond can create bigger waves than a large brick. The brick makes a decent splash, but its ripples peter out quickly. A tiny pebble dropped into the same pond, followed by another, then another, then another, all timed carefully, will create ripples that build into small waves.

As Dr Carlo Contaldi, a physicist at Imperial College London, explains, a small amount of energy committed at just the right intervals - the 'natural frequency' - creates a cumulatively large effect. Media consultant Paul Bay believes that just as with pebbles in a pond, a carefully choreographed and meticulously timed stream of communication will have a more lasting effect than a sporadic big splash during prime-time TV breaks.

Innocent is testament to the power of pebbles. Until last year, the maker of smoothies had never advertised on TV, instead drip-feeding the market with endless ingenious marketing ploys - from annotating its drinks labels with quirky messages to hosting its own music festival, Fruit stock. The company sent a constant stream of messages rather than communicating through the occasional big and expensive noise.

So, whether you're trying to make waves in the laboratory or in the media, the people in white coats would advise a little and often. A big budget is not the prerequisite of success.

## 17. MARKET COMPETITION

With an abundance of low-priced labour relative to the United States, it is no surprise that China, India and other developing countries specialise in the production of labour-intensive products. For similar reasons, the United States will specialise in the production of goods that are human- and physical-capital intensive because of the relative abundance of a highly-educated labour force and technically sophisticated equipment in the United States.

This division of global production should yield a higher global output of both types of goods than would be the case if each country attempted to produce both of these goods itself. For example, the United States would produce more expensive labour-intensive goods because of its more expensive labour and the developing countries would produce more expensive human and physical capital-intensive goods because of their relative scarcity of these inputs. This logic implies that the United States is unlikely to be a significant global competitor in the production green technologies that are not relatively intensive in the human and physical capital.

Nevertheless, during the early stages of the development of new technology, the United States has a comparative advantage in the production of the products enabled by this innovation. However, once these technologies become well-understood and production processes are designed that can make use of less-skilled labour, production will migrate to countries with less expensive labour.

## 18. CRISIS IN BRITISH ARCHAEOLOGY

Human remains are a fundamental part of the archaeological record, offering unique insights into the lives of individuals and populations in the past. Recently a new set of challenges to the study of human remains has emerged from a rather unexpected direction: the British government revised its interpretation of nineteenth-century burial legislation in a way that would drastically curtail the

ability of archaeologists to study human remains of any age excavated in England and Wales. This paper examines these extraordinary events and the legal, political and ethical questions that they raise.

In April 2008 the British government announced that, henceforth, all human remains archaeologically excavated in England and Wales should be reburied after a two-year period of scientific analysis. Not only would internationally important prehistoric remains have to be returned to the ground, removing them from public view, but also there would no longer be any possibility of long-term scientific investigation as new techniques and methods emerged and developed in the future. Thus, while faunal remains, potsherds, artefacts and environmental samples could be analyzed and re-analyzed in future years, human remains were to be effectively removed from the curation process.

Archaeologists and other scientists were also concerned that this might be the first step towards a policy of reburying all human remains held in museum collections in England and Wales including prehistoric, Roman, Saxon, Viking and Medieval as well as more recent remains.

Scholars are worried that the law may evolve into a policy to include the reburying of all human remains from different time period kept in the museum too.

## 19. ANTI-BULLYING PROJECT

Spurred by the sense that disorderly behavior among students in South Euclid was increasing, the school resource officer (SRO) reviewed data regarding referrals to the principal's office. He found that the high school reported thousands of referrals a year for bullying and that the junior high school had recently experienced a 30 percent increase in bullying referrals. Police data showed that juvenile complaints about disturbances, bullying, and assaults after school hours had increased 90 percent in the past 10 years.

A researcher from Kent State University (Ohio) conducted a survey of all students attending the junior high and high school. Interviews and focus groups were conducted with students-identified as victims or offenders- teachers, and guidance counsellors. Finally, the South Euclid Police Department purchased a Geographic Information System to conduct crime incident mapping of hotspots within the schools. The main findings pointed to four primary areas of concern: the environmental design of the school; teacher knowledge of and response to the problem; parental attitudes and responses; and student perspectives and behavior s.

The SRO worked in close collaboration with a social worker and the university researcher. They coordinated a Response Planning Team comprising many stakeholders that was intended to respond to each of the areas identified in the initial analysis. Environmental changes included modifying the school schedule and increasing teacher supervision of hotspots. Counsellors and social workers conducted teacher training courses in conflict resolution and bullying prevention. Parent education included mailings with information about bullying, an explanation of the new school policy, and a discussion about what could be done at home to address the problems. Finally, student education included classroom discussions between homeroom teachers and students, as well as assemblies conducted by the SRO. The SRO also opened a substation next to a primary hotspot. The Ohio Department of Education contributed by opening a new training center to provide a non-traditional setting for specialized help.

The results from the various responses were dramatic. School suspensions decreased 40 percent. Bullying incidents dropped 60 percent in the hallways and 80 percent in the gym area. Follow-up surveys indicated that there were positive attitudinal changes among students about bullying and that more students felt confident that teachers would take action when a problem arose. Teachers indicated that training sessions were helpful and that they were more likely to talk about bullying as a serious issue. Parents responded positively, asking for more information about the problem in future mailings. The overall results suggest that the school environments were not only safer, but that early intervention was helping at-risk students succeed in school

## 20. THE KHOIKHOI

San, people of southern Africa, consisting of several groups and numbering over 85,000 in all. They are generally short in stature; their skin is yellowish brown in color; and they feature prominent cheekbones. The San have been called Bushmen by whites in South Africa, but the term is now considered derogatory. Although many now work for white settlers, about half are still nomadic hunters and gatherers of wild food in desolate areas like the Kalahari semi-desert, which stretches between today's Nation States of Botswana, Namibia and South Africa.

Their social unit is the small hunting band; larger organizations are loose and temporary. Grass huts, caves and rock shelters are used as dwellings. They possess only what they can carry, using poisoned arrowheads to fell game and transporting water in ostrich-egg shells. The San have a rich folklore, are skilled in drawing, and have a remarkably complex language characterized by the use of click sounds, related to that of the Khoikhoi.

For thousands of years the San lived in southern and central Africa, but by the time of the Portuguese arrival in the 15th cent., they had already been forced into the interior of southern Africa. In the 18th and 19th cent., they resisted the encroachment on their lands of Dutch settlers, but by 1862 that resistance had been crushed.

## 21. HOUSE MICE

According to new research, house mice (*Mus musculus*) are ideal biomarkers of human settlement, as they tend to stow away in crates or on ships that end up going where people go. Using mice as a proxy for human movement can add to what is already known through archaeological data and answer important questions in areas where there is a lack of artefacts, Searle said.

Where people go, so do mice, often stowing away in carts of hay or on ships. Despite a natural range of just 100 meters (109 yards) and an evolutionary base near Pakistan, the house mouse has managed to colonize every continent, which makes it a useful tool for researchers like Searle.

Previous research conducted by Searle at the University of York supported the theory that Australian mice originated in the British Isles and probably came over with convicts shipped there to colonize the continent in the late 18th and 19th centuries.

In the Viking study, he and his fellow researchers in Iceland, Denmark and Sweden took it a step further, using ancient mouse DNA collected from archaeological sites dating from the 10th to 12th centuries, as well as modern mice.

He is hoping to do just that in his next project, which involves tracking the migration of mice and other species, including plants, across the Indian Ocean, from South Asia to East Africa.

## 22. THE DEMAND FOR TALENT

Some of this panic is overdone-and linked to the business cycle: there was much ado about "a war for talent" in America in the 1990s, until the dotcom bubble burst. People often talk about shortages when they should really be discussing price. Eventually, supply will rise to meet demand and the market will adjust. But, while you wait, your firm might go bust. For the evidence is that the talent shortage is likely to get worse.

Nobody really disputes the idea that the demand for talent-intensive skills is rising. The value of "intangible" assets-everything from skilled workers to patents to know-how-has ballooned from 20% of the value of companies in the S&P 500 to 70% today. The proportion of American workers doing jobs that call for complex skills has grown three times as fast as employment in general. As other economies move in the same direction, the global demand is rising quickly.

As for supply, the picture in much of the developed world is haunted by demography. By 2025 the number of people aged 15-64 is projected to fall by 7% in Germany, 9% in Italy and 14% in Japan. Even in still growing America, the imminent retirement of the baby-boomers means that companies will lose large numbers of experienced workers in a short space of time (by one count half the top people at

America's 500 leading companies will go in the next five years). Meanwhile, two things are making it much harder for companies to adjust.

The first is the collapse of loyalty. Companies happily chopped out layers of managers during the 1990s; now people are likely to repay them by moving to the highest bidder. The second is the mismatch between what schools are producing and what companies need. In most Western countries schools are churning out too few scientists and engineers-and far too many people who lack the skills to work in a modern economy (that's why there are talent shortages at the top alongside structural unemployment for the low-skilled).

## 23. COUNTRY LIVING

Live in the country and last three years longer than my city friends? Good news indeed, more backing for a lifestyle choice made half a lifetime ago when it seemed a good idea to exchange an Edinburgh terrace for a farm cottage.

I knew it was a good idea because I had been there before. Born and reared on a farm I had been seduced for a few years by the idea of being a big shot who lived and worked in a city rather than only going for the day to wave at the buses.

True, I was familiar with some of the minor disadvantages of country living such as an i y private water supply sometimes infiltrated by a range of flora and fauna (including, on one memorable occasion, a dead lamb), the absence of central heating in farm houses and cottages, and a single-track farm road easily blocked by snow, broken-down machinery or escaped livestock.

But there were many advantages as I told Liz back in the mid-Seventies. Town born and bred, eight months pregnant and exchanging a warm, substantial Corstorphine terrace for a windswept farm cottage on a much lower income, persuading her that country had it over town might have been difficult.

## 24. SLP OFFICER

Armed police have been brought into NSW schools to reduce crime rates and educate students. The 40 School Liaison Police (SLP) officers have been allocated to public and private high schools across the state.

Organizers say the officers, who began work last week, will build positive relationships between police and students. But parent groups warned of potential dangers of armed police working at schools in communities where police relations were already under strain.

Among their duties, the SLPs will conduct crime prevention workshops, talking to students about issues including shoplifting, offensive behaviour, graffiti and drugs and alcohol. They can also advise school principals. One SLP, Constable Ben Purvis, began to work in the inner Sydney region last week, including at Alexandria Park Community School's senior campus. Previously stationed as a crime prevention officer at The Rocks, he now has 27 schools under his jurisdiction in areas including The Rocks, Redfern and Kings Cross.

Constable Purvis said the full-time position would see him working on the broader issues of crime prevention. "I am not a security guard," he said. "I am not there to patrol the school. We want to improve relationships between police and schoolchildren, to have positive interaction. We are coming to the school and giving them knowledge to improve their own safety."

The use of fake ID among older students is among the issues he has already discussed with principals. Parents' groups responded to the program positively, but said it may spark a range of community reactions.

"It is a good thing and an innovative idea and there could be some positive benefits," Council of Catholic School Parents executive officer Danielle Cronin said. "Different communities will respond to this kind of presence in different ways."

## 25. WRITTEN LANGUAGE

What is text/written language anyway? It's an ancient IT for storing and retrieving information. We store information by writing it, and we retrieve it by reading it. Six thousand to 10,000 years ago, many of our ancestors' hunter-gatherer societies settled on the land and began what's known as the agricultural revolution. That new land settlement led to private property and increased production and trade of goods, generating a huge new influx of information. Unable to keep all this information in their memories, our ancestors created systems of written records that evolved over millennia into today's written languages. But this ancient IT is already becoming obsolete. Text has run its historic course and it now rapidly getting replaced in every area of our lives by the ever-increasing array of emerging ITs driven by voice, video, and body movement rather than the written word. In my view, this is a positive step forward in the evolution of human technology, and it carries great potential for a total positive redesign of K-12 education.

## 26. NOBEL PEACEPRIZE

This year's Nobel Peace Prize justly rewards the thousands of scientists of the United Nations Climate Change Panel (the IPCC). These scientists are engaged in excellent, painstaking work that establishes exactly what the world should expect from climate change. The other award winner, former US Vice President Al Gore, has spent much more time telling us what to fear. While the IPCC's estimates and conclusions are grounded in careful study, Gore doesn't seem to be similarly restrained. Gore told the world in his Academy Award-winning movie (recently labelled "one-sided" and containing "scientific errors" by a British judge) to expect 20-foot sea-level rises over this century. He ignores the findings of his Nobel co-winners, the IPCC, who conclude that sea levels will rise between only a half-foot and two feet over this century, with their best expectation being about one foot. That's similar to what the world experienced over the past 150 years. Likewise, Gore agonizes over the accelerated melting of ice in Greenland and what it means for the planet, but overlooks the IPCC's conclusion that, if sustained, the current rate of melting would add just three inches to the sea level rise by the end of the century. Gore also takes no notice of research showing that Greenland's temperatures were higher in 1941 than they are today. Gore also frets about the future of polar bears. He claims they are drowning as their icy habitat disappears. However, the only scientific study showing any such thing indicates that four polar bears drowned because of a storm.

The politician-turned-movie maker loses sleep over a predicted rise in heat-related deaths. There's another side of the story that's inconvenient to mention: rising temperatures will reduce the number of cold spells, which are a much bigger killer than heat. The best study shows that by 2050, heat will claim 400,000 more lives, but 1.8 million fewer will die because of cold. Indeed, according to the first complete survey of the economic effects of climate change for the world, global warming will actually save lives.

## 27. TREERINGDATING/DENDROCHRONOLOGY

Here's how tree ring dating, known to scientists as dendrochronology (from the Greek roots Dendron = tree, and chronos = time), works. If you cut a tree down today, it's straightforward to count the rings inwards, starting from the tree's outside (corresponding to this year's growth ring), and thereby to state that the 177th ring from the outermost one towards the centre was laid down in the year 2005 minus 177, or 1828. However, the widths of tree growth rings vary from year to year, depending on the rain or drought conditions in each year.

Hence the sequence of the rings in a tree cross-section is like a message in Morse code formerly used for sending telegraph messages; dot-dot-dash-dot-dash in the Morse code, wide-wide-narrow-wide-narrow in the tree ring sequence. Actually the tree ring sequence is even more diagnostic and richer in information than the Morse code, because trees actually contain rings spanning many different widths, rather than the Morse code choice between dot and dash.

Tree ring specialists (known as dendrochronologists) proceed by noting the sequence of wider and narrower rings in a tree cut down in a known recent year, and also noting the sequences in beams from trees cut down at various times in the past. They then match up and align the tree ring sequences with the same diagnostic wide/narrow patterns from different beams.

In that way, dendrochronologists have constructed tree ring records extending back for thousands of years in some parts of the world. Each record is valid for a geographic area whose extent depends on local weather patterns, because weather and hence tree growth patterns vary with location.

A bonus of dendrochronology is that the width and substructure of each ring reflects the amount of rain and the season at which the rain fell during that particular year. Thus, tree ring studies also allow one to reconstruct the past climate, e.g., a series of wide rings means a very wet period, and a series of narrow rings means a drought.

## 28. NAPPING

A large new study has found that people who regularly took a siesta were significantly less likely to die of heart disease. "Taking a nap could turn out to be an important weapon in the fight against coronary mortality," said Dimitrios Trichopoulos of the Harvard School of Public Health in Boston, who led the study published yesterday in the Archives of Internal Medicine.

The study of more than 23,000 Greek adults -- the biggest and best examination of the subject to date -- found that those who regularly took a midday siesta were more than 30 percent less likely to die of heart disease.

Other experts said the results are intriguing. Heart disease kills more than 650,000 Americans each year, making it the nation's No. 1 cause of death. "It's interesting. A little siesta, a little snooze may be beneficial," said Gerald Fletcher, a cardiologist at the Mayo Clinic in Jacksonville, Fla., speaking on behalf of the American Heart Association. "It's simple, but it has a lot of promise."

While more research is needed to confirm and explore the findings, there are several ways napping could reduce the risk of heart attacks, experts said. "Napping may help deal with the stress of daily living," said Michael Twery, who directs the National Heart Lung and Blood Institute's National Center on Sleep Disorders Research. "Another possibility is that it is part of the normal biological rhythm of daily living. The biological clock that drives sleep and wakefulness has two cycles each day, and one of them dips usually in the early afternoon. It's possible that not engaging in napping for some people might disrupt these processes."

Researchers have long known that countries such as Greece, Italy and Spain, where people commonly take siestas, have lower rates of heart disease than would be expected. But previous studies that attempted to study the relationship between naps and heart disease have produced mixed results. The new study is first to try to fully account for factors that might confuse the findings, such as physical activity, diet and other illnesses.

## 29. WORKSPACE AND PERFORMANCE

The notion that office space has a role in promoting or inhibiting performance is backed up by solid research. A recent study conducted by Harvard University and Massachusetts General Hospital showed that improvements to the physical surroundings of workers impacted on productivity not just because the working environment was more attractive, but because the changes made cared for.

A Swedish research paper revealed a strong link between the type of office an employee worked in and their overall job satisfaction and health. Various findings have emerged as a result of studies such as this. Pot plants and greenery can apparently have a real impact on psychological well-being. Those who work in private room tend to be in better health than workers based in open-plan offices. Sufficient light can reduce sickness among workers and increase productivity; and an attractive office can make workers feel more cared for and therefore, more loyal to their company.

Most of these points make good rational Sense. But some companies aren't content simply to increase the health, productivity and contentment of their employees. Pioneers such as Google, Walt Disney and Dyson have tried to create offices that will do everything from promoting collaboration between workers to stimulating their creative juices. "Environment, both physical and cultural. can make or break

creativity", says Kursty Groves, author of *I Wish I Worked There! A Look Inside the Most Creative Spaces in Business*. "Stimulating spaces expose the mind to a variety of stimuli - planned or random, in order to encourage people to think differently. Reflective spaces promote the filtering of information into the brain, slowing it to make connect. An environment which encourages a team to build trust and to play freely is an essential ingredient for innovation."

### 30. SPORTS AND ENVIRONMENT

Major athletic events around the globe - from the 2014 Sochi Olympics to an annual powerboat race in Norwegian fjords - are striving to neutralize their carbon footprint as part of a world-wide climate network, the United Nations Environment Programme (UNEP) said today.

The organisers of the sports events around the world are trying to reduce their carbon footprint.

The sporting events are the latest participants to join the network, and are particularly important for inspiring further global action on the environment, said Achim Steiner, UNEP Executive Director. Organizers of the 2014 Sochi Olympic and Paralympic Winter Games -to be held in a unique natural setting between the shores of the Black Sea and the soaring snow-capped Caucasus Mountains - say they will put an estimated \$1.75 billion into energy conservation and renewable energy.

That investment will be dedicated to improving transport infrastructure, offsetting greenhouse gas emissions from the use of electricity, air travel and ground transportation, the reforestation of Sochi National Park and the development of green belts in the city.

### 31. SKIPPING BREAKFAST

Skipping breakfast seems a simple way of losing weight or saving time while getting the children ready for school or rushing off to work. But it can also be a sign of an unhealthy lifestyle with potentially dangerous consequences, including a higher risk of premature death.

According to a study, adults and teenagers who miss the first meal of the day are less likely to look after their health. They tend to smoke more, drink more alcohol and take less exercise than those who do eat. Those who skip food in the morning are also more likely to be fatter and less well-educated, meaning they find it harder to get a job.

Researcher Dr Anna Keski-Rahkonen said: 'Smoking, infrequent exercise, a low level of education, frequent alcohol use and a high body mass index were all associated with skipping breakfast in adults and adolescents. 'Our findings suggest this association exists throughout adulthood. 'Individuals who skip breakfast may care less about their health than those who eat breakfast.'

Previously, experts assumed that missing breakfast - often called 'the most important meal of the day' - was simply the marker of a hectic life or a way to try to lose weight. But Dr Keski-Rahkonen, who led the study at Helsinki University, said the results revealed starting the day without food suggests an unhealthy lifestyle.

### 32. COMPULSORY VOTING IN THE UK

Compulsory voting is often suggested as a solution to the problem of declining turnout. But how are individuals and countries affected by compulsory voting beyond boosting electoral participation? Shane Singh investigates the social, economic, and political consequences of compelling citizens to vote. There has been a lot of discussions about compulsory voting these days. In the United Kingdom, in particular, as voter turnout rates have declined, many commentators and politicians have begun advocating for mandatory electoral participation. Those in favour of compulsory voting often adduce the importance of participation among all segments of society. Citizens of democracies are forced to do many things in the interest of the public good, they maintain, including serving on juries and educating their children, and full participation serves the country as whole.

Those opposed to compulsory voting often argue that, from a democratic theory perspective, the right to vote implicitly includes a right not to vote. Such a right of abstention, they argue, is more important than

any societal good that might accompany high turnout. In fact, opponents of compulsory voting often contend that the country may be better off if those who are disinclined to vote are not pushed to participate in public affairs. Regardless of whether one of these sets of arguments is more persuasive than the other, compulsory voting is commonly used around the world. Several European democracies mandate voting, as do Australia and most of the countries in Latin America. By evaluating results from these countries, it is possible to assess the mechanics and effects of compulsory voting.

**Proponents** of compulsory voting argue that it improves the participation of all the segments of the society whereas the opponents claim that it **violates** the personal freedom and countries are better off without people who are forced to vote; nevertheless, many countries require people to vote compulsorily.

### 33. PREDICTION

As far as prediction is concerned, remember that the chairman of IBM predicted in the fifties that the world would need a maximum of around half a dozen computers, that the British Department for Education seemed to think in the eighties that we would all need to be able to code in BASIC and that in the nineties Microsoft failed to **foresee** the rapid growth of the Internet. Who could have predicted that one major effect of the automobile would be to bankrupt small shops across the nation? Could the early developers of the telephone have foreseen its development as a medium for person-to-person communication, rather than as a form of broadcasting medium?

We all, including the 'experts', seem to be peculiarly inept at predicting the likely development of our technologies, even as far as the next year. We can, of course, try to extrapolate from experience of previous technologies, as I do below by comparing the technology of the Internet with the development of other information and communication technologies and by examining the earlier development of radio and print.

But how justified I might be in doing so remains an open question. You might conceivably find the history of the British and French videotex systems, Prestel and Minitel, instructive. However, I am not entirely convinced that they are very relevant, nor do I know where you can find information about them on-line, so, rather than take up space here, I've briefly described them in a separate article.

### 34. LONDON STOCK EXCHANGE

Who would have thought back in 1698, as they downed their espressos, that the little band of stockbrokers from Jonathan's Coffee House in Change Alley EC3 would be the founder- members of what would become the world's **mighty** money capital?

Progress was not entirely smooth. The South Sea Bubble burst in 1720 and the coffee house exchanges burned down in 1748. As late as Big Bang in 1986, when bowler hats were finally hung up, you would not have bet the farm on London surpassing New York, Frankfurt and Tokyo as Mammon's international nexus. Yet the 325,000 souls who operate in the UK capital's financial hub have now overtaken their New York rivals in size of the funds managed (including offshore business); they hold 70% of the global secondary bond market and the City dominates the foreign exchange trading. And its institutions paid out £9 billion in bonuses in December. The Square Mile has now spread both eastwards from EC3 to Canary Wharf and westwards into Mayfair, where many of the private-equity 'locusts' and their hedge-fund pals now hang out.

For foreigners in finance, London is the place to be. It has no Sarbanes-Oxley and no euro to hold it back, yet the fact that it still flies so high is against the odds. London is one of the most expensive cities in the world to live in, transport systems groan and there is an ever-present threat of terrorist attack. But, for the time being, the deals just keep on getting bigger.

### 35. WRIGHT BROTHERS AND FLIGHT

The Wrights dated the origin of their interest in flight to 1878, when their father had presented them with a toy helicopter. News accounts of the death of the German gliding pioneer Otto Lilienthal in an August

1896 glider crash reawakened their interest and led to a search for trustworthy information on aeronautics.

There are three important elements in designing an aircraft. The first two are wings and structure, which have been well developed. It is a control system that Wright brothers have realized that is essential to achieve a successful flight. But such formidable problem has been solved and makes them a breakthrough.

Wright brothers are flying around the Statue of Liberty then up the Hudson River to Grant's Tomb and back. Over a million Americans saw this fly and they became the celebrity.

## 36. HUMANS VS NON-HUMANS

All non-human animals are constrained by the tools that nature has bequeathed them through natural selection. They are not capable of striving towards truth; they simply absorb information, and behave in ways useful for their survival. The kinds of knowledge they require of the world have been largely pre-selected by evolution. No animal is capable of asking questions or generating problems that are irrelevant to its immediate circumstances or its evolutionarily-designed needs. When a beaver builds a dam, it does not ask itself why it does so, or whether there is a better way of doing it. When a swallow flies south, it does not wonder why it is hotter in Africa or what would happen if it flew still further south.

Humans do ask themselves these and many other kinds of questions, questions that have no relevance, indeed make little sense, in the context of evolved needs and goals. What marks out humans is our capacity to go beyond our naturally-defined goals such as the need to find food, shelter or a mate and to establish human-created goals.

Some contemporary thinkers tend to believe that there are indeed certain questions that humans are incapable of answering because of our evolved nature. Steven Pinker, for instance, argues that "Our minds evolved by natural selection to solve problems that were life-and-death matters to our ancestors, not to commune with correctness or to answer any question we are capable of asking. We cannot hold ten thousand words in our short-term memory. We cannot see ultra-violet light. We cannot mentally rotate an object in the fourth dimension. And perhaps we cannot solve conundrums like free will and sentience."

## 37. MUSEOLOGY

The New Museology What is museology? A simple definition might be that it is the study of museums, their history and underlying philosophy, the various ways in which they have, in the course of time, been established and developed, their avowed or unspoken aims and policies, their educative or political or social role. More broadly conceived, such a study might also embrace the bewildering variety of audiences- visitors, scholars, art lovers, children- at whom the efforts of museum staff are supposedly directed, as well as related topics such as the legal duties and responsibilities placed upon (or incurred by) museums, perhaps even some thought as to their future.

Seen in this light, museology might appear at first sight a subject so specialised as to concern only museum professionals, who by virtue of their occupation are more or less obliged to take an interest in it. In reality, since museums are almost, if not quite as old as civilisation itself, and since the plethora of present-day museums embraces virtually every field of human endeavour- not just art, or craft, or science, but entertainment, agriculture, rural life, childhood, fisheries, antiquities, automobiles: the list is endless- it is a field of enquiry so broad as to be a matter of concern to almost everybody.

## 38. IMPACT OF TV ON CHILDREN

Why and to what extent should parents control their children's TV watching? There is certainly nothing inherently wrong with TV. The problem is how much television a child watches and what effect it has on his life. Research has shown that as the amount of time spent watching TV goes up, the amount of time devoted not only to homework and study but other important aspects of life such as social development and physical activities decreases.

Television is bound to have its tremendous impact on a child, both in terms of how many hours a week he watches TV and of what he sees. When a parent is concerned about the effects of watching television, he should consider a number of things: what TV offers the child in terms of information and knowledge, how many hours a week a youngster his age should watch television, the impact of violence and sex, and the influence of commercials.

What about the family as a whole? Is the TV set a central piece of furniture in your home! Is it flicked on the moment someone enters the empty house? Is it on during the daytime? Is it part of the background noise of your family life? Do you demonstrate by your own viewing that television should be watched selectively? Since television is clearly here to stay, it is important that parents manage their children's TV viewing so that it can be a plus rather than a minus in the family situation.

## 39. COW AND GRASS

The co-evolutionary relationship between cows and grass is one of nature's underappreciated wonders; it also happens to be the key to understanding just about everything about modern meat. For the grasses, which have evolved to withstand the grazing of ruminants, the cow maintains and expands their habitat by preventing trees and shrubs from gaining a foothold and hogging the sunlight; the animal also spreads grass seed, plants it with his hooves, and then fertilizes it with his manure.

In exchange for these services the grasses offer ruminants a plentiful and exclusive supply of lunch. For cows (like sheep, bison, and other ruminants) have evolved the special ability to convert grass- which single stomached creatures like us can't digest-into high-quality protein. They can do this because they possess what is surely the most highly evolved digestive organ in nature: the rumen. About the size of a medicine ball, the organ is essentially a forty-five-gallon fermentation tank in which a resident population of bacteria dines on grass.

## 40. WILDLIFE IN NAMIBIA

When Namibia gained independence in 1990, teenager Pascolena Florry was herding goats in the country's dry, desolate northern savannah. Her job, unpaid and dangerous, was to protect her parents' livestock from preying jackals and leopards. She saw wildlife as the enemy, and many of the other indigenous inhabitants of Namibia's rural communal lands shared her view. Wildlife poaching was commonplace.

Fifteen years later, 31-year-old Pascolena's life and outlook are very different. She has built a previously undreamed-of career in tourism and is the first black Namibian to be appointed manager of a guest lodge. Her village, and hundreds of others, have directly benefited from government efforts to devolve wildlife management and tourism development on communal lands to conservancies run by indigenous peoples. "Now we see the wildlife as our way of creating jobs and opportunities as the tourism industry grows," she also says. "The future is better with wildlife around, not only for jobs, but also for the environment" (Florry 2004).

## 41. DIASPORAS

Diasporas- communities which live outside, but maintain links with, their homelands - are getting larger, thicker and stronger. They are the human face of globalization. Diaspora consciousness is on the rise: diasporans are becoming more interested in their origins, and organising themselves more effectively; homelands are revising their opinions of their diasporas as the stigma attached to emigration declines, and

stepping up their engagement efforts; meanwhile, host countries are witnessing more assertive diasporic groups within their own national communities, worrying about fifth columns and foreign lobbies, and suffering outbreaks of 'diasporaphobia'.

This trend is the result of five factors, all of them connected with globalisation: the growth in international migration; the revolution in transport and communications technology, which is quickening the pace of diasporans' interactions with their homelands; a reaction against global homogenised culture, which is leading people to rethink their identities; the end of the Cold War, which increased the salience of ethnicity and nationalism and created new space in which diasporas can operate; and policy changes by national governments on issues such as dual citizenship and multiculturalism, which are enabling people to lead transnational lives. Diasporas such as those attaching to China, India, Russia and Mexico are already big, but they will continue to grow; the migration flows which feed them are likely to widen and quicken in the future.

## 42. TOURISM INDUSTRY

Jobs generated by Travel & Tourism are spread across the economy - in retail, construction, manufacturing and telecommunications, as well as directly in Travel & Tourism companies. These jobs employ a large proportion of women, minorities and young people; are predominantly in small and medium sized companies; and offer good training and transferability. Tourism can also be one of the most effective drivers for the development of regional economies. These patterns apply to both developed and emerging economies.

There are numerous good examples of where Travel & Tourism is acting as a catalyst for conservation and improvement of the environment and maintenance of local diversity and culture. Travel & Tourism creates jobs and wealth and has tremendous potential to contribute to economically, environmentally and socially sustainable development in both developed countries and emerging nations. It has a comparative advantage in that its start up and running costs can be low compared to many other forms of industry development. It is also often one of the few realistic options for development in many areas. Therefore, there is a strong likelihood that the Travel & Tourism industry will continue to grow globally over the short to medium term.

## 43. NATIONAL PROHIBITION ACT

In 1920, the Eighteenth Amendment to the United States Constitution was enacted, creating yet another serious setback to the American wine industry. The National Prohibition Act, also known as the Volstead Act, prohibited the manufacture, sale, transportation, importation, exportation, delivery, or possession of intoxicating liquors for beverage purposes, and nearly destroyed what had become a thriving national industry. In 1920 there were more than seven hundred wineries in California. By the end of Prohibition there were 160.

If Prohibition had lasted only four or five years, its impact on the wine industry might have been negligible. But it continued for thirteen years, during which time grapes went underground literally and figuratively, becoming an important commodity in the criminal economy. One loophole in the Volstead Act allowed for the manufacture and sale of sacramental wines, medicinal wines for sale by pharmacists with a doctor's prescription, and medicinal wine tonics (fortified wines) sold without prescription. Perhaps more importantly, Prohibition allowed anyone to produce up to two hundred gallons of fruit juice or cider each year. The fruit juice, which was sometimes made into concentrate, was ideal for making wine. Some of this yield found its way to bootleggers throughout America who did just that. But not for long, because the government stepped in and banned the sale of grape juice, preventing illegal wine production. Vineyards stopped being planted, and the American wine industry ground to a halt.

## 44. A CALL FOR REVOLUTIONARY THINKING

We live in an ageing world. While this has been recognized for some time in developed countries, it is only recently that this phenomenon has been fully acknowledged. Global communication is "shrinking" the world, and global ageing is "maturing" it. The increasing presence of older persons in the world is making people of all ages more aware that we live in a diverse and multigenerational society. It is no longer possible to ignore ageing, regardless of whether one views it positively or negatively.

Demographers note that if current trends in ageing continue as predicted, a demographic revolution, wherein the proportions of the young and the old will undergo a historic crossover, will be felt in just three generations. This portrait of change in the world's population parallels the magnitude of the industrial revolution - traditionally considered the most significant social and economic breakthrough in the history of humankind since the Neolithic period. It marked the beginning of a sustained movement towards modern economic growth in much the same way that globalization is today marking an unprecedented and sustained movement toward a "global culture". The demographic revolution, it is envisaged, will be at least as powerful.

While the future effects are not known, a likely scenario is one where both the challenges as well as the opportunities will emerge from a vessel into which exploration and research, dialogue and debate are poured. Challenges arise as social and economic structures try to adjust to the simultaneous phenomenon of diminishing young cohorts with rising older ones, and opportunities present themselves in the sheer number of older individuals and the vast resources societies stand to gain from their contribution.

This ageing of the population permeates all social, economic and cultural spheres. Revolutionary change calls for new, revolutionary thinking, which can position policy formulation and implementation on sounder footing. In our ageing world, new thinking requires that we view ageing as a lifelong and society-wide phenomenon, not a phenomenon exclusively pertaining to older persons.

## 45. AMORY BLOCH LOVINS

Amory Bloch Lovins is an American physicist, environmental scientist, writer, and Chairman/Chief Scientist of the Rocky Mountain Institute. He has worked in the field of energy policy and related areas for four decades. He has promoted energy efficiency, the use of renewable energy sources, and the generation of energy at or near the site where the energy is used. Amory Lovins's home, which also serves as his office and "bioshelter," is open for self-guided tours weekdays from nine o'clock in the morning until four in the afternoon. Built into a mountainside above Snowmass, Colorado, it has curved stone walls, a flat roof, and several sets of solar panels, some of which rotate to track the angle of the sun. The building's double-paned windows are lined with a polyester film that allows visible light to pass in but prevents thermal radiation from getting out, and the space between the panes has been filled with krypton.

## 46. PRESIDENTIAL ELECTION

According to the United States Constitution, a presidential election is to be held once every fourth year. The process of electing a President and Vice-President begins long before Election Day. Candidates from both major and minor political parties and independent candidates begin to raise money and campaign at least one year in advance of the general presidential election. To officially represent a political party, a candidate must be nominated by that party. This primary nomination process is a contest that often produces factions within political parties. These divisions impact the policy stances and agendas of the candidates running for nomination as they attempt to garner the support of party leaders and activists. The nominating process officially begins with the first state primaries and caucuses, which usually occur in the month of February of the election year. It is at these local events that voters are given their first chance to participate in electing the nation's next President.

## 47. CV AND QUALIFICATIONS

What should you include in your CV? Perhaps you haven't been in education for a while, and have decided to brush up on your knowledge in an industry or learn something. In this case, you would benefit most from detailing your most recent educational qualification and keeping the others brief. If you aren't that far removed from education, and it relates equally to the role, then place an equal amount of emphasis on each qualification. If you took a course for the purpose of developing current skills and gaining a higher-level role in a career you already have experience in, then make sure previous work experience or related education is also adequately included. This enables the employer to see how you've grown and developed, and they will admire your dedication to the field.

## 48. CHILDREN AND REWARD

As soon as possible, children need to feel the risk and reward of completing tasks for earnings. In the real world, people don't receive money for nothing – they have to work for that money. Children should realize that with effort comes reward, but a lack of effort brings a lack of reward. On the other hand, in a household, there are certain expectations that everyone should fulfil to keep things moving forward. These responsibilities vary from family to family, but in most families this usually involves a child keeping his room clean, helping with dishes, and perhaps a few other tasks. These are fundamental tasks that parents do without financial reward, and so should the child. Sometimes tasks need to be done and aren't met with financial reward – adults don't receive payment for doing the dishes or making their bed, so it creates false expectations if a child begins to expect to get paid for such things.

## 49. COLUMBUS AND AMERICA

On October 12, 1492 (the first day he encountered the native people of the Americas), Columbus wrote in his journal: They should be good servants. I, our Lord being pleased, will take hence, at the time of my departure, six natives for your Highnesses. These captives were later paraded through the streets of Barcelona and Seville when Columbus returned to Spain. From his very first contact with native people, Columbus had their domination in mind. For example, on October 14, 1492, Columbus wrote in his journal, with fifty men they can all be subjugated and made to do what is required of them. These were not mere words: after his second voyage, Columbus sent back a consignment of natives to be sold as slaves. Yet in April 1493, letter to Luis de Santangel (a patron who helped fund the first voyage), Columbus made clear that the people he encountered had done nothing to deserve ill treatment.

## 50. HEALTHY LAKES

Healthy lakes and their shores not only provide us with a number of environmental benefits but they influence our quality of life and strengthen the economy. Proper lake function can ease the impact of floods and droughts by storing large amounts of water and releasing them during shortages. Lakes also work to replenish groundwater, positively influence water quality of downstream watercourses, and preserve the biodiversity and habitat of the area.

When the ecological puzzle pieces of a lake come together and the lake is able to work as it should, the big picture is clear, we all stand to benefit from this important resource. Lakes can provide us with prime opportunities for recreation, tourism, and cottage or residential living. They are also respected by many people for their historical and traditional values and may be a source of raw drinking water for a municipality. Lakes can also be used as a water supply for industry and an irrigation source for agriculture.

As you can see, lakes are more than just a simple body of water used by many people to enjoy recreational activities. They are important ecosystems that, when respected and cared for, can sustain a healthy balance of aquatic life, provide us with much enjoyment, and help support our socio-economic

needs. It is our responsibility to continue to practice stewardship in our lakes by keeping them healthy for all, especially those who depend on them.

## 51. DEFENSE OF MARRIAGE ACT

In accordance with the article “In Defense of Marriages” written by Senator John Cornyn, contemporary marriages are in danger. That is to say that the Defense of Marriage Act (DOMA) is oriented to the traditional type of family, namely a one man and one woman marriage (Cornyn, 2014). However, the problem of the correct treatment of marriage appeared. Nowadays, there are different types of families. That is to say the traditional and alternative one.

Consequently, only traditional ones undergo the protection of DOMA. Another type remains unprotected. The activists argue that the world has changed, and the perception of the marriages has changed as well. Consequently, many individuals started reanalyzing the constitutional protection of the families. In fact, Senator John Cornyn points out that the lasting argument causes the emergence of discrimination within marriages.

Nevertheless, he states that “marriage is not discrimination – it is about children”. A vast majority of activists stick to the point that traditional marriages are about discrimination. In fact, such assumption is totally wrong. Traditional marriages are the basis of all other types of marriage. They are considered to be the perfect example of contemporary marriages. One should state that activists cannot understand for sure what an ideal family is.

## 52. DIESEL ENGINES

Diesel engines have several advantages over petrol engines: Due to the engine's higher temperature of combustion and greater expansion ratio, it has higher fuel efficiency than petrol and turbine engines. Since the diesel engine uses less fuel than the petrol engine per km, it produces less carbon dioxide (CO<sub>2</sub>) per km. In the absence of coils and spark plug wires, a source of radio frequency emissions, which can interfere with navigation and communication equipment, the diesel engine is more suitable for marine and aircraft applications.

The low vapour pressure of diesel makes diesel engines immune to vapour lock thus ideal for marine applications. The lack of an electrical ignition system enhances reliability. Compare to petrol engine overbuilt nature of diesel engine imparts durability to the diesel engine. As diesel is a better lubricant than petrol, it is less harmful to the oil film on piston rings, and cylinder bores which occur in petrol powered engines.

Diesel engines can withstand turbocharging pressure while petrol engines suffer detonation at higher pressure. Synthetic diesel (biodiesel) can run smoothly in many diesel engines without any modification while synthetic gasoline (ethanol) run on modified gasoline engine or use as additives. The only drawback of the diesel engine is unburned hydrocarbons during the combustion which leads to the emission of carcinogenic into an atmosphere.

## 53. SPORTS AND HEALTH

Are sports good for our health, or just an entertaining and fun hobby? Does science corroborate it? First of all, it's widely accepted that exercise is good for our minds and bodies. Exercising, especially when young, has all kinds of health benefits, like clearing out bad cholesterol from our arteries, strengthening our bones, and decreasing the risk of high blood pressure, diabetes, and stroke. Our brains also release chemicals when we workout, which include endorphins. These hormones, can lead to feelings of euphoria. Consistent physical activity and increased endorphins can sharpen your focus and improve your memory and mood.

So do we get just as much benefit when joining a team and competing as we would going to the gym regularly? Well, here's where it becomes interesting: if you can find a sport and a team you like, there are all sorts of benefits beyond mental and physical. These include psychological benefits, both short and long term. Some of those come from the shared experience of being on a team, for instance, depending on others and learning to trust, to give help, to accept help, and to work towards a common goal. In addition, doing something fun and commitment to a team can make it easier to establish a regular habit of exercise.

Not everyone will enjoy every sport; but eventually, you'll be able to find a sport that you'll enjoy. You'll be building your confidence, you'll be a part of a supportive community, you'll be nurturing your mind, and you'll be exercising your body, not to mention having fun.

## 54. GOVERNMENT SPENDING ON EDUCATION IN AUSTRALIA

Education is universally recognised as a pillar for both economic and social growth in any society. Government spending on education in Australia reflects our priority of investing in the future of this country, allowing for economic advancement as well as productivity and social well-being for the individual and society as a whole. Given the importance of education in social and economic advancement, the student learning environment has become increasingly significant.

In an age where teaching practice and technology have changed and developed faster than ever before, the question of whether or not our learning environments are supporting or hindering our educational processes has never been more pertinent. While there have been changes to learning outcomes through updates to the syllabuses, technology has been driving more significant changes at a high rate.

## 55. ROYAL AGRICULTURAL SOCIETY

The evolution of the RAS (Royal Agricultural Society) fits into the wider Western trend of promoting nationalism, progress and technology through exhibitory venues, which first became popular in the 1850s. Various types of fairs, from local agricultural shows to Worlds Fairs, were used as instruments of hegemony to support imperialism, to promote burgeoning capitalist endeavors, and to shape class identities, social spaces and public spaces. Visual culture and the art of display became essential in defining aspects of national distinction. Colonial nations in particular, such as Canada and Australia, were attempting to develop distinct national identities to differentiate themselves from British imperial power. Agricultural fairs in North America originated at the beginning of the nineteenth century and were devoted to educating practicing framers in ways of improving their cultivation of livestock and crops through the use of various technologies.

## 56. THE BOOKSELLERS

The booksellers of Hookham and Carpenter (hereafter referred to only as 'Hookham') were located on New Bond Street in London, and their records span the most politically turbulent decade of the eighteenth-century-the 1790s. Clients who frequented Hookham were primarily from the aristocratic or gentry classes. In fact, of Hookham's total buyers, 22% were aristocracy and 35% of the aristocracy purchased novels. We can also confidently assume that untitled female customers were of gentry income, because their addresses were primarily in London's fashionable 'West End'. Hookham's ledgers not only reveal a dramatic increase in the proportion of female purchasers of novels by comparison to earlier studies of provincial women, but they also reveal a remarkable increase in the proportion of female purchases of novels authored by females.

Such a marked increase illustrates that Hookham's leisured female customers were able to buy more novels. Furthermore, the fact that these female aristocrats and gentry have accounts under their own name, not their husbands demonstrates the greater degree of agency and independence that these urban, moneyed women had relative to provincial women.

However, because our study does not include an examination of male customers, we are very limited in what claims we can make about whether or not these women behaved according to the cliché that women were the predominant consumers of novels in the eighteenth-century. Moreover, while more disposable income and leisure time certainly accounts for the significant increase in female purchases of novels authored by women in the 1790s, this increase also strongly suggests a desire on the part of women readers to engage in this politically charged decade. Thus, novel reading provided women readers with the means through which they were able to participate in the male-dominated world of politics.

## 57. WHAT GREAT MANAGERS DO?

What do great managers actually do? there is one quality that sets truly great managers apart from the rest: They discover what is the unique about each person and then capitalize on it. Great managers know and value the unique abilities and even the eccentricities of their employees, and they learn how best to integrate them into a coordinated plan of attack. First, identifying and capitalizing on each person's uniqueness saves time. Second, capitalizing on uniqueness makes each person more accountable. Third, capitalizing on what is unique about each person builds a stronger sense of team.

## 58. AMERICAN ENGLISH DOMINANCE

Firstly, from the macroscopic view, the dominance of English is not precipitated by the language itself, so the arising of English dominance in international communication is not solely the dominance of language itself. Just as the professor Jean Aitchison in Oxford pointed out, the success of a language has much to do with the power of the people who use it but has little to do with internal features of the language. It is very obvious in consideration to English. During the 18th century and 19th century, the influence of the British Empire began to spread around the world for the sake of industrial revolution, so English began to become popular. English was used not only in the British colonies but also in the diplomatic negotiations of non-English-speaking countries.

However, no matter how powerful the adaptively is and how large the area that the power of English covers, currently, the international status of English mainly springs from the status of America as a super power after World War II. Besides, with the development of the economic globalization and new political structure, there is a great need of an international language. As result, American English became the first choice.

## 59. DOUBLE BLIND

The feature of being "double blind", where neither patients nor physicians are aware of who receives the experimental treatment, is almost universally trumpeted as being a virtue of clinical trials. Hence, trials that fail to remain successfully double blind are regarded as providing inferior evidential support. The rationale for this view is unobjectionable: double blinding rules out the potential confounding influences of patient and physician beliefs. Nonetheless, viewing double blind trial as necessarily superior is problematic. For one, it leads to the paradox that very effective experimental treatments will not be supportable by best evidence. If a new drug were to make even the most severe symptoms of the common cold disappear within seconds, most participants and investigators would correctly identify it as the latest wonder drug and not the control (i.e. placebo) treatment. Any trial testing the effectiveness of this wonder drug will therefore fail to remain double blind. Similar problems arise for treatments, such as exercise and most surgical techniques, whose nature makes them resistant to being tested in double blind conditions. It seems strange that an account of evidence should make prior judgments that certain claims can never be supported by 'best evidence'. It would be different if the claims at issue were pseudoscientific untestable. But so far as treatments with large effects go, the claim that they are effective is highly testable and intuitively they should receive greater support from the evidence than do claims about treatments with moderate effects.

## 60. WATER RESOURCES

Water is at the core of sustainable development. Water resources, and the range of services they provide, underpin poverty reduction, economic growth and environmental sustainability. From food and energy security to human and environmental health, water contributes to improvements in social well-being and inclusive growth, affecting the livelihoods of billions.

In a sustainable world that is achievable in the near future, water and related resources are managed in support of human well-being and ecosystem integrity in a robust economy. Sufficient and safe water is made available to meet every person's basic needs, with healthy lifestyles and behaviors easily upheld through reliable and affordable water supply and sanitation services, in turn supported by equitably extended and efficiently managed infrastructure. Water resources management, infrastructure and service delivery are sustainably financed. Water is duly valued in all its forms, with wastewater treated as a resource that avails energy, nutrients and freshwater for reuse. Human settlements develop in harmony with the natural water cycle and the ecosystems that support it, with measures in place that reduce vulnerability and improve resilience to water-related disasters. Integrated approaches to water resources development, management and use and to human rights are the norm. Water is governed in a participatory way that draws on the full potential of women and men as professionals and citizens, guided by a number of able and knowledgeable organizations, within a just and transparent institutional framework.

## 61. THE BENEFITS OF HONEY

According to Dr. Ron Fessenden, M.D., M.P.H. the average American consumes more than 150 pounds of refined sugar, plus an additional 62 pounds of high fructose corn syrup every year. (1) In comparison, we consume only around 1.3 pounds of honey per year on average in the U.S. (2) According to new research, if you can switch out your intake of refined sugar and use pure raw honey instead, the health benefits can be enormous.

What is raw honey? It's a pure, unfiltered and unpasteurized sweetener made by bees from the nectar of flowers. Most of the honey consumed today is processed honey that's been heated and filtered since it was gathered from the hive. Unlike processed honey, raw honey does not get robbed of its incredible nutritional value and health powers. It can help with everything from low energy to sleep problems to seasonal allergies. Switching to raw honey may even help weight-loss efforts when compared to diets containing sugar or high fructose corn syrup. I'm excited to tell you more about one of my all-time favorite natural sweeteners today.

## 62. PLUG-IN VEHICLE

Here's a term you're going to hear much more often. plug-in vehicle, and the acronym PEV. It's what you and many other people will drive to work in, ten years and more from now.

At that time, before you drive off in the morning you will first unplug your car - your plug-in vehicle. Its big on-board batteries will have been fully charged overnight, with enough power for you to drive 50-100 kilometers through city traffic. When you arrive at work you'll plug in your car once again, this time into a socket that allows power to flow from your car's batteries to the electricity grid. One of the things you did when you bought your car was to sign a contract with your favorite electricity supplier, allowing them to draw a limited amount of power from your car's batteries should they need to, perhaps because of a blackout, or very high wholesale spot power prices. The price you get for the power the distributor buys from your car would not only be most attractive to you, it would be a good deal for them too, their alternative being very expensive power from peaking stations.

If, driving home or for some other reason your batteries looked like running flat, a relatively small, but quiet and efficient engine running on petrol, diesel or compressed natural gas, even biofuel, would automatically cut in, driving a generator that supplied the batteries so you could complete your journey.

Concerns over 'peak oil', increasing greenhouse gas emissions, and the likelihood that by the middle of this century there could be five times as many motor vehicles registered worldwide as there are now, mean that the world's almost total dependence on petroleum-based fuels for transport is, in every sense of the word, unsustainable.

## 63. PHOENICIAN WRITING SYSTEM

The Proto-Sinaitic script, in which Proto-Canaanite is believed to have been first written, is attested as far back as the 19th century BC. The Phoenician writing system was adapted from the Proto-Canaanite script sometime before the 14th century BC, which in turn borrowed principles of representing phonetic information from Hieratic, Cuneiform and Egyptian hieroglyphs. This writing system was an odd sort of syllabary in which only consonants are represented. This script was adapted by the Greeks, who adapted certain consonantal signs to represent their vowels. The Cumae alphabet, a variant of the early Greek alphabet, gave rise to the Etruscan alphabet and its own descendants, such as the Latin alphabet and Runes. Other descendants from the Greek alphabet include Cyrillic, used to write Bulgarian, Russian and Serbian, among others. The Phoenician system was also adapted into the Aramaic script, from which the Hebrew and the Arabic scripts are descended.

## 64. CITIES

How can we design great cities from scratch if we cannot agree on what makes them great? None of the cities where people most want to live such as London, New York, Paris and Hong Kong comes near to being at the top of surveys asking which are best to live in.

The top three in the most recent Economist Intelligence Units livability ranking, for example, were Melbourne, Vancouver and Vienna. They are all perfectly pleasant, but great? The first question to tackle is the difference between livability and greatness. Perhaps we cannot aspire to make a great city, but if we attempt to make a livable one, can it in time become great?

There are some fundamental elements that you need. The first is public space. Whether it is Vienna's Ringstrasse and Prater park, or the beaches of Melbourne and Vancouver, these are places that allow the city to pause and the citizens to mingle and to breathe, regardless of class or wealth. Good cities also seem to be close to nature, and all three have easy access to varied, wonderful landscapes and topographies.

A second crucial factor, says Ricky Burdett, a professor of urban studies at the London School of Economics, is a good transport system. Affordable public transport is the one thing which cuts across all successful cities, he says.

## 65. ELECTRIC EEL

The first time I read Von Humboldt's tale, I thought it was completely bizarre, Catania says. Why would the eels attack the horses instead of swimming away? But then he observed the same behaviour by accident as he transferred the eels in his lab from one tank to another using a metal-rimmed net. Instead of swimming away, larger eels attacked the net by leaping out of the water.

Catania tracked the strength of the eels electric shock by attaching a voltmeter to an aluminium plate, or conductive metal strips to predator objects such as a crocodile head replica. The zap a submerged eel distributes through the water is relatively weak when it reaches the target. But when an eel touches it with its electricity-generating chin, the current travels directly to the target and has to travel through its body before it gets back to the water, Catania reported in Proceedings of the National Academy of Sciences.

This allows the eels to deliver shocks with a maximum amount of power to partially submerged land animals that invade their territory, Catania explains. It also allows them to electrify a much larger portion of the invader's body. Catania found the eels leapt to attack, rather than receded, more often when the

water in the aquarium was lower. He argues the attack lets electric eels better defend themselves during the Amazon dry season. When they're cornered in small pools and make easy prey.

## 66. EXTINCTION OF DINOSAURS

What killed off the dinosaurs? The end of the Cretaceous Period saw one of the most dramatic mass extinctions the Earth has ever seen. First of all, let us learn some basic information about "nurse shark". The fossil record shows that throughout their 160-million-year existence, dinosaurs took on a huge variety of forms as the environment changed and new species evolved that was suited to these new conditions. Others that failed to adapt went extinct. But then 66 million years ago, over a relatively short time, dinosaurs disappeared completely (except for birds). Many other animals also died out, including pterosaurs, large marine reptiles, and other sea creatures such as ammonites.

Although the number of dinosaur species was already declining, this suggests a sudden catastrophic event sealed their fate, causing unfavourable changes to the environment more quickly than dinosaurs and other creatures could adapt.

The exact nature of this catastrophic event is still open to scientific debate. The catastrophe could have been an asteroid impact, volcanic eruptions or the effect of both, together with more gradual changes in the Earth's climate over millions of years. Whatever the causes, the huge extinction that ended the age of the dinosaur left gaps in the ecosystem that were subsequently filled by mammals and birds, allowing them to evolve rapidly.

## 67. ORBITAL DEBRIS

For decades, space experts have worried that a speeding bit of orbital debris might one day smash a large spacecraft into hundreds of pieces and start a chain reaction, a slow cascade of collisions that would expand for centuries, spreading chaos through the heavens. In the last decade or so, as scientists came to agree that the number of objects in orbit had surpassed a critical mass or, in their terms, the critical spatial density, the point at which a chain reaction becomes inevitable they grew more anxious.

Early this year, after a half-century of growth, the federal list of detectable objects (four inches wide or larger) reached 10,000, including dead satellites, spent rocket stages, a camera, a hand tool and junkyards of whirling debris left over from chance explosions and destructive tests. So our billion dollars of satellites are at risk.

As space experts have worried that orbital debris might one day smash a large spacecraft into pieces and start a chain reaction, the scientist recently came to agree that the number of orbital debris had surpassed the critical spatial density, which will inevitably lead to a chain reaction that puts our billion dollars of satellites at risk.

## 68. OVERQUALIFIED WORKER

If your recruiting efforts attract job applicants with too much experience a near certainty in this weak labour market you should consider a response that runs counter to most hiring managers *modus operandi*: don't reject those applicants out of hand. Instead, take a closer look.

New research shows that overqualified workers tend to perform better than other employees, and they don't quit any sooner. Furthermore, a simple managerial tactic empowerment can mitigate any dissatisfaction they may feel.

The prejudice against too-good employees is pervasive. Companies tend to prefer an applicant who is a perfect fit over someone who brings more intelligence, education, or experience than needed. On the surface, this bias makes sense: Studies have consistently shown that employees who consider themselves overqualified exhibiting her levels of discontent.

But even before the economic downturn, a surplus of overqualified candidates was a global problem, particularly in developing economies, where rising education levels are giving workers more skills that are needed to supply the growing service sectors. If managers can get beyond the conventional wisdom, the growing pool of too-good applicants is a great opportunity.

Berrin Erdogan and Talya N. Bauer of Portland State University in Oregon found that overqualified workers' feelings of dissatisfaction can be dissipated by giving them autonomy in decision making. At stores where employees didn't feel empowered, over-educated workers expressed greater dissatisfaction than their colleagues did and were more likely to state an intention to quit. But that difference vanished where self-reported autonomy was high.

## 69. TEACHING ONLINE

What makes teaching online unique is that it uses the Internet, especially the World Wide Web, as the primary means of communication. Thus, when you teach online, you don't have to be someplace to teach. You don't have to lug your briefcase full of papers or your laptop to a classroom, stand at a lectern, scribble on a chalkboard, or grade papers in a stuffy room while your students take a test. You don't even have to sit in your office waiting for students to show up for conferences. You can hold "office hours" on weekends or at night after dinner. You can do all this while living in a small town in Wyoming or a big city like Bangkok, even if you're working for a college whose administrative offices are located in Florida or Dubai.

You can attend an important conference in Hawaii on the same day that you teach your class in New Jersey, longing on from your laptop via the local cafe's wireless hot spot or your hotel room's high-speed network. Online learning offers more freedom for students as well.

They can search for courses using the Web, scouring their institution or even the world for programs, classes and instructors that fit their needs. Having found an appropriate course, they can enrol and register, shop for their books, read articles, listen to lectures, submit their homework assignments, confer with their instructors, and receive their final grades – all online. They can assemble in virtual classrooms, joining other students from diverse geographical locales, forging bond and friendships not possible in conventional classrooms, which are usually limited to students from a specific geographical area.

## 70. PARLIAMENTARY AND PRESIDENTIAL SYSTEM

A government is the organization, machinery, or agency, through which a political unit exercises its authority, controls and administers public policy, and directs and controls the actions of its members or subjects. The government makes laws, regulate economies, conduct relations with other countries, provide infrastructure and services, and maintain an army and a police force amongst others on behalf of the people of the country.

Democracy is any system of government in which the people have the rule. The ancient Greeks used the word democracy to mean government by the many in contrast to government by the few. The key of democracy is that the people hold ultimate power. Abraham Lincoln best captured this spirit by describing democracy as a government of the people, by the people, for the people. Democratic government is opposed to an authoritative government, where the participation of its citizenry is limited or prohibited, and a state of anarchy where no form of government exists. reforestation of Sochi National Park and the development of green belts in the city.

## 71. PURPLE LOOSESTRIFE INVASION

Scientists often think that invasive plants succeed in a habitat because they happened to have already evolved favourable traits-a taste for the local soil, for example, or resistance to local pests. This research shows something different. It found that once relocated, a plant is able to continue to evolve rapidly to conquer its new habitat. Two biologists from the University of

Toronto and the University of British Columbia did an experiment to demonstrate that purple loosestrife living in different parts of the continent is adapted to its environment. They gathered purple loosestrife from the northern and southern regions of its range, then transplanted the northerners south, and the southerners north. The researchers, Robert Colautti and Spencer Barrett, found purple loosestrife produced fewer fruits the farther away it was from its original habitat. That indicated that the plants' differences were adapted to their environments. Northern purple loosestrife has to deal with a shorter growing season, so it blooms early in the spring to take advantage of as much time as possible. Compared to southern loosestrife grown in the north, it can produce up to 37 times as many fruits. But because it blooms later, southern loosestrife can grow bigger. In the southern U.S., where the growing season is long, southern-adapted loosestrife makes nine times as many fruits as northern-adapted loosestrife. By looking at other studies of the plant, Colautti and Barrett also found that purple loosestrife's blooming time and size adaptations were at least as important to its survival as the lack of natural predators in its new environment. This may also apply to Australia's weeds like thistle, lantana, Paterson's Curse and more.

## 72. PALAEO-LITHIC PEOPLE

The ways of life of Upper Palaeolithic people are known through the remains of meals scattered around their hearths, together with many tools and weapons and the debris left over from their making. The people were hunter-gatherers who lived exclusively from what they could find in nature without practising either agriculture or herding. They hunted the bigger herbivores, while berries, leaves, roots, wild fruit and mushrooms probably played a major role in their diet. Their hunting was indiscriminate, perhaps because so many animals were about that they did not need to spare pregnant females or the young. In the cave of Elene, for example, many bones of reindeer and bison foetuses were found. Apparently, upper Palaeolithic people hunted like other predators and killed the weakest prey first. They did, however, sometimes concentrate on salmon runs and migrating herds of reindeer. Contrary to popular beliefs about 'cave men', Upper Palaeolithic people did not live deep inside caves. They rather chose the foot of cliffs, especially when an overhang provided good shelter. On the plains and in the valleys, they used tents made from hides of the animals they killed. At times, on the great Russian plains, they built huts with huge bones and tusks collected from the skeletons of mammoths.

Men hunted mostly with spears; the bow and arrow were probably not invented until the Magdalenian period that came at the end of the Upper Palaeolithic. Tools and weapons, made out of wood or reindeer antlers, often had flint cutting edges. Flint snappers were skilful and traditions in flint snapping were pursued for thousands of years. This continuity means that they must have been carefully taught how to find good flint nodules and how to knap them in order to make knives, burins (chisel-like tools) or scrapers, which could be used for various

## 73. NURSE SHARKS

Nurse sharks are nocturnal animals, spending the day in large inactive groups of up to 40 individuals. Hidden under submerged ledges or in crevices within the reef, the Nurse sharks seem to prefer specific resting sites and will return to them each day after the nights hunting. By night, the sharks are largely solitary. Nurse sharks spend most of their time foraging through the bottom sediments in search of food. Their diet consists primarily of crustaceans, molluscs, tunicates and other fish such as spiny lobsters, crabs, shrimps, sea urchins, octopuses, squid, marine snails and bivalves and in particular, stingrays. Nurse sharks are thought to take advantage of dormant fish which would otherwise be too fast for the sharks to catch, although their small mouths limit the size of prey items, the sharks have large throat cavities which are used as a sort of bellows valve. In this way, Nurse sharks are able to suck in their prey. Nurse sharks are also known to graze algae and coral.

## 74. CLIMATE CHANGE

The greatest climate change the world has seen in the last 100,000 years was the transition from the ice age to the warm interglacial period. New research from the Niels Bohr Institute at the University of Copenhagen indicates that, contrary to the previous opinion, the rise in temperature and the rise in the atmospheric CO<sub>2</sub> follow each other closely in terms of time. The results have been published in the scientific journal, *Climate of the Past*.

In the warmer climate, the atmospheric content of CO<sub>2</sub> is naturally higher. The gas CO<sub>2</sub> (carbon dioxide) is a greenhouse gas that absorbs heat radiation from Earth and thus keeps Earth warm. In the shift between ice ages and interglacial periods, the atmospheric content of CO<sub>2</sub> helps to intensify the natural climate variations.

It had previously been thought that as the temperature began to rise at the end of the ice age approximately 19,000 years ago, an increase in the amount of CO<sub>2</sub> in the atmosphere followed with a delay of up to 1,000 years.

“Our analysis of ice cores from the ice sheet in Antarctica shows that the concentration of CO<sub>2</sub> in the atmosphere follows the rise in Antarctic temperatures very closely and is staggered by a few hundred years at most,” explains Sune Olander Rasmussen, Associate Professor and centre coordinator at the Centre for Ice and Climate at the Niels Bohr Institute at the University of Copenhagen.

## 75. WORLD WIDE WEB

He is the man who has changed the world more than anyone else in the past hundred years. Sir Tim Berners-Lee may be a mild-mannered academic who lives modestly in Boston, but as the inventor of the World Wide Web he is also a revolutionary. Along with Galileo, William Caxton and Sir Isaac Newton, he is a scientist who has altered the way people think as well as the way they live.

Since the web went global 20 years ago, the way we shop, listen to music and communicate has been transformed. There are implications for politics, literature, economics even terrorism because an individual can now have the same access to information as the elite. Society will never be the same.

The computer scientist from Oxford, who built his own computer from a television screen and spare parts after he was banned from one of the university computers, is a cultural guru as much as a technological one.

It is amazing how far we've come, he says. But you're always wondering what the next crazy idea is and working to make sure the web stays one web and that the internet stays open. There isn't much time to sit back and reflect.

We speak for more than an hour about everything from Facebook to fatwas, Wikipedia to Google. He invented the web, he says, because he was frustrated that he couldn't find all the information he wanted in one place. It was an imaginary concept that he realized.

## 76. AMERICAN ENGLISH

American English is, without doubt, the most influential and powerful variety of English in the world today. There are many reasons for this. First, the United States is, at present, the most powerful nation on earth and such power always brings with it influence. Indeed, the distinction between a dialect and a language has frequently been made by reference to power. As has been said, a language is a dialect with an army. Second, America's political influence is extended through American popular culture, in particular through the international reach of American films (movies, of course) and music. As Kahane has pointed out, the internationally dominant position of a culture results in a forceful expansion of its language, the expansion of language contributes, to the prestige of the culture behind it. Third, the international prominence of American English is closely associated with the extraordinarily quick development of communications technology. Microsoft is owned by an American, Bill Gates. This means a computer's default setting for language is American English, although of course this can be changed to suit one's own circumstances. In short, the increased influence of American English is caused by political power and the resultant diffusion of American culture and media, technological advance and the rapid development of communications technology.

## 77. AUTISM

Autism is a disorder characterized by impairments in communication, social interaction, and repetitive behaviours. Over the past 40 years, the measured prevalence of autism has multiplied roughly 10-fold. While progress has been made in understanding some of the factors associated with increased risk and rising prevalence, no one knows with certainty what causes autism or what caused autism prevalence to rise so precipitously. There is, however, a growing awareness among scholars that focusing solely on individual risk factors such as exposure to toxicants, prenatal complications, or parental education is insufficient to explain why autism prevalence rates have increased so stunningly. Social and institutional processes likely play an important role. For example, changes in diagnostic criteria and an influx of resources dedicated to autism diagnosis may be critical to understanding why prevalence rates have risen. Increased awareness and social influence have been implicated in the rise of autism and a variety of comparable disorders, where social processes mimic the effects of contagion. Studies have examined the contribution of changes in diagnostic criteria and diagnostic substitution to rising autism prevalence rates, but the importance of institutional factors, resources for diagnosis, and greater awareness have not been systematically assessed. The sociological literature on health and inequality, however, provides substantial motivation for exploring how individual- and community-level effects operate to shape the likelihood of an autism diagnosis.

## 78. DRONE DELIVERY

Delivering packages with drones can reduce carbon dioxide emissions in certain circumstances as compared to truck deliveries, a new study from University of Washington transportation engineers finds. In a paper to be published in an upcoming issue of *Transportation Research Part D*, researchers found that drones tend to have carbon dioxide emissions advantages over trucks when the drones don't have to fly very far to their destinations or when a delivery route has few recipients.

Trucks - which can offer environmental benefits by carrying everything from clothes to appliances to furniture in a single trip - become a more climate-friendly alternative when a delivery route has many stops or is farther away from a central warehouse.

For small, light packages - a bottle of medicine or a kid's bathing suit - drones compete especially well. But the carbon benefits erode as the weight of a package increases since these unmanned aerial vehicles have to use additional energy to stay aloft with a heavy load.

## 79. MALAYSIA

Malaysia is one of the most pleasant, hassle-free countries to visit in Southeast Asia. Aside from its gleaming 21st century glass towers, it boasts some of the most superb beaches, mountains and national parks in the region.

Malaysia is also launching its biggest-ever tourism campaign in effort to lure 20 million visitors here this year. More than 16 million tourists visited in 2005, the last year for which complete statistics were available. While the majority of them were from Asia, mostly neighboring Singapore, Thailand, Indonesia, Brunei, China, Japan and India, a growing number of Western travelers are also making their way to this Southeast Asian tropical paradise. Of the 885,000 travelers from the West, 240,000 were from the United Kingdom, 265,000 from Australia and 150,000 from the U.S.

Any tourist itinerary would have to begin in the capital, Kuala Lumpur, where you will find the Petronas Twin Towers, which once comprised the world's tallest buildings and now hold the title of second-tallest. Both the 88-story towers soar 1,480 feet high and are connected by a sky-bridge on the 41st floor. Also worth visiting is the Central Market, a pre-war building that was the main wet market for the city, and has now been transformed into an arts and cultural center.

The limestone temple Batu Caves, located 9 miles north of the city, have a 328-foot-high ceiling and feature ornate Hindu shrines, including a 141-foot-tall gold-painted statue of a Hindu deity. To reach the caves, visitors have to climb a steep flight of 272 steps.

In Sabah state on Borneo Island — not to be confused with Indonesia's Borneo — you'll find the small mushroom-shaped Sip Adan island, off the coast of Sabah, rated as one of the top five diving sites in the world. Sip Adan is the only oceanic island in Malaysia, rising from a 2,300-foot abyss in the Celebes Sea. You can also climb Mount Kinabalu, the tallest peak in Southeast Asia, visit the Sepilok Orang Utan Sanctuary, go white-water rafting and catch a glimpse of the bizarre Proboscis monk.

## 80. TEA AND DRINKS

By far the most popular and most consumed drink in the world is water but it may come as no surprise that the second most popular beverage is tea. Although tea was originally grown only in certain parts of Asia – in countries such as China, Burma and India – it is now a key export product in more than 50 countries around the globe. Countries that grow tea, however, need to have the right tropical climate, which includes up to 200 centimeters of rainfall per year to encourage fast growth, and temperatures that range from ten to 35 degrees centigrade. They also need to have quite specific geographical features, such as high altitudes to promote the flavor and taste of the tea, and land that can offer plenty of shade in the form of other trees and vegetation to keep the plants cool and fresh. Together these conditions contribute to the production of the wide range of high-quality teas that are in such huge demand among the world's consumers. There is green tea, jasmine tea, earl grey tea, peppermint tea, tea to help you sleep, tea to promote healing and tea to relieve stress; but above all, tea is a social drink that seems to suit the palates and consumption habits of human beings in general.

## 81. MIDDAY NAPPING

Could midday napping save your life? If the experience of Greek men is any guide, the answer just may be yes. In a study released yesterday, researchers at the Harvard School of Public Health and in Athens reported that Greeks who took regular 30-minute siestas were 37 percent less likely to die of heart(cardiovascular) disease over a six-year period than those who never napped. The scientists tracked more than 23,000 adults, finding that the benefits of napping were most pronounced for working men. Researchers have long recognized that Mediterranean adults die of heart disease at a rate lower than Americans and Northern Europeans. Diets rich in olive oil and other heart-healthy foods have received some of the credit, but scientists have been intrigued by the potential role of napping. The study, published in the Archives of Internal Medicine, concluded that napping was more likely than diet or physical activity to lower(reduce) the incidence of heart attacks and other life-ending heart ailments.

## 82. US CONSTITUTION

In 1920, the Eighteenth Amendment to the United States Constitution was enacted, creating(causing) yet another serious setback to the American wine industry. The National Prohibition Act, also known as the Volstead Act, prohibited the manufacture, sale, transportation, importation, exportation, delivery, or possession of intoxicating liquors for beverage purposes, and nearly destroyed(ruined) what had become a thriving national industry. In 1920 there were more than seven hundred wineries in California. By the end of Prohibition there were 160.

If Prohibition had lasted only four or five years, its impact on the wine industry might have been negligible. But it continued for thirteen years, during which time grapes went underground literally and figuratively, becoming an important commodity in the criminal economy.

One loophole in the Volstead Act allowed for the manufacture and sale of sacramental wines, medicinal wines for sale by pharmacists with a doctor's prescription, and medicinal wine tonics (fortified wines) sold without prescription. Perhaps more importantly, Prohibition allowed anyone to produce up to two hundred gallons of fruit juice or cider each year. The fruit juice, which was sometimes made into concentrate, was ideal for making wine. Some of this yield found its way to bootleggers throughout America who did just that. But not for long, because the government stepped in and banned the sale of

grape juice, preventing illegal wine production. Vineyards stopped being planted, and the American wine industry ground to a halt.

### 83. EDUCATION QUALITY

When Australians engage in debate about educational quality or equity, they often seem to accept that a country cannot achieve both at the same time. The lecture will present compelling international evidence that there are countries which do, though Australia is not among them.

Curriculum reforms intended to improve (enhance) equity often fail to do so because they increase (augment) breadth or differentiation in offerings in a way that increases differences in quality. Further, these differences in quality often reflect differences in students' social backgrounds because the 'new' offerings are typically taken up by relatively disadvantaged students who are not served well by them. Evidence from New South Wales will be used to illustrate this point.

The need to improve the quality of education is well accepted across OECD and other countries as they seek to strengthen their human capital to underpin their modern, knowledge economies. Improved equity is also important for this purpose, since the demand for high-level skills is widespread and the opportunities for the low-skilled are diminishing. Improved equity in education is also important for social cohesion. There are countries in which the education system seems primarily to reproduce existing social arrangements, conferring privilege where it already exists and denying it where it does not. Even in countries where the diagnosis might be less extreme, the capacity of schooling to build social cohesion is often diminished by the way in which schools separate individuals and groups.

### 84. GREENHOUSE GASES

Many human activities are responsible for the production (emission) of greenhouse gases. Generating electricity is the single largest source of CO<sub>2</sub> emissions in the United States, followed by transportation. Negative externalities are created by individuals that engage in more than the economically efficient amount of an activity, such as driving. Because the driver enjoys all of the benefits that come along with driving and only suffer part of the cost, they do not put a limit on how far or how often they should drive. The only way to get individuals to participate in reducing greenhouse gases is by having them bear all the costs of their actions. This is difficult because the costs are so little compared to the benefit, so why give up something that benefits more than sets you back. Two different methods are being proposed in order to help humans take into consideration the costs of their actions in order to reduce production of greenhouse gases. The methods proposed are government regulation and taxation. Unless the government sets regulations and taxes, the individual level of involvement will be very low and unless many people participate, the amount of greenhouse gases will not be significantly (sufficiently) reduced.

### 85. NEW TECHNOLOGIES

Consider the current situation: Like their counterparts in the United States, engineers and technicians in India have the capacity (ability) to provide both computer programming and innovative new technologies. Indian programmers and high-tech engineers earn one-quarter of what their counterparts earn in the United States. Consequently, India is able to do both jobs at a lower dollar cost than the United States: India has an absolute advantage (edge) in both. In other words, it can produce a unit of programming for fewer dollars than the United States, and it can also produce a unit of technology innovation for fewer dollars. Does that mean that the United States will lose not only programming jobs but innovative technology jobs, too? Does that mean that our standard of living will fall if the United States and India engage in international trade? David Ricardo would have answered no to both questions—as we do today. While India may have an absolute advantage in both activities, that fact is irrelevant in determining what India or the United States will produce. India has a comparative advantage in doing programming in part because such activity requires little physical capital. The flip side is that the United States has a comparative advantage in technology innovation partly because it is relatively easy to obtain capital in this country to undertake such long-run projects. The result is that

Indian programmers will do more and more of what U.S. programmers have been doing in the past. In contrast, American firms will shift to more and more innovation. The United States will specialize in technology innovation; India will specialize in programming. The business managers in each country will opt to specialize in activities in which they have a comparative advantage. As in the past, the U.S. economy will continue to concentrate on what are called the "most best" activities.

## 86. MARSHMALLOW TEST

They call it the "marshmallow test." A four- to six-year-old child sits alone in a room at a table facing a marshmallow on a plate. The child is told: "If you don't eat this treat for 15 minutes you can have both it and a second one." Kids on average wait for five or six minutes before eating the marshmallow. The longer a child can resist the treat has been correlated with higher general competency later in life. Now a study shows (demonstrates) that ability to resist temptation isn't strictly innate—it's also highly influenced by environment.

Researchers gave five-year-olds used crayons and one sticker to decorate a sheet of paper. One group was promised a new set of art supplies for the project—but then never received it. But the other group did receive new crayons and better stickers. Then both groups were given the marshmallow test. The children who had been lied to waited for a mean time of three minutes before eating the marshmallow. The group that got their promised materials resisted an average of 12 minutes. Thus, the researchers note (observe) that experience factors into a child's ability to delay gratification. When previous promises have been hollow, why believe the next one?

## 87. ARCHAEOLOGICAL RECORD

Human remains are a fundamental part of the archaeological record, offering (providing) unique insights into the lives of individuals and populations in the past. Recently a new set of challenges to the study of human remains has emerged from a rather unexpected direction: the British government revised (amended) its interpretation of nineteenth-century burial legislation in a way that would drastically curtail the ability of archaeologists to study human remains of any age excavated in England and Wales. This paper examines these extraordinary events and the legal, political and ethical questions that they raise.

In April 2008 the British government announced that, henceforth, all human remains archaeologically excavated in England and Wales should be reburied after a two-year period of scientific analysis. Not only would internationally important prehistoric remains have to be returned to the ground, removing them from public view, but also there would no longer be any possibility of long-term scientific investigation as new techniques and methods emerged and developed in the future. Thus, while faunal remains, potsherds, artefacts and environmental samples could be analysed and re-analysed in future years, human remains were to be effectively removed from the curation process. Archaeologists and other scientists were also concerned that this might be the first step towards a policy of reburying all human remains held in museum collections in England and Wales including prehistoric, Roman, Saxon, Viking and Medieval as well as more recent remains.

## 88. SPINAL CORD

Four years ago, Darek Fidyka was stabbed in the back, leaving his spinal cord severed, and his body from the chest down paralysed (disabled). Now, after an experimental treatment, Fidyka has regained (recovered) some feeling in his lower body and is learning to walk again. The researchers are looking to use less invasive techniques in the future, because undergoing brain surgery to extract the olfactory tissue isn't anyone's idea of a good time, much less someone who is paralysed. The BBC reports that over 100 micro injections of olfactory unsheathing cells were injected into the injury site, and strips of nerve tissue from Fidyka's ankle were laid across the gap in the spinal cord, in the hopes that the cells from the olfactory bulbs

would encourage regrowth. A similar procedure had been successfully tested on dogs in 2012.

Now, 19 months after the operation, Fidyka has regained sensation in parts of his lower body, and after intense physical therapy is able to walk using a walker. As an added bonus, even with one olfactory bulb removed, Fidyka retained his sense of smell. He told the BBC: "I think it's realistic that one day I will become independent. What I have learned is that you must never give up but keep fighting, because some door will open in life." The story is the subject of an episode of the BBC television program Panorama airing today at 10:35 pm in the UK. The study itself will be published in the journal Cell Transplantation at a later date, but the researchers acknowledge that as exciting as this result is, there is still a lot more work to be done. "Our results are very encouraging," the medical team is quoted as saying in a statement. "However, our results need to be confirmed in a larger group of patients with a similar injury. In the meantime, we are investigating surgical techniques for more minimally invasive access to the olfactory bulb."

## 89. LITERACY

The world engages in improving literacy of reading and writing, but it is not that important now. What is text/written language anyway? It is an ancient IT for storing and retrieving information. We store(save) information by writing it, and we retrieve it by reading it. 6000 to 10,000 years ago, many of our ancestor's hunter-gatherer societies settled on the land and began what's known as the agricultural revolution. That new land settlement led to private property and increased production and trade of goods, generating a huge new influx of information. Unable to keep all this in their memories, our ancestors created systems of written records that evolved over millennia into today's written language.

But this ancient IT is already becoming obsolete. Text has run its historic course and is now rapidly(increasingly) getting replaced in every area of our lives by the ever-increasing of emerging IT driven by voice, video, and body movement rather than the written word. In my view, this is a positive step forward in the evolution of human technology, and it carries great potential for a total positive redesign of education. Written language is an ancient IT for storing and retrieving information, however, written word is becoming obsolete and is now rapidly getting replaced by voice, video and body movement, which is believed a positive step forward in the evolution of human technology and redesign of education.

## 90. PLANT AND ENERGY

Plants serve(act) as the conduit of energy into the biosphere, provide food and materials used by humans, and they shape our environment. According to Ehrhardt and Frommer, the three major challenges facing humanity in our time are food, energy, and environmental degradation. All three are plant related.

All of our food is produced by plants, either directly or indirectly via animals that eat them. Plants are a source of energy production. And they are intimately involved in climate change and a major factor in a variety of environmental concerns, including agricultural expansion and its impact on habitat destruction and waterway pollution.

What's more, none of these issues are independent of each other. Climate change places additional stresses on the food supply and on various habitats. So, plant research is instrumental in addressing all of these problems and moving into the future. For plant research to move significantly forward, Ehrhardt and Former say technological development is critical, both to test existing hypotheses and to gain new information and generate fresh hypotheses. If we are to make headway(progress) in understanding how these essential organisms function and build the foundation for a sustainable future, then we need to apply the most advanced technologies available to the study of plant life, they say.

## 91. MECHANICAL PROJECTS

Always working on different mechanical projects and keeping up with scientific research, the Wright brothers closely followed the research of German aviator Otto Lilienthal. When Lilienthal died in a glider crash, the brothers were very depressed. But their father, Milton Wright, brought back a small model helicopter for his boys. It is made of cork, bamboo and paper, and powered by a rubber band to twirl its blades. Fascinated by the toy and its mechanics, Wilbur and Orville would develop a lifelong love of aeronautics and flying and decided to start their own experiments with flight.

Wilbur and Orville set to work trying to figure out how to design wings for flight. They observed that birds angled their wings for balance and control, and tried to emulate this, developing a concept called "wing warping." When they added a moveable rudder, the Wright brothers found (realised) they had the magic formula - on December 17, 1903, they succeeded in flying the first free, controlled flight of a power-driven, heavier than air plane. Wilbur flew their plane for 59 seconds, at 852 feet, an extraordinary achievement.

The Wright brothers soon found that their success was not appreciated by all. Many in the press, as well as fellow flight experts, were reluctant to believe the brothers' claims at all. In France Wilbur found a much more receptive audience. He made many public flights, and gave rides to officials, journalists and statesmen. The Wrights became huge celebrities there, hosted by royals and heads of state, and constantly featured in the press. The Wrights began to sell their airplanes in Europe, before returning to the United States in 1909. The brothers became wealthy (rich) businessmen, filling contracts for airplanes in Europe and the United States.

### Reorder Paragraphs

#### 1. Question 1 : Accidents

- A. Most of those accidents happen between 1am and 5am, for example in port Macquarie. Accounting to the research, more car accident in the morning.
- B. Especially this happens very often among teenage drivers.
- C. New method, it is advised to have more qualifications for teenager to get license.
- D. This should draw the public attention, and people should put more concern on teenagers.

Answer: BACED

#### 2. Question 2: A problematic Boy

- A. He was sent to his relatives' family in order for him to be well taken care of.
- B. The consequence is that he has problem fitting in the society.
- C. Moreover, his academic performance was not good.
- D. There is one 11-year old boy who had been adopted by five families.
- E. Moreover, he had been studying in four different schools. Answer: DEBCA

#### 3. Question 3: Rise in Sea Level

- A. And every 1 cm sea level rise will lead 31% lives in risk.
- B. There would be more people living at risk once the sea level rises.
- C. Scientists predict that every 0.5 cm sea level rises will lead 20% lives in risk.
- D. Many people are living under the threat of flood. Answer: DBCA

#### 4. Question 4: International Conference

- A. It is expected that the meeting would be instrumental in curbing the CO<sub>2</sub> output in the participating nations.
- B. On 23<sup>rd</sup> January, 2019, there is going to be an international conference on biodiversity.
- C. The conference will be attended by the world leaders across the globe.

Answer: BCA

#### 5. Question 5: Australian Immigration Policy

- A. The consequence is that the refugee acceptance is slowing down.
- B. Australian immigration policy was relatively loose before.

- C. At the same time, new refugee policies have been changed secretly.
  - D. We accept more refugees than we were expected.
  - E. Because of the election, refugee applications are extended.
- Answer: BDECA

## FILL IN THE BLANKS

### 6. Battlefield Trauma

It's no secret that battlefield trauma can leave [blank] with deep emotional scars that [blank] their ability to function in civilian life. But new research led by Washington University in St. Louis suggests that military service, even without [blank], has a subtle [blank] effect on a man's personality, making it potentially more difficult for veterans to get along with friends, family and co-workers.

**lingering/ veterans/ amateurs/ impact/ soothe/ combat**

### 7. Brain Concussion

Brain concussion is a brain [blank] which does not have any macroscopic structural damage but is caused by mechanical force. Post traumatic amnesia was a condition to [blank] the brain concussion. Patients with brains concussion have always amnesia with normal [blank] status. One form of [blank] left intact in patients is the ability to learn skills called procedural memory.

**skill/ memory/ neurological/ filter/ diagnose/ dysfunction**

### 8. Paris

Paris is very old—there has been a settlement there for at least 6000 years and its shape has been determined in part by the River Seine, and in part by the edicts of France's rulers. But the great boulevards we admire today are relatively new, and were constructed to prevent any more barricades being [blank] by the rebellious population; that work was carried out in the middle 19th century. The earlier Paris had been [blank] a maze of narrow streets and alleyways. But you can imagine that the work was not only highly expensive, but caused great distress among the half a million or so residents whose houses were [blank] razed, and whose neighbourhoods disappeared. What is done cannot usually be undone, especially when buildings are torn [blank] .

**IN PART|SIMPLY|CREATED|DOWN|UP|SELECT**

### 9. The origin of Species

In The Origin of Species, Darwin provided abundant evidence that life on Earth has evolved over time, and he proposed natural selection as the primary mechanism for that change. He observed that individuals [blank] in their inherited traits and that selection acts on such differences, leading to [blank] change. Although Darwin realised that variation in heritable traits is a prerequisite for [blank], he did not know precisely how organisms pass heritable traits to their offspring. Just a few years after Darwin published The Origin of Species, Gregor Mendel wrote a groundbreaking paper on inheritance in pea plants. IN that paper, Mendel proposed a model of inheritance in which organisms transmit discrete heritable units (now called genes) to their offspring. Although Darwin did not know about genes, Mendel's paper set the stage [blank] understanding the genetic differences on which evolution is based.

**IN|EVOLUTION |EVOLUTIONARY|DISTINGUISH |FOR |DIFFER**

### 10. Cultural Ideas

People modify cultural ideas in their minds, and sometimes they pass on the modified versions. Inevitably, there are unintentional modifications as well, partly because of straightforward error, and partly because inexplicit ideas are hard to [blank] accurately: there is no way to download them directly from one brain to another like computer programs.

Even native speakers of a language will not give identical definitions of every word. So it can be only rarely, if [blank], that two people hold precisely the same cultural idea in their minds. That is why, when the founder of a political or philosophical movement or a religion dies, or [blank], schisms typically happen. The movement's most devoted followers are often shocked to [blank] that they disagree about what its doctrines —really are.

**UNDERTSAND|NEEDED|FIND| DISCOVER |CONVEY|EVER|EVEN BEFORE**

### 11. Great Engineers

Great engineers have a passion to improve life; a burning conviction that they can make life better for everyone. Engineers need to have a talent for invention and innovation, but what [blank] them is the conviction that they can find a better way to do things; a cheaper and more efficient solution to the problems of human existence on this planet of [blank] resources that we call Earth.

Many of us [blank] a lot of time complaining about the difficulties and problems of life. It is easy to find fault with things that make daily life arduous. For an engineer, these difficulties can be opportunities. How can this be

made to work better? How can that process be made more efficient? How can [blank] be made more cheaply, more accurately and more fit-for-purpose? Great engineers are convinced that everything can be [blank]. Instead of complaining, they think of ways to make things better.

**COMPONENTS | LIMITED | SPEND | MOTIVATE | IMPROVED | INVESTS | DRIVES | CHANGE**

## 12. Space work for Astronaut

The space work for an astronaut can be inside or outside, inside they can monitor machines and the work is [blank] out alongside the craft. They also need to make sure they can see how the seeds react in the space. Some seeds company send seeds to them to [blank] how seeds change their biological character. When [blank] the craft, they can set up experiments or clean up the space rubbish.

Scientists make observations, have assumptions and do [blank]. After these have been done, he gets his [blank]. Then there are a lot of data from scientists. The scientists around the world have a [blank] of world.

**OUT | PERFORMED | LEARN | INVESTIGATE | OUTSIDE | EXPERIMENT | RESULTS | PICTURE | CARRIED**

## 13. Wagonways

Roads of rails called Wagonways were being used in Germany as [blank] as 1550. These [blank] railed roads consisted of wooden rails over which horse-drawn wagons or carts moved with greater ease than over dirt roads.

Wagonways were the beginnings of modern railroads. BY 1776, iron had replaced the wood in the rails and wheels on the carts. Wagonways evolved into Tramways and spread throughout Europe. Horses still provided all the pulling power. In 1789, Englishman, William Jessup designed the first wagons with flanged wheels. The [blank] was a groove that allowed the wheels to better grip the rail, this was an important design that carried over to later locomotives.

**MUCH | OLD | EARLY | PRIMITIVE | FLANGE**

## 14. Recipe for making a creature

The recipe for making any [blank] is written in its DNA. So last November, when geneticists published the near-complete DNA sequence of the long-extinct woolly mammoth, there was much speculation about whether we could bring this behemoth back to life. Creating a living, breathing creature from a genome sequence that exists only in a computer's memory is not possible right now. But someone someday is sure to try it, [blank] Stephan Schuster, a [blank] biologist at Pennsylvania State University, University Park, and a [blank] force behind **ANIMAL | MOLECULAR | CREATURE | ENVIRONMENT | DRIVING | PREDICTS**

## 15. the mammoth genome project.

Racha Aboud and Anna Ford UWS graduates Racha Abboud and Anna Ford, whose story first appeared in GradLife in December 2009, have [blank] risen through the ranks to be [blank] Associates at leading western Sydney law firm, Coleman Greig Lawyers. The promotion marks the [blank] of many years of hard work for these legal [blank] who are the first to rise to this [blank] from the firm's Cadet Lawyer program with UWS.

**BEGINING | APPOINTED | CULMINATION | EAGLES | LEVEL | SUCCESSFULLY | POSITIONS**

## 16. Industrial Robots

Joseph Engelberger, a pioneer in industrial robotics, once remarked "I can't [blank] a robot, but I know one when I see one." If you consider all the different [blank] people call robots, you can see that it's nearly impossible to come up with a [blank] definition. Everybody has a different idea of what constitutes a robot.

**EQUIPMENT | COMPLETE | MACHINES | COMPREHENSIVE | DEFINE**

# FILL IN THE BLANKS: READING AND WRITING

## 1. Question 129: Leadership

Leadership is all about being granted permission by others to lead their thinking. It is a bestowed moral authority that gives the right to organise and direct the efforts of others. But moral authority does not come from simply managing people effectively or communicating better or being able to motivate. It comes from many **areas/sources/dimensions/desires**, including being authentic and genuine, having integrity, and showing a real and deep understanding of the business in question. All these **combinations/facets/factors/features** build confidence.

Leaders lose moral authority for three reasons: they behave **morally/unethically/splendidly/acerbically**; they become plagued by self-doubt and lose their conviction; or they are blinded by power, lose self-awareness and thus lose **touch/connection/contact/communication** with those they lead as the context around them changes. Having said all this, it has to be assumed that if someone becomes a leader, at some point they understood the

difference between right and wrong. It is up to them to **close/stay/abide/follow** by a moral code and up to us to ensure that the moment we suspect they do not, we fire them or vote them out.

## 2. Question 130: Distance Learning

Distance learning can be highly beneficial to a large variety of people from young students wanting to expand their horizons to adults looking for more job security. With programs that allow learners of all ages to take courses for fun, personal advancement and degrees, distance learning can meet the **needs/desires/craving/obligations** of a diverse population.

Perhaps one of the most notable and often talked about **advantages/impediment/difficulty/convenience** of distance learning is the flexibility. The majority of programs allow students to learn when and where it's convenient for them. For **which/those/them/whom** who are struggling to balance their distance learning goals with working a full-time job and taking care of a family, this kind of flexibility can allow many people to **follow/earn/attend/pursue** education who would not otherwise be able to do so.

**Since/Therefore/Consequently/Notwithstanding** there are no on-campus courses to attend, students can learn from their own homes, at work on their lunch breaks and from virtually anywhere with internet access. For some, it can even be a big source of savings on the fuel costs and time required to commute to classes.

## 3. Question 124: Building Sentiments

Over the last ten thousand years there seem to have been two separate and conflicting building sentiments throughout the history of towns and cities. **One/Another/The first/The important** is the desire to start again, for a variety of reasons: an earthquake or a tidal wave may have demolished the settlement, or fire destroyed it, or the new city **starts/marks/find/lets** a new political beginning. The other can be likened to the effect of a magnet: established settlements attract people, who **are/tend to/have/had been** come whether or not there is any planning for their arrival. The clash between these two sentiments is evident in every established city **unless/whenever/whereas/until** its development has been almost completely accidental or is lost in history.

Incidentally, many settlements have been planned from the beginning but, for a variety of reasons, no settlement followed the plan. A good example is Currowan, on the Clyde River in New South Wales, which was **purveyed/surveyed/ searched/surged** in the second half of the 19th century, in expectation that people would come to establish agriculture and a small port. But no one came. Most country towns in New South Wales started with an original survey, whose grid lines are still there today in the pattern of the original streets.

## 4. Question 125: Instinct in Business

What is the significance of instinct in business? Does a reliable gut-feeling separate winner from losers? And is it the most valuable emotional tool any entrepreneur can possess? My observations of successful company owners lead me to believe that a highly analytical attitude can be a drawback. At critical junctures in commercial life, risk-taking is more an **ability/necessity/wisdom/act** of faith than a carefully balanced choice. Frequently, such moments require **decisiveness/moodiness/innovation/gallantry** and absolute conviction above all else. There is simply no time to wait for all the facts, or room for doubt. A computer program cannot tell you how to invent and launch a new **idea/project/product/program**. That journey involves too many unknowns, too much luck – and too much sheer intuition, rather than the infallible **concept/dreams/intricacies/logic** that machines deliver so well. As Chekhov said: "An artist's flair is sometimes worth a scientist's brains" – entrepreneurs need right-brain thinking. When I have been considering whether to buy a company and what price to offer, I have been **encouraged/motivated/promoted/blinded** too often by reams of due diligence from the accountants and lawyers. Usually it pays to stand back from such mountains of grey data and weigh up the really important issues – and decide how you feel about the opportunity.

## 5. Question 126: Global Textile Industry

The environmental impact of the global textile industry is hard to overstate. One-third of the water used worldwide is spent fashioning fabrics. For every ton of cloth **produced/fabricated/analysed/inspected**, 200 tons of water is polluted with chemicals and heavy metals. An estimated 1 trillion kilowatt-hours of electricity powers the factories that card and comb, spin and weave, and cut and stitch materials into everything from T-shirts to towels, **reason/leaving/trailing/pursuing** behind mountains of solid waste and a massive carbon footprint.

"Where the industry is today is not really sustainable for the long term," says Shreyaskar Chaudhary, chief executive of Pratibha Syntex, a textile manufacturer based outside Indore, India.

With something of an "if you build it, they will come" attitude, Mr. Chaudhary has steered Pratibha **into/for/toward/at** the leading edge of eco-friendly textile production. Under his direction, Pratibha began making clothes with organic cotton in 1999. Initially, the company couldn't find enough organic farms growing cotton in central India to **meet/replenish/supply/stock** its factories. To meet production demands, Chaudhary's team had to convince conventional cotton farmers to change their growing methods. Pratibha provided seeds, cultivation

instruction, and a guarantee of fair-trade prices for **his/her/their/it** crops. Today, Pratibha has a network of 28,000 organic cotton growers across the central states of Madhya Pradesh, Maharashtra, and Orissa.

#### 6. Question 127: Monkey and the Typewriter

This illustration often used is the one that the monkey and the typewriters. Ok, we have a monkey sitting at a typewriter and the claim here is basically if you leave chance in time long **enough/plenty/adequate/many** you will get life. Don't worry about it, yes, it's strange, yes it's wonderful, but leaves enough matter 600 million years on earth and you will have life.

So, the monkey sitting at the typewriter, the chances are eventually he produces the complete works of Shakespeare but he doesn't manage to do it in 600 million years. So what I decide to do is to run the numbers. I instead of saying typing the complete work of Shakespeare.

I just run the numbers for how long **would/will/should/could** it take a monkey typing one key striker a second. To type "to be or not to be that is the question", right? On average how long is it gonna take my monkey friend one **hit/keystroke/push/touch** a second.

I don't know how you think it would be. Maybe you could have a guess. Would it be less or more than 600 million years, which is the period life on earth isn't supposed to have **emerged/develop/create/started** within and when I run the numbers "to be or not to be is the question" takes 12.6 trillion trillion trillion years to type just that **word/phrase/sentence/clause** and a DNA string that something of that complexity emerges by chance undirected within 600 million years? Again, it's mathematically possible but it's so incredible unlikely that it would have that it tilts me in favor of the Christian story in which God creating life, simply a question of saying let that be and there was.

#### 7. Question 128: Monash Researcher

If you see a movie, or a TV advertisement, that involves a fluid behaving in an unusual way, it was probably made using technology based on the work of a Monash researcher.

Professor Joseph Monaghan who pioneered an influential **plan/process/method/concept** for interpreting the behaviour of liquids that underlies most special effects involving water has been **respected/dignified/honoured/selected** with election to the Australian Academy of Sciences.

Professor Monaghan, one of only 17 members elected in 2011, was recognised for developing the method of Smoothed Particle Hydrodynamics (SPH) which has applications in the fields of astrophysics, engineering and physiology, as well as movie special effects.

His research started in 1977 when he tried to use computer simulation to describe the formation of stars and stellar systems. The algorithms available at the time were **capable/incapable/insufficient/faulty** of describing the complicated systems that evolve out of chaotic clouds of gas in the galaxy.

Professor Monaghan, and his colleague Bob Gingold, took the novel and effective approach of replacing the fluid or gas in the simulation with large numbers of particles with properties that **copied/similar/seen/mimicked** those of the fluid. SPH has become a central tool in astrophysics, where it is currently used to simulate the evolution of the universe after the Big Bang, the formation of stars, and the processes of planet building.