NEWS & VIEWS

Underground Cities

Congested Roads, choking pollution and sea of humanity flowing into urban cities leaves one often wondering what will be the condition of cities in future if the speed at which they are growing continues. City centres are already overcrowded, with virtually no space left for further expansion of commercial activity. Even the so-called "vertical metropolis" like New York, Tokyo and Mumbai are left with no elbow space on the ground as well as in the air. So, how will the metros of tomorrow look like? How will they meet the challenge of balancing the pressures of urban growth and environmental concerns? Will they be more aesthetic or will have more of highrise eye-sores? (Will they be most unhygienic?).

There may not be a single answer to these questions. While we will have more of urban centres that fall in the category of "vertical metropolis", we may also have in some countries underground cities. On one hand, man will move to virtually live in the skies with the rise of ultra-tall buildings; on the other, there will be growth downwards, in the form of underground cities. In some cases, there will be multi-level cities - people living on the surface, in the sky as well as below the ground. "Many central cities will become multi-level environments, with one level below ground, another at grade and a third built on air rights. There will be widespread construction of over freeways and service corridors (connecting different levels)", says McKinley Conway, a leading construction expert.

The need for building underground cities will be more for countries like Japan and India, where urban growth is restricted because of non-availability of land. The idea of an underground township or a mini-city may not be far fetched, because we already have underground trains, large shopping malls and other such commercial activity below the surface level. Taisei Corporation in Japan has already prepared a blueprint of an underground city, where surface areas will be left open for parks and forests. The project has been aptly named the "Alice City". Another Japanese corporation, Shimizu, has planned a subterranean project called Urban Geo Grid. There will be a series of city-modules below the ground, connected to each other by tunnels. It is envisaged that this type of grid could accommodate up to half a million people.

Source: The Hindustan Times, July 30, 2000

New Device to Spot Underground Mine

An "X-ray type" device that will enable soldiers "see" deadly mines buried underground is being developed by an American company.

The device will use gas lasers and laser diodes, according to Seattle-based firm Microvision Inc. It will also have peacetime uses for surgeons.

Microvision, which hopes to be able to mount the retinal scanning device on a platform as small as an eyeglass frame, would have a working version of the technology.

A retinal display is said to offer higher resolution than the in-vogue liquid crystal display (LCD) instruments at the same cost.

Source: The Hindustan Times, Sept. 20, 1996

ISO Quality Management Principles

- Customer-Focused Organisation : Organisations depend on their customers and therefore should understand current and future customer needs, meet customer requirements and strive to exceed customer expectations.
- Leadership : Leaders establish unity of purpose, direction, and the internal environment of the organisation. They create the environment in which people can become fully involved in achieving the organisation’s objectives.
- Involvement of People : People at all levels are the essence of an organisation and their full involvement enables their abilities to be used for the organisation’s benefit.
- Process Approach : A desired result is achieved more efficiently when related resources and activities are managed as a process.
- System Approach of Management : Identifying, understanding and managing a system of inter-related processes for a given objective contributes to the effectiveness and efficiency of the organisation.
- Continual improvement : Continual improvement is a permanent objective of the organisation.
- Factual approach to decision making : Effective decisions are based on the logical and intuitive analysis of data and information.
- Mutually beneficial supplier relationships: Mutually beneficial relationships between the organisation and its supplier enhance the ability of both organisations to create value.

Source: Standards India - Vol.14, No.1, April, 2000

Effect of Planetary Alignment on Natural Disasters

On 5th May, 2000, five planets (Mercury, Venus, Mars, Jupiter and Saturn), as seen from the earth, were approximately along the alignment of the sun and the moon. Doomsayers predicted that this planetary alignment will trigger major natural disasters on the earth causing panic among people all over the world.

It is felt that the planetary alignment is definitely going to disturb the magnitude of the gravity before triggering of any major natural disaster on the earth.

In order to observe the changes in the acceleration due to gravity due to planetary alignment, measurement of the value of g were carried out in the University of Roorkee from 2/5/2000 to 10/5/2000 using a Gravimeter. The maximum variation (rise) in gravity (12 MilliGals) was registered on May 5, 2000 as expected but it is only one-millionth of the normal value. In fact, it is observed that, major active faults accompany local variation in the value of g as high as ten times the changes observed during this planetary alignment.

Consequently, no major disaster was reported across the globe on that day (May 5, 2000) except an earthquake of low intensity in Indonesia.

Thus, the observation leads us to the conclusion that such planetary alignment, as seen from the earth, neither causes significant change in gravity nor does it trigger any major natural disaster on the earth. Henceforth, in future, people should not feel insecured on such kind of predictions.

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Gravity-Defying Slopes Discovered in China

Seven strange slopes, on which it is easier to slide up than down, have been discovered recently in north China's Shanxi province, reports PTI quoting a media report. Automobiles can roll up the slopes at 30 km per hour with their engines cut but have to be accelerated when moving down the slopes, which are 40 to 100 metres long, official Xinhua news agency reported. Water behaves in the same gravity-opposing fashion while cyclists say they have to peddle harder when moving down the slopes, part of a mountain path between two villages of in Yanggao county. The average elevation of the slopes has been found to be approximately 20 degrees. These slopes in Datong city, China's major coal producing region, has a predecessor which was discovered in Shenyang, capital of northeast China's Liaoning province, in 1991. The 80m long slope is a major tourist draw with more than four million people including 50,000 from outside China, coming to see it in the past decade, the report said. *(A strong magnetic field may pull a vehicle upwards on a slope).*

Source: The Hindustan Times, Sept. 1, 2000

Mountain Cave - A Cure for Asthma

Developers of a private hospital being built deep in a mountain cave are planning to target asthma sufferers with an unusual treatment.

Britain has the highest rate of asthma in the world, three times the European average, and at least 30 percent of British children are believed to be sufferers. Many experts blame the problem on house dust mites which are attracted by the fitted carpets present in most homes. Only about 10 percent of continental homes have fitted carpets.

The 10m pound sterling hospital is being constructed from among 500 km of linked chambers in a disused silver mine in the Austrian Tyrol town of Schwaz. It will market "speleotherapy", a treatment which some asthmatics believe has cured them.

The air found in deep caves is almost free of pollen, dust mites and the irritants which provoke an allergic reaction. It has high humidity and a warm temperature which helps to reduce the inflammation of the lining of the lungs. Germany and eastern Europe all recognise speleotherapy, but is almost unknown in Britain.

Sylvia Beamon, 64, a Cambridge archeologist, had asthma for more than 30 years before she visited a Romanian salt mine sanatorium more than a mile underground for treatment. "It was tedious, but when I completed it my asthma had zone," she said.

Beamon has campaigned to interest other sufferers in speleotherapy. She persuaded the Cochrane Collaboration at Oxford University, a scientific group which reviews medical evidence for the effectiveness of treatment methods, to investigate the cave effect. The committee concluded last year that there was not enough published scientific data to form an opinion and called for more research.

However, Dr. Douglas Robinson, consultant allergist at St Mary's hospital, London, and senior lecturer in allergy at Imperial College, London, said: "There is good clinical data that if you can avoid allergens it can improve asthma." Beamon has also visited Salt Union's working mine in Winsford, Cheshire, in the hopes of persuading it to promote the benefits of such treatment, Kay Monaghan, technical manager of the mine, said although it was not open to the public a number of engineers and students who suffered from asthma had reported improvements in their condition. Ludwig Ledermaier, Director of the Austrian project, said it would accommodate up to 150 patients at a time, "Obviously we will be encouraging people to come from Britain because there is a particularly severe asthma problem there," he said.

Source: Times of India, July 18, 2000

Millennium Issues at a Galnce

WATER: Humanity's use of freshwater soared sixfold over the last century, and continues to rise. Demand is expected to increase by over a third over the years - and to almost double for drinking water. And yet it is getting scarcer. Already one-third of the world's people live in countries where water is in short supply and by 2025, two-thirds of them will do so. About one in every five people on Earth now lacks safe drinking water. Acquifers of underground water, built up over millennia, are exploited faster than they can be replenished; every year 160 billion tonnes of water are being 'mined' in this way in China, India, North Africa, Saudi Arabia and the United States alone. The water table under the north China plain, which produces 40 per cent of the country's grain harvest, is falling by 1.6 metres a year, while the International Water Management Institute estimates that the depletion of Indian acquifers could cut the country's grain harvest by a quarter. Meanwhile, international tensions over shared rivers are rising, threatening water wars.

SPECIES: Species are being driven to extinction at least 1,000 times - and may be 10,000 times - faster than they would die out naturally. No one knows how much damage is being done, partly because no one even knows how many species there are on Earth; estimates range from 5 million to over 100 million. But the damage is accelerating. By one estimate, up to two-thirds of all the species on the planet may be lost over the next 100 years. The world appears to be in the early stages of a mass extinction, to rival those of prehistoric times, the latest of which wiped out the dinosaurs. Great holes will be torn in the web of life, and countless species that could have brought great benefits to medicine and food supplies will be lost. On past evidence, it will take 10 million years - far longer than the expected life-span of the human species - for the planet's life to recover its diversity.

FORESTS: Four-fifths of the forests that originally cloaked the Earth have been cleared, fragmented or otherwise degraded. About 40 percent of what is left is under threat. Some 16 million hectares of forest, an area about twice the size of Austria, are felled every year. As the trees disappear, the rainwater rushes off the land, stripping away top soil and causing floods; it fails to percolate into the ground, causing water sources to dry up. Species become extinct, and global warming increases.

SOIL: It can take any thing up to 1,000 years for a couple of centimetres of top soil to form. But increasingly, this much is being washed or blown away in a few seasons. Every year the world loses some 25 billion tonnes of it. Some 2 billion hectares of arable and grazing land worldwide - an area larger than the United States and Mexico combined - have been moderately or severely degraded, reducing its ability to produce food. Desertification costs the world $ 42 billion a year in lost income and soil erosion puts the livelihoods of nearly a billion people at risk. By one estimate, crop yields in Africa could be cut in half within 40 years if degradation continues at its present rate.

CLIMATE: The climate is getting warmer. Eight of the hottest ten years on record occurred in the last decade. Glaciers are smaller than at any time in at least 5,000 years, and the Arctic Ocean has lost 40 percent of its ice cover in the last 30 years. The WMO/UNEP Inter-governmental Panel on Climate Change (IPCC) has concluded that, on balance, human activities are contributing to global warming, as greenhouse gases like carbon dioxide (CO_2) are emitted and forests are felled. (CO_2) is now at record levels in the atmosphere. The IPCC's best prediction is that global temperatures will rise by 2°C over this century - the greatest warming in 10,000 years - while sea levels will rise by 50 centimetres, enough to flood millions of people in low-lying deltas and coastal areas and to submerge some island nations beneath the waves. Such is the inertia in the world's system that once global warming has begun, it will be very hard to stop on any reasonable time-scale.

WASTE: Many countries have tackled the grossest forms of pollution over the last half century. Rivers have been cleaned up and skies cleared, particularly in developed countries. But 5 million of the world's poorest people die each year from diarrhoeal diseases, largely because they lack safe water, and another 2.2 million die of respiratory conditions through burning smokey fuels in their homes. Meanwhile, newer forms of pollution, such as persistent organic pollutants, which concentrate up the food chain and can have severe health effects, and endocrine disrupters, which interfere with the harmone system, are causing increasing concern.
(Report on Global Ministerial Environment Forum, Malmo, Sweden).

Source: IEI News, September 2000

Quotes

And what is the future going to bring in the engineering world? It is a common place that the advance made in engineering and mechanics within the memory of this generation has probably exceeded that made in any equal period before in the history of the world and a modern writer has told us that, during the last 150 years, the rate of progress in man's command over nature has been ten times as fast as in the whole period between Caesar and Napolean.

The pace is tremendous, the effect of change in almost every sphere of life kaleidoscopic, and I sometimes wonder whether we can exactly foresee the effect of all this upon human character and temperament.

Many years ago, Samuel Butler if I remember rightly, levelled a lance against the gradual and as he thought sinister domination that the machine was bound to establish over the man who called it into being. Since he wrote, our whole conceptions of time and space are in course of being recast under the influence of modern invention and discovery, and here as in the evolution of industry under the influence of machine there in some room for Butler's doubt whether man is in fact retaining control over the new forces his ingenuity has released. In any case we can hardly suppose that, when his whole

environment is undergoing transformation, man himself will remain constant and unaffected. I was interested to notice, in the speech that Sir Alfred Ewing made at the Centenary celebration of the Institute of Civil Engineers in London last June, reflections not unconnected with those to which I have endeavoured to give expression. The subject of his address he termed " a century of inventions," but, after sketching the amazing progress made in the last 100 years, he asked himself whether that progress had not outstripped the ethical; progress of the race. He spoke of the Great War and how that brought that home to him what he termed "the moral failure of applied mechanics." But it was not a note of pessimism that, I think, he meant to strike but rather one of inspiration for the future. We may admit that great as the impetus was which the Great War gave to engineers and scientific inventions and research, it was largely an impetus in a destructive direction. Seen from this angle, with full recognition of all that was good in the concentration effort of the war, the contemplation of the highest scientific genius of man employed upon the destruction of his fellows was not an inspiring spectacle. It was not progress in the sense in which thinking engineers imagine the true development of their profession. You would all, I know, agree that the victory which engineering and science has achieved over inanimate nature is no real triumph unless that triumph is employed and developed for the benefit and greater happiness of mankind. This must be at once the goal and the test of our endeavour.

(H.E. Lord Irwin, the Viceroy and Governor General of India, at the Ninth Annual Dinner of the Institution held at New Delhi, Friday, Nov. 9, 1928).

Source: Technorama, A Supplement to Journal of Institution of Engineers, August 2000

Coastal Erosion

Homeowners along the Atlantic and Gulf of Mexico coastlines in the United States received a warning from a report that predicted these areas will be hard hit by shoreline erosion in the next 60 years. The Federal Emergency Management Agency (FEMA) report said that around 25 per cent of homes and other structures within 150 m of the US coastline and the shores of the Great Lakes will fall victim to erosion. The Atlantic and Gulf of Mexico regions will be hit the hardest.“The findings are sobering. If coastal development continues unabated and if sea levels rise as some scientists are predicting, the impact will be even worse,” said FEMA Director James Lee Witt. Total costs from lost shorelines would average more than $ 500 million per year, and additional development in high erosion areas would lead to even higher losses.

Source: I.E., July 9, 2000

World's Highest Statue of Buddha

Specialists from the United Kingdom have joined India’s experts to design, develop and construct the world’s largest statue. Termed as the 'Maitreya Project', the 100 million pound engineering marvel, is building a 500-feet (152.4 m) statue of the future Buddha, Maitreya, which will stand in Bodhgaya, Bihar.

It is being designed in Sheffield, England, termed as the world's mightiest metal industry. Comprising 3000 bronze panels, the statue will be almost three times the size of the Statue of Liberty and is being billed as the eighth wonder of the World.

The Buddha Maitreya statue will face the Mahabodhi stupa. It will be seated on a throne 17 storeys high, housing a huge temple, hall, liberty, theatre and a roof garden, as well as thousands of precious art objects of Buddhist significance. Its feet will be resting on a lotus, touching the earth forming the entrance.

The statue and the main building will be placed in a 40-acre landscaped park. A secluded monastery and nunnery will be located nearby. The work is likely to be completed by January 2005.

The project was conceived by the late Lama Thubten Yeshe, a Tibetan Lama, and his main disciple Lama Zopa Rinpoche. Consultation with Buddhist masters, including the Dalai Lama, resulted in the decision to depict Maitreya Buddha in the form of a seated monk.

The work on the project began on a life-long original artwork in Taiwan in 1997. At slightly more than one metre high, this was to form the basis upon which the 150-metre statue would be modelled in England. English sculptors Denise and Peter Griffin began the modelling of the original artwork using the traditional proportions of the Buddha's form which have been handed down by generations of master artists over centuries under the guidance of Buddhist sculptors from the Himalayas. They are working closely with specialists to retain the subtlety and beauty of the original art.

According to the sculptors, this is a very exciting area. The Maitreya Project will be linking a 2000-year old art tradition to the most up-to-date state-of-the-art technology available today.

The actual moulds of the statue will be made by computer files. The engineers are working at testing it for windloading, earthquakes and extreme weather conditions.

It will be built using robotic arms, 3-D design software, digital video technology, computer-controlled manufacturing techniques, and laser scanners.

When completed, the bronze statue of Maitreya Buddha will rise 152 metres, an equivalent of a 50-storey building. This monument, situated in a 45 acres of magnificently landscaped park, is being designed to last at least a thousand years.

Source: The Hindustan Times, July 10, 2000

World's Tallest Tower in India

If all goes as scheduled, Jabalpur in Madhya Pradesh, India will have the world's tallest tower - for which the foundation ceremony was held two years ago. The 224-story structure in the shape of as pyramid will house the World Centre for Vedic Learning and World Capital of Maharishi Vedic Vishwa Prashasan. The enormous structure will be 2222 feet (678 m) high, and 1111 feet (339m) on each side of its square base. It will have more than 20 million square feet (1.9 million square metre) of livable space on 144 floors, and will be able to accommodate up to 100,000 Vedic Pandits (experts).

The design of the tallest building is being undertaken by a consortium of architects and engineers, who have designed several of the tallest structures in the world. The building will exceed the height of the present tallest building (the 88 storeyed Petronas Towers in Kuala Lumpur, Malaysia) by 739 feet (225m). The structure in Madhya Pradesh will also have the largest volume of any building in the world.

The building is being designed to hold a series of 30 story interior chambers to allow flowers and natural elements to be sustained within the structure. There is also announcement of a Maharishi Tower in Brazil. Construction of this Tower is supposed to begin this year, with completion set for 2004. The 103-story building will reportedly include officers, four hotels, a university, convention centre and a restaurant at the top. Investment partners in the project are Brasilinvest and the Maharishi Global Development Fund.

Source: The Hindustan Times, July 30, 2000

These Stones are Alive with History

Ancient stone tools found on the Red Sea coast of Eritrea in East Africa are providing new clues about the evolution and migration of modern humans, scientists say.

The 125,000-year-old tools unearthed by American and Eritrean researchers are the earliest well-documented evidence of when modern humans adapted to a marine environment and a new way of providing food.

They also support the "out of Africa" theory-that humans evolved from a common ancestor in Africa and spread across the world. "It represents a whole new kind of adaptation and feeding strategy that we suspect may have been influenced by climate change," Robert Walter said in a telephone interview. The geologist at the Centro de Investigacion Cientifica de Educacion Superior (CICESE) in Mexico said the tools could indicate that humans were essentially forced out of their native habitat in the interior of Africa because of the glacial cycles at the time when the climate cooled and dried dramatically.

"We suspect this may have shrunk the fresh water environment, forcing them into new habitats," he added.

Walter, who collaborated on the research with Yoseph Libsekal of the University of Asmara in Eritrea and a team of international experts, used uranium-series dates to determine the age of the tools.

"We were able to date the sequence of coral and shallow marine sediment in which the tools were discovered very accurately and very precisely to 125,000 years ago, " he added.

So far they have found no evidence of who made the tools but they think human adaptation to a marine habitat spread quickly along the coast of Africa. "We are documenting for the first time that coastal marine sites are viable places to search for early human activity." said Walter.

The research, reported in the latest edition of the science journal Nature, also suggests possible routes for the migration of modern humans out of Africa. "There are two ways this could have happened. The most logical way would have been northward, along the coast of the Red Sea into the Levant (the eastern Mediterranean coast)," Walter explained.

There could also have been a southern route along the Red Sea close to the Arabian peninsula, where modern humans could have crossed over a land bridge that may have connected the two continents.

"Either one of those two methods is viable," he added. In a commentary on the research, Chris Stringer of the Natural History Museum in London said the research implied that at least" one dispersal of modern humans from Africa must have occurred during the middle palaeolithic (100,000 years ago) and that characteristic elements of modern human behaviour existed by then."

Source: Times of India, April 5, 2000

Plenty of Water on Mars

Preliminary studies of the information sent by a robot exploring Mars suggest there is plenty of water on the red planet, US space agency NASA has said.

This raises the intriguing question, say scientists, whether there is any form of life on Mars. It is generally assumed that where there is water, there is some form of life even under harsh conditions. More studies will be necessary to confirm the initial findings and for NASA to decide if and when to plan a manned mission to Mars.

Source: Times of India, June 23, 2000

Vegetarian Diet can Control Rheumatoid Arthritis

A study by leading Bangalore-based rheumatologist and president-elect of the Indian Rheumatology Association, Dr. K.M. Mahendranath, has shown a significant symptomatic improvement in rheumatoid arthritis patients when they refrained from non-vegetarian diets. Also, vegetarians tended to do better than non-vegetarians in the long run and this led to a reduction in the sums spent on medicines. The study, which was carried out on a group of 400 patients initially to gather trends was then reduced to a core group of 120, of 40 patients each, who were classified as life-long vegetarians, non-vegetarians and those who were made to abstain from a non-vegetarian diet for a period of four months. The age of these patients varied from 13 to 64 years with a disease duration of three months to nine years.

Attempts were made to match all patients in each group age wise, in respect of dietary intake and physical activities. They were allowed to take their non-steroidal anti-inflammatory drugs (NSAIDS) and disease modifying anti-rheumatic drugs. Patients were reviewed and assessed at the end of the second, third and fourth months.

About 70 percent of the patients in the vegetarian group and 62.5 percent in the non-vegetarian group who abstained from meat eating showed a significant improvement after the treatment given to them, whereas this figure hovered around the 50 per cent mark in the group which continued with the non-vegetarian diet. Moderate improvements were seen in the condition of 12 percent of the vegetarian group and 15 per cent of those who were abstaining from meat. This was just 10 percent in the meat eating group. In the remaining cases, the condition of the patients remained static.

The improvement was sustained at the end of the fourth month in all the groups. There were also no significant difference in the laboratory inflammatory indices. According to Dr. Mahendranath, "This study confirms that a vegetarian diet has a beneficial effect in rheumatoid arthritis particularly early arthritis. No vegetarians do feel better when they abstain from meat for a period during a flare up of rheumatoid arthritis. People with a short duration of the disease seem to respond better than people with longer duration or those who are chronic."

"Patients spent much less on medicines, especially NSAIDS. This was especially true in the vegetarian group. The doctor suggests that, "Vegetarians are not immune from developing arthritis. Moderation is the key and diet can be used to ones advantage."

Source: Times of India, Feb.3, 2000

No One will ever Die in the Future !

It is interesting to listen to a futurologist. It is almost entertaining, for it sounds like science fiction. But not always. Particularly when the discussion is on the future of homo sapiens, and a futurologist looks straight into your eyes and says that he may be the last of his family.

Ask him if he believes in what he is saying, and if the answer is, "Yes. Yes I believe that", the effect is chilling. Like it or not, believe it or not, this is exactly what Ian Pearson, a futurologist at British Telecom, has to say: In 150 years people will find the body a liability and go in for voluntary extinction as a biological form and continue to live.

It is not that Pearson gets paid at BT for announcing the future of mankind and its mortality. His job is much simpler. Just to predict the way IT/communications technology will develop over the next 10-15 years and help the company offer commercially viable products and through e-commerce.

As a futurologist, however, he "deliberately looks 50 or 100 years ahead" because some social technologies of today actually go that far ahead. Says Pearson, "My daughter is only 5-years-old now. With all the medical advances, she will probably live another 100 years. She may get backup of her mind on the network before she dies (biological form) and will offload it to an android. That is going to happen within 100 years or so.

He, in fact, finds it "incredibly annoying as a futurologist that I see this (immortality!) on the horizon and I might be the last generation of my family ever to die."

The point is that Pearson is very clear that there are no physical barriers that can stop it from happening. Of course the bet is off in case of nuclear war or apocalyptic annihilation of manking. But, he sees no "physics or biological barriers", other than "mind set or ethics", to stop this development of humans to *homo-cyberneticus* to *homo-machinus*. He even has a chart, for conference presentations, on the evolutionary path of humans. It is titled human-machine convergence.

Pearson's argument is that Darwinian evolution, based on natural selection and survival of the fittest, has largely ceased. If people want to fly, they take a plane and "we don't kill people born with disabilities," he says.

He believes that the new evolution will be made possible some what on these lines. "Let's think a little bit. Suppose we have a choice of taking a simple injection of nano technology probes into our blood stream which go into our brain and connect to our computer. Suddenly, we have got an IQ, not of 100 but 100,000 and we have the capability to connect to android and live for ever."

Pearson says he does not see a bleak future for the earth, with new humans taking off to other planets. This one will be for the meek to inherit and eventually lose out to *homo-machinus* in an inter-planetary war. But he does see, by the end of the century, inter-staller probes. "My guess is that we'll do it using nano technology where we encapture mind on a tiny chip and send it to colonise other planets and stars".

Source: Times of India, Feb. 5, 2000

Laughter is the Best Medicine

If German child paediatrician Joachim Gardemann had his way, health prescriptions would contain an advisory telling patients to laugh and be merry.

"We really have to encourage laughing and being happy," said Professor Gardemann, "it's one of mankind's most health-promoting resources."

For some years now the doctor is not the only one to think that way. The scientific study of humour is still in its infancy but sceptical reactions to its benefits have given way to respect among a growing number of medical practitioners and psychologists. In Germany there are now more than 20 professional clinic clowns whose job is to cheer up such young patients although there has been little in the way of empirical study about the benefits.

That occurred to Sherry Hiber in 1998 when she was helping to produce television sitcoms in the United States and often saw members of the audience convulsed in laughter. "I used to see the people go out at the end of the show and thought to myself 'perhaps for the rest of the night something interesting will be going on in their bodies.'" She started to plough through specialist books on the topic but came across little more than a few anecdotes and some contradictory small-scale studies. Afterwards she made up her mind to start a unique project called RX Laughter and enlisted the support of medical experts from the University of California. The comedy health advocates have their own homepage at www.Rxlaughter.Org.

The project runs for an initial five years during which it's hoped to carefully examine the value of humorous videos and films. Tests at 100 US primary schools will show which cartoons kids like the most and use them for laughter therapy. Scientists want to find out exactly what effect laughter has on the nervous and immune defence system of children and to do so they check the level of the stress hormone cortisol, the pulse and blood pressure before and after viewing.

"We don't assume that laughter can heal on its own," agree California professor Margaret Stzuber and oncologist Lonnie Zeltzer, Director of the Child Pain Programme at the University's Child Clinic. Other studies, however, indicate that getting angry about things, depression and a pessimistic outlook on life can retard the immune system and slow recovery.

The study will measure exactly whether the number of leukocytes in the blood of children who have undergone chemotherapy quickly reverts to normal if they take part in the laughter programme. Healing periods for wounds and pain thresholds will also be minutely examined. After five years it's hoped that instead of being laughed at humour therapy will have a basis of sound statistical evidence. Prof. Gardemann in Muenster doesn't need much persuading. "We have to revamp hospitals to make them into living spaces that convey humour and the joy of living," said the doctor who compiled a book on therapeutic humour published in 1999. It's a German translation of *Humour and Health Profession* by Vera Robinson.

Source: The Times of India, June 13, 2000

Sports is a Must for Kids with Heart Condition

Sport plays an important role in the physical and mental development of children with heart conditions, a project by sports therapists and psychologists in Cologne, Germany, has discovered.

Parents of children with heart problems often prevent them from doing sport for fear it might aggravate their condition, said Sabine Schickendantz, leader of the project. Yet even children with heart problems have a natural urge for physical exercise, she said.

Paediatricians, sports medics and psychologists in Cologne therefore joined forces to develop a special sports programme for children suffering from heart conditions. Plenty of movement plays an important role in the physical and mental development of children with heart conditions, said Dr. Schickendantz.

"The children who come to us are lagging behind in their general development at first." These children need to be integrated into groups with other children to be able to assess their own potential realistically, she said.

Since 1994, a total of 74 children have taken part in the eight-month programme in Cologne. During 90-minute exercises with a ball or in games emphasising motoric skills, the children are counselled by doctors and psychologists and their pulse rates are monitored. The therapy is financed by donations and by patient's health insurance companies.

Source: The Times of India, June 13, 2000

The Future of Life

Imagine thirty years ago being told that in the year 2000, a small piece of plastic would enable you to make a telephone call from anywhere in the world to anyone in the world. It sounds incredible but today's mobiles incorporate technology that is quite astounding. As we enter what some are calling the 'Zeroes' (the opening years of the new millennium), you may find another small piece of plastic on which you can play your favourite music. Then look on your wrist and it is possible that you are wearing the latest digital watch featuring GPS (global positioning system) which can pinpoint your exact location on the planet via the satellite. These are not futuristic, fantasy predictions but reality. It won't be long before you have the world, literally at your fingertips and the ability to communicate, at work and play, in one all encompassing piece of technology the size of a chocolate bar. Here, inside a huge floating hotel you will travel to another continent. After landing, you will drive your car off the airship to a carpark to phone your partner and say that you will be back in time for dinner. Images of your meal can be transmitted to you on your videophone/personal computer and you will be able to say that you are looking forward to your meal (but you don't like the colour of the new dinner plates). Step back inside your special, computer-controlled, computer-designed hotel

room (back on the airship) and watch a film on a screen thinner than a magazine and about the size of your wall. Gas-plasma television screens are now in the market, producing giant images with precision sound and crystal-clear vision. Then you may want to slip on your virtual-reality glasses and step inside your soon-to-be-designed new home. You can then test the staircase, move between rooms and check out the decor, before it is even built. All of these amazing inventions are either already available or on the drawing board somewhere in the world.

The concept of an airship style floating hotel carrying up to 2,000 people and flying to any continent is already being developed. But in keeping with now-familiar visions of the next century, watch out for the first space-theme restaurant; perhaps using the latest technology to create its own special gravity and atmosphere with floating tables and waiters and a menu that offers crater pie, chocolate rock pudding, and moon meringue. Now you have your futuristic lifestyle, and all the gadgets to go with it. Naturally, you don't work in the office anymore; you are mobile. With your laptop or palmtop computer, a phone the size of a matchbox, and a car small enough to park in the cycle shed. When you are planning your holiday, it is still possible that you will need inoculations - but you won't need to worry about needles anymore. Electronic Injections have arrived, with no puncturing of the skin needed. The music industry has been using computer technology for years, not only to compose music but more importantly to enhance the sound quality for recordings. Many different formats are available but the latest thing involves downloading single or multiple tracks from the internet, and creating WAV (digital audio) files. Perhaps high-tech equipment for everything, for work or play, is our ultimate goal. We may then end up as less sociable, self-contained and isolated people. Hopefully, as we improve our work and leisure environments, we may become more sociable. Then our only problem will be to decide when to book those two weeks on Mars or Moon and which space station we will go from.

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