Design for All

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Chairman's Desk:

Dr. Sunil Bhatia

How to uncover nature's ingenuity and use it to create beautiful and compelling designed communications is real problem of our modern Designers. Modern designers are more relying on the knowledge they have acquired during their formal education and thereafter they have not paid much attention as to what is happening around their environments. They confine themselves to syllabus and do not express interest beyond this. Life cannot be turned comfortable just by remaining in limited parameters. It encounters such situations where acquired knowledge is just a handicap but we have to go-ahead and it demands something beyond. Those who wish to explore, they find certain solutions are appearing at horizon but these are to be actualized. Solutions are blurred and unclear but their souls are guiding by whispering 'Solution is at horizon keep trying and later or sooner success is destiny.' Some succeed and majority loses their interest by imagining difficulties of reaching at horizon.' Such situations remains out of control if these are not attacked with intuitive knowledge. Modern designers have been trained in a way that such knowledge is not cultivated in institutions, so people do not learn it and live in ignorance 'What is

its role and importance in design is unknown .' A best tool of learning is intuition and it helps in innovations & creativities, is missing in modern designers because of defective education. What they are designing with definite knowledge if tinge of intuitive element is added, results would have been completely different. What we call intuitive knowledge it is nothing but our sixth sense. We have fairly good understanding about our fifth senses but sixth sense is still mystery for us. It strikes suddenly out of blue for which the law of cause and effects prove inadequate. Intuitive knowledge can be developed by observing the surroundings and with inquisitive reasons 'why, how is it happenings? Where it would happen & so on' If mind is occupied it does not entertain new ones and remains in block mode or never permits to come out of narrow thinking and compel to enjoy doing the same what it was doing. It keeps busy with routine & less demanding affairs such as watching television or surfing to satisfy five senses or busy with listening music by plugging ears with earphones while walking or sitting, such way of life does not allow cultivating intuitive power. These activities never allow them to pour their heart in what they are doing and multitasking becomes their lifestyle. Halfhearted attempts never bring that result what attempt which complete with dedication. Any work can be executed by following robot like instructions but to make it progress it needs complete devotions & dedications. Intuitive learning's basic requirement is high level of alertness, selfless & surrendering attitude, mind should be pure and blessings of divine power is essential. Reason is it is next higher level from worldly knowledge but closer to divine power. The beauty of that whoever practices is close to nature and he is qualified as an innovator. It alone does not allow being innovator, it demands

continuous persuasion and efforts to focus on fresh ideas & develop innovation. It is not that other peoples are not experiencing innovations. Various suggestions strike to everyone once or many occasions for a moment in the mind .Some hold it and pursue with passion and never rest till they reach somewhere and other category of persons also hold the same and have abilities but lack of resources make to die unnoticed without proving their worth with repentance of missing good opportunity to serve the society. A few expresses courage to take up but do not have proper understanding of applications of their talents and are force to abandon midway. Majority of the people also experience the same but they treat it just a dream, goes out of their mind and forget easily. They do not experience any repentance of missing the opportunity and do not know the art of respecting mystery. Our intuitive mind is a sacred gift and definite knowledge is our faithful servant. Unfortunately our society lost their track on which our ancestors were treading with wisdom 'Respect the sacred gift and honor the faithful servant.'

Nature devises its own game plan and majority of people are trapped in its game and never allow them to reach what he is to attain. Nature works as a moral agent. It includes both destroyer & constructive. The judgment is to be made by men & women as to what is helpful. Some rare individuals in history who are not affected by its game and keep working with focus energy. Majority of mankind is trapped under one or another tactics and lose their potential to prove their worth. Everywhere in this world illusions are prevailing in various forms. Common person is destined to follow some trap. Everyone has to survive and for that he has to make one or other efforts. Sometime his judgment goes wrong in selecting the

solution he experiences trap of various consequences and when it goes right feel liberated. What we are today as easy going because of survival instincts of ancestors. These instincts might have developed because of wrong as well right judgments. I advocate reason of progress of our civilizations from primitive to modern is because of 'survival instincts'. Earlier man was governed by his need but due to industrialization he is no more a sensitive person but governed by his greed. Greed has no end, so he lives insecure life. Insecurity has inbuilt character that forces to close the senses of an individual and allow him to be insensitive toward others. It is difficult for common person not to affect by luring temptations and focus on what he is doing. He cannot take all scientific & technological advantages at the face value. These advancements are not helping in producing quality human material. Either good human is buried under these technological advancements or he spends his entire life in acquiring these for that he faces difficulty in carrying such heavy burden of technological advancements. This life style never allows thinking for others. He believes it is his birth right to enjoy materialistic life and forgets 'Life is not what he believes; it is something beyond.' These exercises make these individuals highly self-centered, aloof and with least concern for society. They live in their own limited world; work that much what can satisfy their needs and rest of the time they are generally in mood of celebrations. What is real hardship of progressing collectively is missing. What they have learnt in life it dies along with death and society never reaps benefits. When Newton was developing the mathematical model of laws of attractions he had spent months without coming out of the room. When he succeeded and came out of the room and straightened his body, the pain might have given

immense pleasure what others cannot imagine. Modern peoples are enjoying more facilities but pleasure of achieving with hard work is missing, that's why their enjoyments are short lived and momentary. It is our moral duty to make them aware about how to attain long-term enjoyments and live moment by moment like a bubble will not serve the purpose. Avoid such lifestyles that are slipping into vacuum & hollowness. Nation may appear as technological advanced but human material is poor. 'Modern nations are nothing but full of talkative peoples who are always on celebrations & holidays mood.' When they get time to concentrate for progress of their duties for best outputs or hard work is nowhere visible in their actions. Sincerity, loyalty & hard work are matter of the past and who so ever is practicing is rated as an idiot. What our ancestors had exhibited the courage & sincerity and offered genuine solutions for complex problems is beyond the imagination of modern man. 'It is failure of our modern education that takes away the natural character and compels to live in artificial world in which justice and ethics are missing. Biggest setback is dark side of human race is more pronounced.'

Our ancestors were friendly with nature and all their designs were either an imitation or inspired or attempt of overpowering or inventing methods in reducing the pressure or it was an attempt to feel free from the adverse influences of nature. They had realized that confrontation against the nature was risky and that could reduce the strength of the human race but sailing with nature was absolute safe & required less resource. They were aware that conquering the vast ocean or earth or universe beyond atmosphere was beyond their power but using the natural character of air

pressure that had enough power to take something from one place to another & flying bird inspired in designing airplane or water had power of thrust and log floated because of thrust, helped in designing the boat and as knowledge improved they had designed ships that could accommodate even a small town/city in it or they met the challenges of varying terrains of earth by designing shoes such helped them to scale even height of the highest mountains or walked in snow bound surface or in deserts. They dug deep the soil of this sense for extracting the useful metals and other elements for designing the products/ services of all kinds. I believe some people might be curious to know after witnessing the eruption of volcanoes that some secret is lying beneath earth surface, was the wisest & best strategy that has revolutionized the face of the humanity. They could see what is happening in atmosphere and on water bodies but beneath the earth was mystery. Our ancestor's biggest asset was their keen observations of nature and   how to translate the same for benefit for mankind. In this attempt they tried to reason out and arranged the various parameters in developing into mathematical model .These models and principles are still benefiting the human race.   In recent time design of birth control devices and pills have come in use by observing and experiencing the menstrual cycle and it has revolutionized the life of a woman from baby churner to feel free individual who can live in her own terms. Reducing the impact of mosquito bite that invites various diseases and sometime prove fatal is controlled by understanding the life cycle and designing the products that can break the cycle or keep mosquitoes away. Journey of mosquito net is interesting and our designer should explore further for improvement. They learned by observing the natural laws of floating the products and designed boat as their knowledge

improved they moved to bigger ships. To conquer the air they studied the character of air that could generate pressure and have power to lift up things. They designed airplane and with improved knowledge we can travel faster than sound. The concept of air pressure is used in cooker for fast cooking.

Human existence is possible in nature and for longevity he was compelled to design various products/ services that proved to be reason of in progress of society. At the time of design what our ancestors were using the same basic method is still in practice and basic ingredient is conscious and subconscious. Ancient designers had realized long back that whosoever had tried to conquer the nature could not stand and sooner or later they had become the victim of his own philosophy. 'Imitation of the nature is the best policy and through which it would unfold its mystery and would benefit the human kind.' Nature is generally liked to be peaceful and we should not interfere in its works or disturbed its path of reinventing itself and it also expects the same from mankind. But man is impatient, always in hurry and believes in short cuts for success this is the reason he never reaches to that stage where he aspires to reach. Nature has designed the life of man is short or in simple word man's life is negligible as compared long range of nature. Reason of short life is that man should not consume the natural resources faster than what nature can regenerate. Man has achieved longevity because of his improved knowledge in every walk of life and its cascading affects is population growth human consumption has increased many folds. How nature has designed the cycle of production appears to be slow in comparison to human consumption and to accelerate man has designed chemicals,

fertilizers etc. Nature has inbuilt system of charging but that is also failing since man lives with grip of impatience .Its strength & availability of natural resources are diminishing with fast pace. That forces him to increase the productivity of agriculture and by introducing the natural organic to inorganic farming is result of impatience in attempt to counter insecurity. Nature is not accepting the artificial technique designed by man and it appears as if nature is turning indifferent in saving the human race and is failing in giving us what yield we are expecting. Nature has in her own way to express its emotions. Whenever man tries to enslave the nature's energy in the form of nuclear or hydro or thermal for his own benefits then she affects the course of actions by disturbing the social pattern of mankind and it proves man is nothing against her and all his activities through which he claims wisdom proved to be noting rather act of inviting disaster and havoc. Nature wishes to live in peace and its control is not liked by it and one day or another wherever man invites such calamities that reminds that all civilizations are a fragile and perishable . Nature welcomes & encourages those humans who should use its properties with utmost care for the benefits of all.

While examining the plants our scientists realize that how beautifully they are utilizing the property of sun rays for their food & growth by photosynthesis. They also imitate the same and have developed the solar energy and with great care they are using the property of sun but not to enslave it. I believe solar energy would not invite a great disaster what a nuclear power plant. It reminds me the experiment of Benjamin Franklin for exploring the nature by using "the silk thread with kite in the rain helps in inventing the

electricity. The way he designed the experiments it was pleased and unfolded him many mysteries.

Man is born lethargic and easy going animal. He gets bored with repetitive jobs. Reason of child sleep is different what mother thinks. Mother sings and she also strikes softly with her palm on child's head. It irritates the child and he is left with no other options but to surrender to sleep to come out of these repetitive boring actions. Man is basically at the core of heart is selfish and that proves the dynamo for his progress. He wishes to conserve his energy and optimize his work with minimum energy. Digging with fingers might have consumed enormous energy and output was minimal. Our ancestor while looking at their fingers might have thought our finger can dig the earth but it is extremely painful process why not designs such device that should be hard at the end like our nails and their designed end at the shovel. Our shovel is nothing but extension of our finger. Look at the bullock cart or modern car; is it not attempt to overcome the limitation of man's physical running? Man cannot run as fast for such long distance what our modern car. Invention of binocular or microscope is nothing but an extension of our eyes and that helps us to see beyond where man's eye fails to see. Explore the principles all human beings intuitively use to understand the world and learn to incorporate nature's patterns and shapes into their works for more meaningful design. We learn about natural processes, consisting of everyday patterns and shapes that are often taken for granted because it works in natural environments and that can be used effectively in design products/ services. Whether it is physics or chemistry or mathematics or art or science, the basic root is nature.

Newton has expressed how the natural law of attractions between two bodies work in mathematical model by observing the fall of an apple but he has not designed the laws of attractions. Geometry patterns of lines or straight line, circle, rectangle etc. are imitation from nature and man has tried his best to express in model for predicting the outcome. Man's civilization journey might have other reasons to start but I consider it began when he understood the point and how its locus makes line, straight line and other geometrical pattern and expressions. Designing of point was greatest revolution for progress of society.

'Nature is beautiful, powerful, and mysterious and always to be respected. Nature is the source of all our science & art and an infinitely creative and patient mentor.' Nature has given us Jungle; it was the mind of man that designed beautiful garden. Nature has given us rivers but we designed canal to take water where it is not available. Nature has given us day & night that controlled our activities and helps in curtailing our ambitions. But invention of electricity and prior to that designed of lamp was nothing compares to sunlight but he did it and tried to reduce the nature dependencies and attempted to be free from its influences. This newly acquired freedom added new dimension to his ambitions and he experienced new wings that is allowing exploring new areas. His ambitions were taken over by his greed and he thought it is one kind of enjoyment of innovations, sailed along and failed in controlling. 'Ambition flares greed and there is thin line between ambition and greed.' Invention of electricity has helped him in partially feel independence from night, vagaries of weather and executes his certain works by using various devices and gives the confidence that he can rule the nature.

His equal comfortable with night as he was in day and gives the confidence that he can create his own world what were earlier crediting to God. I admire his courage that he is a negligible creature with short span of life dare to challenge and keeps on trying to be free from its clutches and even think to overpower its kingdom. Man stands nowhere compared to nature but inspite of that he keeps of designing for independence. Earlier struggle of our ancestor was focus on survival and to counter the challenges of vagaries of weather and calamities. When they were little comfortable they designed to sail along with nature by using her different properties for own benefits and designed products/ services like agriculture, shelter, clothes, lifting of water from ground as well as from river etc. Once life was little comfortable then ultimately they switched to aesthetic sense in designing products such as make up, comb, mirror and many more. In modern time, we can spot the common theme between the products and nature: a bullet train with a distinctly bird-like nose; massive wind turbines whose form was inspired by the shape of whales' fins; ultra-strong, biodegradable glues developed by analyzing how mussels cling to rocks under water. The creators of each product used nature as their guide. Everything we see that exists in nature is at the top of its class in evolution and survival. Nature shows us the formula for how size, weight, and material choice results in ultimate performance and durability of design. Ignoring the inspiration of nature will cost us heavily and future generations will curse us for this ignorance.

Millions of years of evolution have shaped countless biological forms and biggest and last evolution for man was to stand on his feet from

crawling. This simple concept has revolutionized our thought processes and changed our social behavior. His struggle for survival proved better equipped because he was experiencing walking, running and he can hunt. With discovery of fire, his struggle achieved new dimension. He was living with philosophy 'I am man and everything of this earth is under my control.' This had led to conflict between persons led to new kind of threats. Groups of likeminded persons with vested interest have benefited the progress of the society. The race of supremacy allows everyone to design more advance technique it helps in meeting the challenges of environments as well as dominance of others groups. They designed equipment from these tried and proven forms have been shaped by environmental pressures of wind, water, and other forces. More vigilant and innovative will increase chances of survival.

A modern designer lives in better civilized world and there is no similarity in handicap of what our ancestors lived. Modern designers challenge are different and faces biggest threats of commercialization and has to design such which has market acceptability and even can ignore social values. It is my appeal to commercial manufactures 'they should declare when they market their products that this product is designed with this specific life. It will help the consumer to decide which has more worth of money.' This is not possible at this moment. It will be rejected by moneyed people those are behaving as demi gods in modern time are in position to judge the ideas on commercial viability. Our designers and innovators are busy in appeasing these so called demi gods and never dare to go against their will and attempt for social design. If car benefit the elite class every designer will express as car

designing is his passion. In reality he wishes to be partner of this loot and knows that going against their wish will ruin his life. Certain scientists are keen observer and pursue their ambition by designing the car's engine to achieve optimal performance. When they observed the charged running horse and his four legs are falling simultaneously on ground for exerting with optimal forces for fastest movement. That same concept they are trying to build in automobile engines where all the pistons will synchronize in such a way that initially it will work independently and as vehicle will gain speed all the pistons shall work simultaneous for optimum output. Scientists are also getting ideas from the nature like what makes the lizard to regrow the tail if it has been cut. The same they are trying to achieve for man how to regrow the amputee body parts. In every creature, there are examples of extremely well-conceived design. If we continue further on this quest, we discover that we ourselves are also a part of this design. Our hands that hold these pages are functional as no robot hands could ever be. Our eyes that read these lines are making vision possible with such focus that the best camera on earth simply cannot achieve. Hence one arrives at this important conclusion; all creatures in nature, including us, are of a design. An inspiration is a pool of source to kindle our creativity and a motivation to lead ourselves from the front and to reach our goal even in times of extreme distress when we feel totally dejected. Nature is our best teacher, mentor, and pathfinder and guides us till we reached to our desire outcome. There is no better designer than nature and in the Bible there is line 'There is nothing new under this sun'. It means design is redesign.

I am thankful to Prof Ravi Hazra for accepting our invitation when I extended personal invitation of special issue with him as Guest Editor in our brief meeting in library of IDC. Our meeting started with formal note as a newcomer talks to a senior professor who has contributed a lot with his knowledge for welfare of the society but ended with as we are known from years. This special issue is covering the unique title 'Nature & Design" and it is reflection of his nature and sensitivity. At the core of the heart, he is natural, eager to serve the society and never miss any opportunity if falls on his way for improvement. He is man of culture, sensitive toward nature and tries to infuse some values through design ideas & his culture.

"Design creates culture. Culture shapes values. Values determine the future. Design is therefore responsible for the world our children will live in." - Robert L. Peters.

With Regards

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Forthcoming issues:

April 2012 Vol-7 No-4

![National Center on Accessibility logo]

Dr. Sherril York is the Executive Director of the National Center on Accessibility (NCA), a center within the Recreation, Park and Tourism Studies department located at Indiana University in Bloomington, IN. Dr. York brings over thirty years of experience in higher education in personnel preparation, direct service programming, and research with people with disabilities from toddlers in early intervention programs, children/adults in physical activity development, to elite athletes in adapted sport programs. She will be the Guest Editor for our special issue of April 2012

May 2012 Vol-7, No-5

A special issue on archive articles of EIDD and Guest Editor will be Mr. Pete Kercher

Ambassador/External relations: Pete Kercher, E-mail: pkercher(at)libero.it

June 2012 Vol-7, No-6

Prof Marcus Ormerod is co-director for the SURFACE Inclusive Design Research Centre with Rita Newton and they will be guest editors for a special edition of getting outdoors.

July 2012 Vol-7, No-7

Dr. Eujin Pei is a Senior Lecturer in Product and Furniture Design at De Montfort University in the United Kingdom. His research interests include inclusive design, multi-disciplinary design and additive manufacture. He has worked at leading institutions including Brunel University, Loughborough University, University of Southampton and Vaal University of Technology. Eujin is a Fellow of the Royal Society for the Arts, Manufactures and Commerce, and a member of the Editorial Advisory Board for the Journal of Assembly Automation. Email: epei@dmu.ac.uk

August 2012 Vol-7, No-8

This is special issue with Portugal and the Guest editor will be Ms. Ana Maria Marquis Garcia Rodrigues holds a Business Management degree . Since 2008 is the Managing Partner of *Accessible Portugal*, a Portuguese tourism company founded in 2005 and focused on people with special needs, their family and friends. *Accessible Portugal* has been talking with major players in the field, spreading good policies and practices and suggesting reasonable changes which would benefit all in their places or projects.

Content of March 2012 Vol-7, No-3

Other regular features

GUEST EDITOR'S NOTE:

Adjunct Prof Ravi Hazra

IDC, Indian Institute of Technology – Bombay,
India

I have been browsing through the e-magazine 'Design for All' off and on and often wondered how does something like this work; who are the people behind and what makes people share knowledge and information through something like this. Then one day a man walks into the IDC library (where I generally sit) and introduces himself to me as the man behind this e-magazine – Dr. Sunil Bhatia. It was one of those casual encounters as he went on to explain how he goes about the project and then, he asked me whether I would like to be the guest editor for one of the monthly issues. It shocked me a bit, but what shocked me more (little later) was my acceptance of his proposition. I was given to choose the topic and set of authors.

After ruminating on it for a few days and discussing with some friends, this topic 'Design with nature' was decided. This subject is not new, but in the light of increasing environmental and energy crisis, it needs a serious revisit and rigorous application.

The four topics chosen here are neither exhaustive nor representative. They are primarily reflecting the areas of interest of the authors. They are also meant to be somewhat introductory in nature.

FIRST: DESIGN WITH NATURE (Ravi Hazra), deals with the various aspects of the 'man-nature' relationship and the role of nature in providing analogies to solve many of man's problems optimally.

SECOND: DESIGN INSPIRATIONS FROM NATURE (Vijay Bapat), looks at the various directions this search has taken and the exciting applications found in product design. In the rapidly expanding world of new technologies('Nano" included) and energy and environmental concerns, a fresh and deeper look into things in nature is very much needed.

THIRD: BIO-CLIMATIC ARCHITECTURE (Jiten Prajapati), reexamines the old traditional wisdom of making shelters that were comfortable to live in without consuming much energy. Somewhere, it seems that in the pursuit of newly discovered technologies and cheap energy, we seem to have lost the traditional wisdom. An intelligent use of this approach requires a deep understanding of the phenemena of climate and how various biological systems adopt themselves to different climatic conditions. Author also shares his practical experiences of analyzing the climatic phenomena and applying them in actual building projects.

FOURTH: NATURE INSPIRED STRUCTURES (Sanjay Chikermane) brings out the complex and organic aspect of structural system derived from nature. Structural systems in buildings do not have to

be limited to beams, columns, slabs and trusses. Nature provides endless possibilities to imagine and develop a whole new approach to design of structures. Structural systems in nature are apparently complex, but today's analytical tools as well as new materials with enhanced strength/weight/mass ratios allow exciting structural forms. In fact analogies from nature help us to come out of the confines of rectilinear cage.

We sincerely hope this publication (a set of 4 articles) will interest readers in general and designers in particular and encourage them to shake hands with nature with a smile. Because only way to love someone is know someone.

There is a hidden desire to explore this topic further and in the end come out with a sort of book, a reference and a primer for designers (preferably those in making). But after so much of delay (my fault), I wonder if Dr Bhatia would consider this consider this.

Ravi Hazra.

(will be very happy to receive feedback)

Adjunct Prof Ravi Hazra

DESIGN WITH NATURE:

Prof Ravi Hazra

Background:

If we believe that design is a 'conscious effort to give meaningful order' (Victor Papanek in 'Design for the real world') and that design is a 'creative problem solving' process, we need to look at it from current position. On one hand we are facing energy and environmental crisis, where as on the other hand scientific and technological developments are adding newer and more exciting opportunities for 'better' life. Finding an 'order' or solving a problem is the physical fractional part where as the meaningfulness and creative part in design is what gives it the qualitative or the semantic value.

To begin with man has looked at nature (more instinctively) to find food for nourishment and shelter from the elements of nature. Since man was one of the weaker species, he had to create devices to enhance his abilities. This probably was the birth of 'design', exposing the 'tool making' ability in man. (The term 'man' here and in general is used as a phrase to denote a species rather than a gender). But I'm sure even in the primitive times we also looked at things in nature that brought joyful wonderment. Sun rise, rainbow, song of the birds or the blossoming of flowers must have touched his senses.
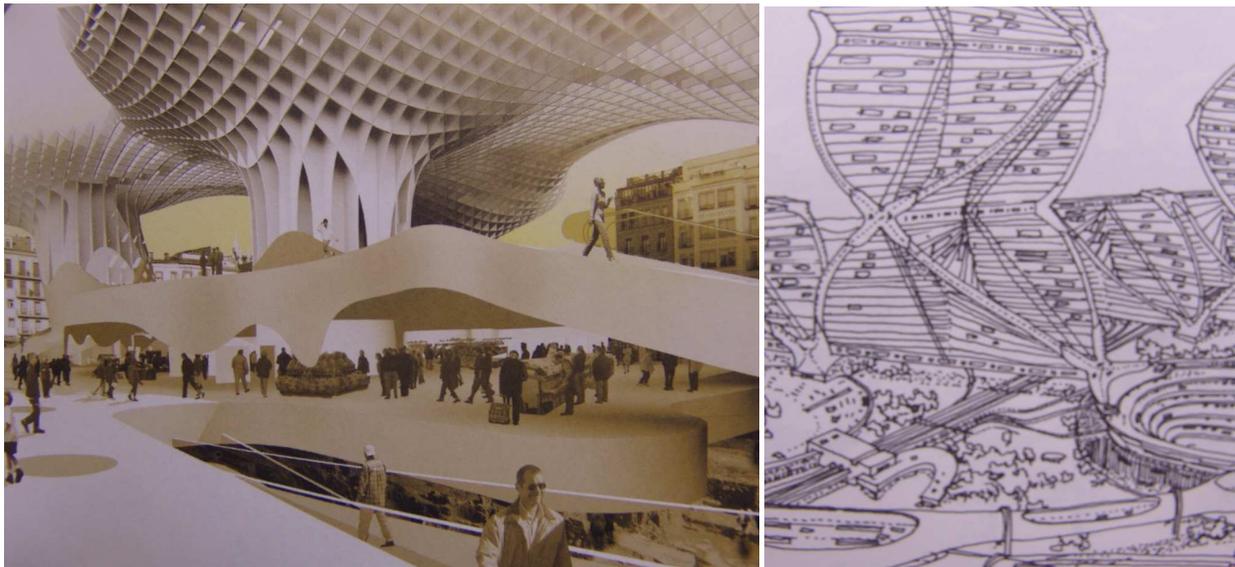
In the primitive times the 'designing' or the tool-making was probably restricted to primitive hunting tools. But even then he made coloured drawing on the walls of the caves where he lived. As this designing ability advanced he not only made better hunting or farming tools but also made ornaments and clay figures for sheer joy. After the early hunting 'tool-making' era, agriculture was probably the most significant discovery in human history. It changed his role form food gatherer to food grower. This gave rise to

'settlement', irrigation, construction of dwellings and towns, concept of society and governance , defense, weaponry , and so on. All this has constantly re-positioned the problem-solving act and re defined the role of design. Design (verb) operates in two mutually ally complementary domains:

1*) the physical and the functional domain*

2) *the semantic and 'creative' domain*

They act as the 'body' and the 'soul' of design .

Nature, the source book of design:

Why nature has been sourcebook of design is because it has contributed in both the aspects of design mentioned above. Whereas on one hand various phenomena in nature have given rise to inventions to improve and redefine the function and apply materials and processes for that; on the other hand it has provided avenues to develop and satisfy other senses and therefore find new relationship between the creator and the object of creation.

Through the medieval age and the age of industrialization with the advancement of scientific inventions, and technology this relationship with nature changed somewhat. Mass production, urbanization and advent of cheap synthetic energy further removed us from this sourcebook- nature. We became somewhat heady with the idea of 'harnessing nature' or 'conquering nature'.

Our needs were over-powered by wants. Consumerism and waste and environmental degradation set in.

There have been scientific and technological inventions of significant dimension but somehow instead of guiding us to use resources more optimally, creating less waste, took us towards a , never-satisfying and waste-generating ends.

Advent of HVAC and fluorescent lamp, automobiles, nuclear energy, etc. are good examples of mis-placed priorities in a global context. Even the more recent developments in the area of electronics and communication has changed our lives to such an extent in a such a short time that one wonders , where we are going !

Let's look at some of the brighter pages of this 'source book'.

We have to understand that still there are many solutions to problems and possibility in nature which are yet to be decoded and used. New technology is opening new connections between our requirements and newly discovered phenomena in nature. This process of learning newer design applications from nature requires a team work of designers, scientists, biologists, computer scientists and even the end-user(to some extent). Man has always learnt from observing how things work in nature. In the past this happened on

somewhat elemental level. With time, design problems have become more complex due to large scale proliferation of technology, resulting in alienating man form direct contact with biological surroundings.

BIONICS:

Since 1950's (rather post-world war II) scientists have started looking into biological sciences with an intention to find more relevant answers. There has been very little writing on this subject. Some of the early books like 'Biomechanics' by Carl Gans, 'Nature ,Mother of Invention' by Felix Parturi and 'Animal Architecture' by Karl Frisch(?) have been written for general reader. They have documented in fascinating detail how innovations in Design and Architecture are related to Biology. What has changed is that while earlier designers were concerned with the shape and form of things, (eg. earlier flying machines) today, bionics examines nature at system level. Bionic design application does not mean copying by establishing a visual analog, rather it means searching out the basic underlying organic principle and then finding an application.
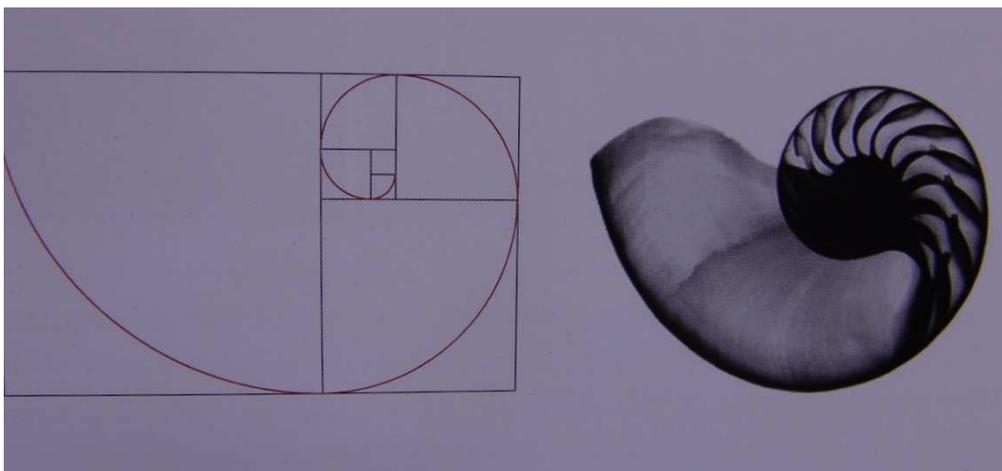
Simultaneously, designers have also searched for the underlying form-giving mechanism to fire the creative impulse to design. Victor Papanek in 'Design for the Real World' chapt.8-The tree of knowledge, has given several interesting examples.

Section
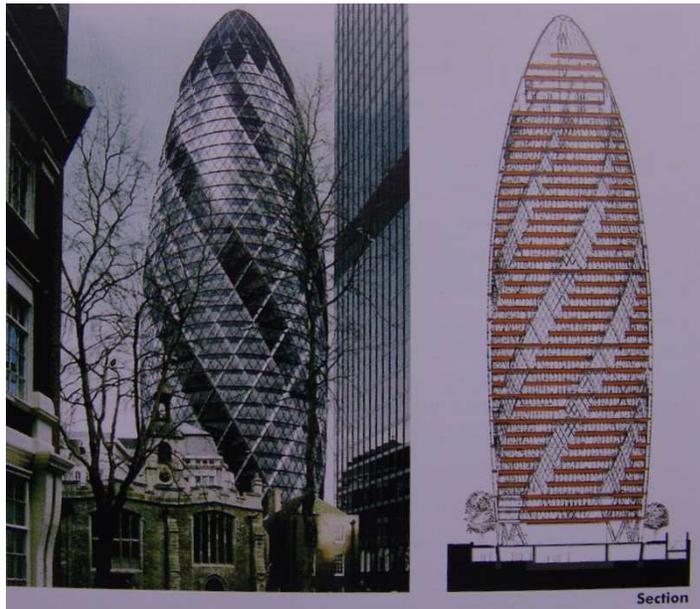
Janine Benyus's BIOMIMICRY (now a new science) is -Innovation Inspired by Nature. There has been a remarkable shift in how we look at nature inspired design in last two decades, expressing itself in a wide range of forms and functions. Some of the popular (almost fashionable) terms used in design are -'Sea', 'Forest', 'Topography', 'Art-Nuveau', 'Anthropometric', 'Zoomorphic' etc. Both, in Architecture as well as in Product Design, we find more and more work inspired by natural forms and processes, material research and bionics in which naturally occurring structures are realized through technological advancements. Bio technology goes one step further. It intervenes in the system of nature and tries to change its construction. Biotechnology primarily deals with the techniques of molecular biology and genetic engineering in order to manipulate it. Medicine and agriculture are its main applications. Since it deals

with genetic code, it has implications such as genetic selection and cloning. Therefore in the area of Design with Nature, some clear ethical line must be drawn. It would therefore be more appropriate if we constrain ourselves from uncontrolled manipulation of nature's system and continue to take inspiration from nature-its forms, structures and organizing principles, while respecting it, in order to find innovative solutions.

Adjunct Prof Ravi Hazra

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Areas of interest

Nature inspired Design, Product Design, Creativity & Design Innovation, Game Design and Toy Design, Designing for Plastics Product detailing and Design for Manufacturability, Rapid Prototyping and Tooling

*Worked as consultant for most of leading Indian industries and few international corporations*

Design Inspirations from Nature

Prof Vijay Bapat. IDC. I.I.T. Bombay

Since pre historic times, Nature has inspired Human beings to adopt many things by copying nature. As we were surrounded by nature it was bit easy to observe and adopt things happening in nature. May be our great-great grandparents might have started building mud houses by observing MUD Architecture of Insects, or weaving cloths after looking at phenomenal weave experts from nature weaver birds.

Many interesting books on this topic are available in bookstores.
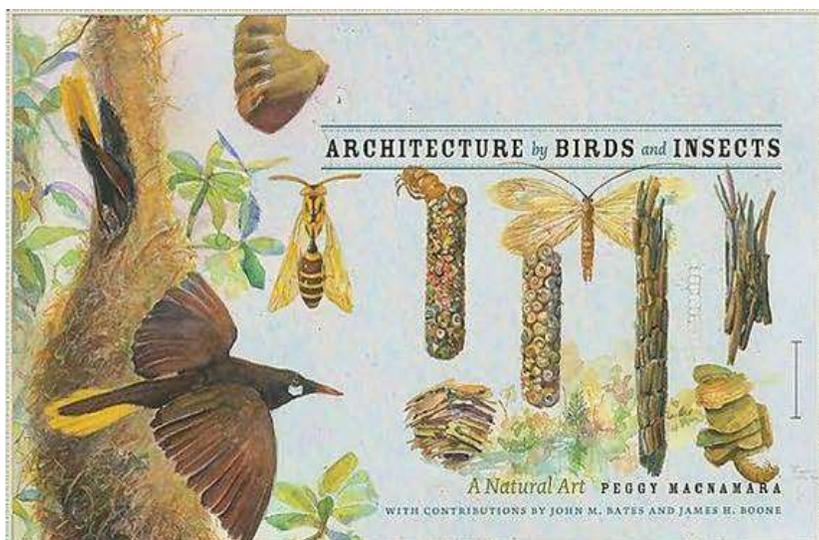
There are many classic example reported in architectural application like '*Up turned leaf of royal water lily, showing the conspicuous ribbed veins that inspired the design of crystal palace which was built in London during 1859 for first industrial exhibition' or famous Eiffel Tower of Paris based on structural details of Human Femur Bone.*
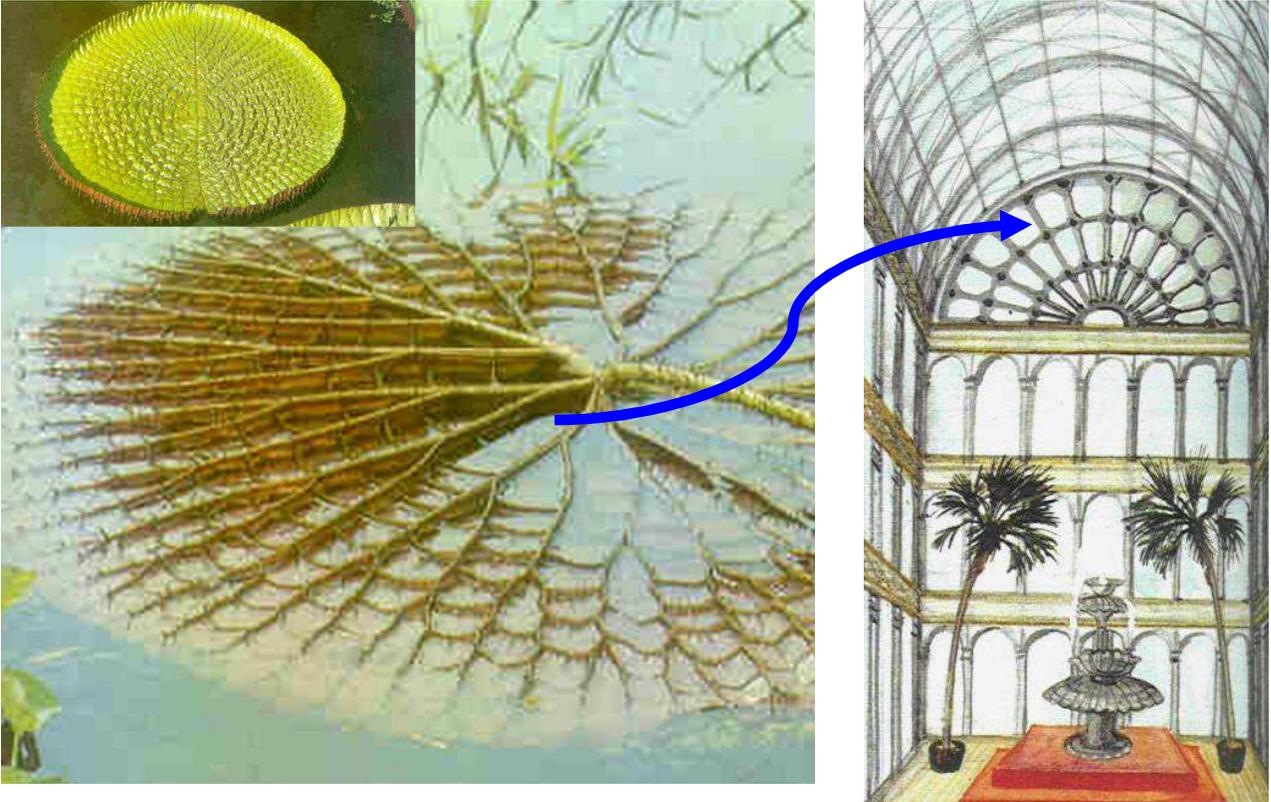
"Nature is an abundant source of inspiration for products and materials if you know where to look," says David Stephenson, a self-described futurist who believes that nature is worth more as a source of ideas than as a source of raw materials. ………. Smithsonion Zoogoer July/ August 1999

Bionics is a term, coined by Major Jack E. Steele, who worked as research psychiatrist at Aerospace Research Laboratory at Ohio. combining Biology and Technique around 1958. It deals with technological conversion of the working principles of construction, processing, development and growth found in living things of nature.

Biomimetics--- word was coined by Prof. J.F.V. Vincent 'the abstraction of good designs from nature'first used in 1991 in the workshop organized by US Air Force Office of scientific Research.

Biomimicry Janine Benyus, coined the term in her 1997 book, *Biomimicry: Innovation Inspired by Nature*. She is talking about "*It's about taking the genius of the natural world and learning something from it,*"

Victor Papanek in his famous book Design for Real World talks about *Designs from Nature never go out of style*.

The basic structural arrangements, functional systems and mechanisms for body movements and transmission of signals, can be used as clues for evolving new artificial system. Similar to the analogies to those, used in Synectics Creativity Process, bionic approach restricts itself, in finding solutions, based on principles found in plants and animals. This metaphorical activity draws inspirations from vast pool of adaptive devices and mechanisms used by animals and insects as a means of protection, communication, transportation etc. Interestingly whatever we see around us today is, time tested by Nature for millions of years and more than ten millions species are awaiting your attention to be used as metaphors in problem solving process.

Cybernetics is another specialized area of bionics deals with communication and control systems of living organisms involving Self organizing-Sensors-Neurons. The resulting systems invariably display the typical characteristics of living things, such as self-

adaptation, self-learning and self -correction of mistakes. This approach can lead to design & development of machines, vehicles and-control systems having greater reliabilities, sensitivities, strength and speed with minimal size, weight and power input required performing the designated task in varied environmental conditions'.

Bioengineering is more concerned with building of artificial body parts for the benefit of those patients suffering with malfunctioning in heart, kidneys, pancreas etc. or for treating disabilities such as deafness, blindness or for functional restoration of paralyzed limbs.

With tremendous growth of knowledge & possibilities of miniaturization of electronic circuits, based on bionic principles, scientists have developed implantable devices capable of communicating with human brain through electrical pulses, stimulating neuron network.

Advanced Bionics Company, USA has developed many products based on neuron stimulation. Most remarkable contribution is CLARION Cochlear Implant, for treating profound nerve deafness, where most of hearing aids are not effective in children and adults.

A remote speech processor directs incoming sound signals to earpiece. The external earpiece converts these into radio waves, which are directed to a small micro-chip implanted under the skin. Through a tiny hole, very thin array of wires are inserted in inner ear which provide interface, between the device and nervous system and enable deaf patient to hear the sound.
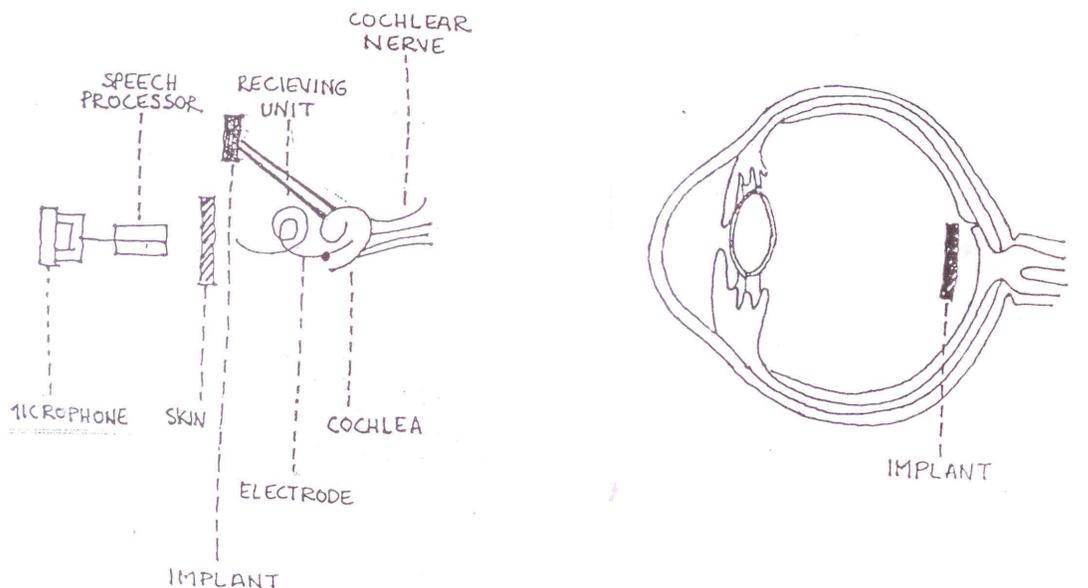
ASR – Artificial Silicon Retina is a solid state biocompatible chip which contains an array of photo receptors, and is implanted to replace the functionality of the defective photoreceptors of eye that helps in providing, Artificial Vision

BION is another product, which can be implanted using hypodermic needle stimulator, for restoring functional control over the paralyzed limbs, or for treating urinary incontinence etc. PULSER is developed to treat chronic pain, by applying electric stimulation to the spinal cord. This device will open up new avenues of medical treatment for Epilepsy, Parkinson's disease and Cerebral palsy. www.advancedbionics.com

Bionic principles can also be used effectively for solving problems in other areas like mechanical, thermal, chemical etc. Another area benefited with bionic approach is development of sensors to detect variety of signals such as mechanical vibrations, thermal, electrical

chemical etc. & to convert them into Electro-chemical signals, very much similar to the process of transmission at neuron network.

Beetle's eye is used as a bionic model in developing ground speed indicator for airplanes. Beetle collects information about motion speed by perceiving the changing light signals created by its own shadow, at various facets of its retina. It correlates the time differential at brain to understand the speed and direction. Two photocells are mounted in nose & tail of airplane. Difference in time in reading the light pattern by these photocells is used for precise speed measurement.
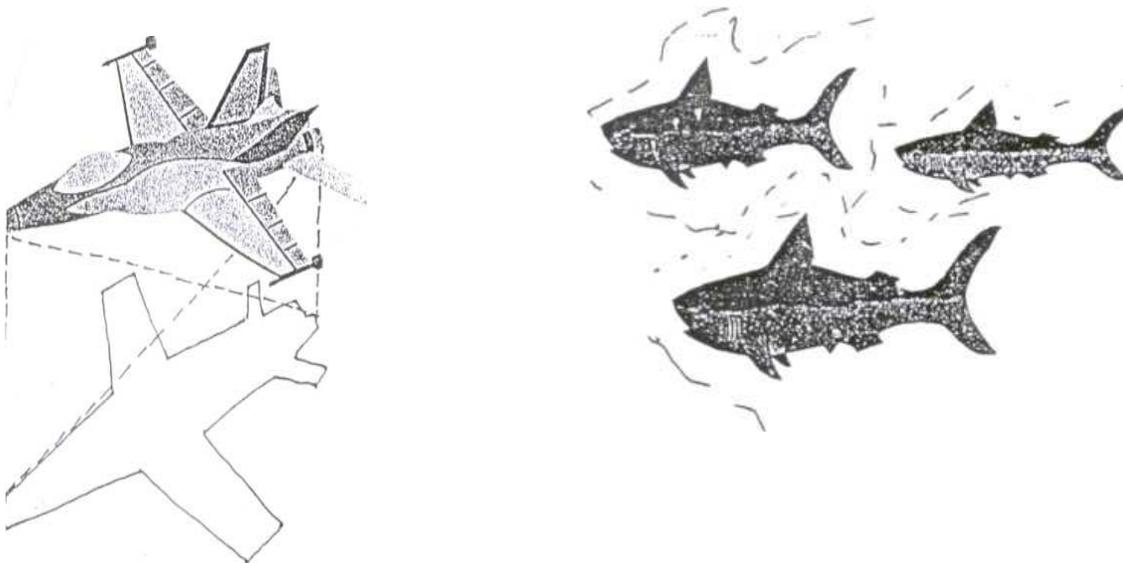
Some varieties of fishes emit low voltage pulses, which work like electric signature of that particular species, which help them for location, communication and identification of pray.

Many varieties of fishes arc found to have electric receptors, some can even detect the line of force in earth's magnetic fields, which is

effectively used for navigation purpose. One can observe the response of fish in fish tank by taking permanent magnet near the tank.

Some species of bats can locate under-water fish, by shouting over the water surface and receiving the reflected waves, is very much similar to today's Sonography equipment used in today's medical observations.

"Bats and dolphins even depend on the sounds they make to "see" when there is not much light. These animals send out short and very loud sound pulses- like snaps - and listen for the echoes from these pulses to return so they know how far they are from the wall of a cave or the bottom of the ocean. The use of echoes to find objects in the environment is called echolocation. Using echolocation, thousands of bats can fly around a dark cave, all sending out pulses, without bumping into each other!" http://www.osa-foundation.org/EcolocationPamphletEnglish

Research has revealed mysterious communication patterns amongst whales, dolphins, monkeys and even in insects. Bee dance in the formation of numerical '8' is one such classic example, used by advance party honey bee to communicate, direction and distance of flowers from their hive, which can be the source of best nectars.

Snakes have sensors for detecting slightest tremors & rattlesnake is endowed with thermal sensors capable of detecting thermal change to the tune of 0.001degree centigrade, help them in hunting warm blooded rats and rabbits.

Electric eels can generate voltage as high as 600 volts, which is used as protective weapon against their enemies or as a tool for catching their prey. The electric organs of the eel are located in its tail, which are made up of a large number of electric disks (as many as 200,000) piled in vertical or horizontal rows, as if batteries connected in series or parallels This electric energy is normally generated by oxidation of organic fuels using either bacteria or body enzymes. These principles are being used in developing effective fuel cells.

Bionic engineers are working on projects on artificial light based on the principles of bioluminescence found in fireflies and photosynthesis process of plants.

Many new synthetic materials have been developed, based on deeper understanding of microscopic structure and molecular arrangements; artificial fur is an excellent example of this approach having air-trapping characteristics.   .

The wings of many large-winged insects such as butterflies and many plant surfaces remain dirt-free without chemical detergents, simply by their complex surface topography that interacts with the physics of water molecules. Lotusan® exterior coating uses these same micro-structural principles to regain its cleanliness automatically after the mere rinse of a rain shower. http://www.stocorp.com

German Professor Wilhem Barthlott, from the University of Bonn has developed soil resistant paints for outdoor applications.

Special lustrous paints for future automobiles are under development in Japan based on colorants and pigments found in butterfly's wings. Cadillac, Chanel, Target, and L'Oréal, are using **ChromaFlair's** refractive paints are made of micro thin film flakes, each less than one-tenth the width of a human hair. **ChromaFlair** is a replication of the effect you see on a butterfly wing


Image credit: http://www.jdsu.com
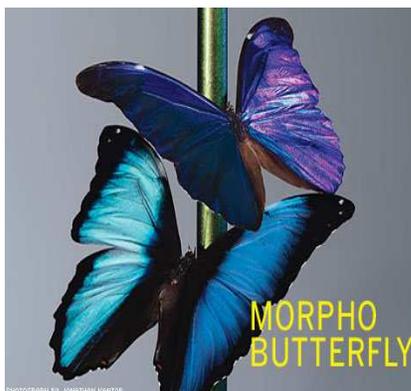
Gecko tape Scientists at the University of Manchester have developed a new type of adhesive, which mimics the mechanism employed by the gecko lizard to walk on surfaces.
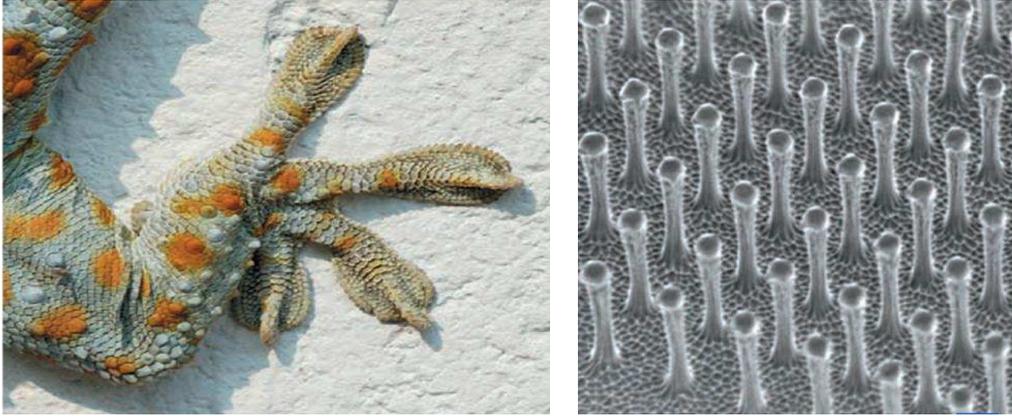
Image credit: http://www.naturaledgeproject.net

Based on the studies of tree frogs found in Trinidad, who have micro hexagonal groove network for maximum contact and rigidity of lightweight honeycomb structure of bee-hive, Continental' world renowned tire manufacturing company, has developed high performance tires "conti winter contact- 770" having hexagonal spies. One can watch tires in action on
 http://www.youtube.com/watch?v=Ef-HsQUxLdI&feature=related
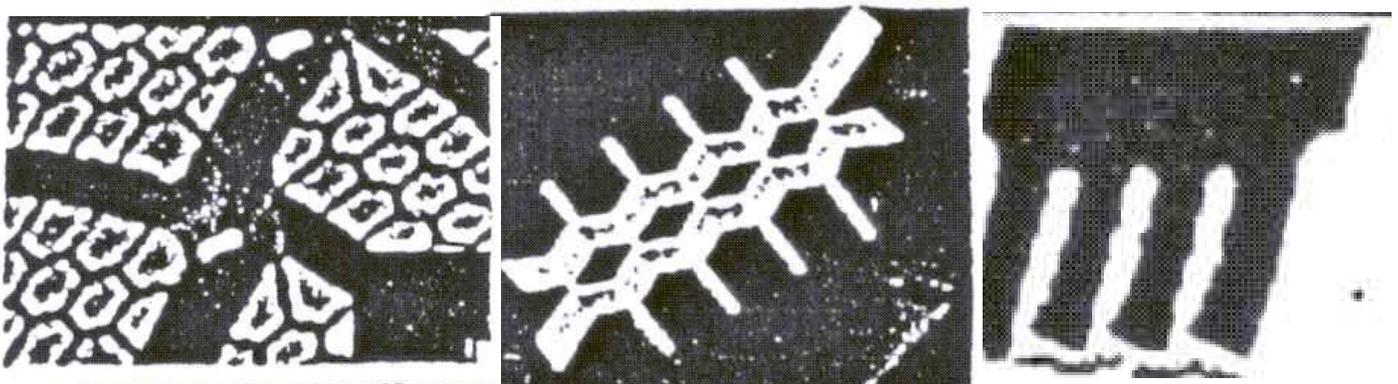
Insects and birds have special abilities of building nests and mud houses. They have exceptional navigational and communication powers for location of food and for migration to a particular place thousands of kilometers away from their home places for nesting and breeding.

If one studies the models of natural structures, it becomes evident that rigidity is only restricted to the skeletons of structure, while flexibility is more profound. Nature overcomes the dilemma of lightness against rigidity, by providing a simple curvature to a leaf structure, and achieves rigidity in almost flat object. In some plants, solid veins on the underside of the leaf provide rigidity necessary to keep it flat open, while in some varieties same result is obtained by folded ridges.

Insects wings are based all the three principles to achieve maximum lightness as well as strength. Man-made things are based on rigid unmoving structures, while nature tends to design things to bend, but not brake.

Automotive companies have started taking bionics approach very seriously to develop fuel efficient cars.
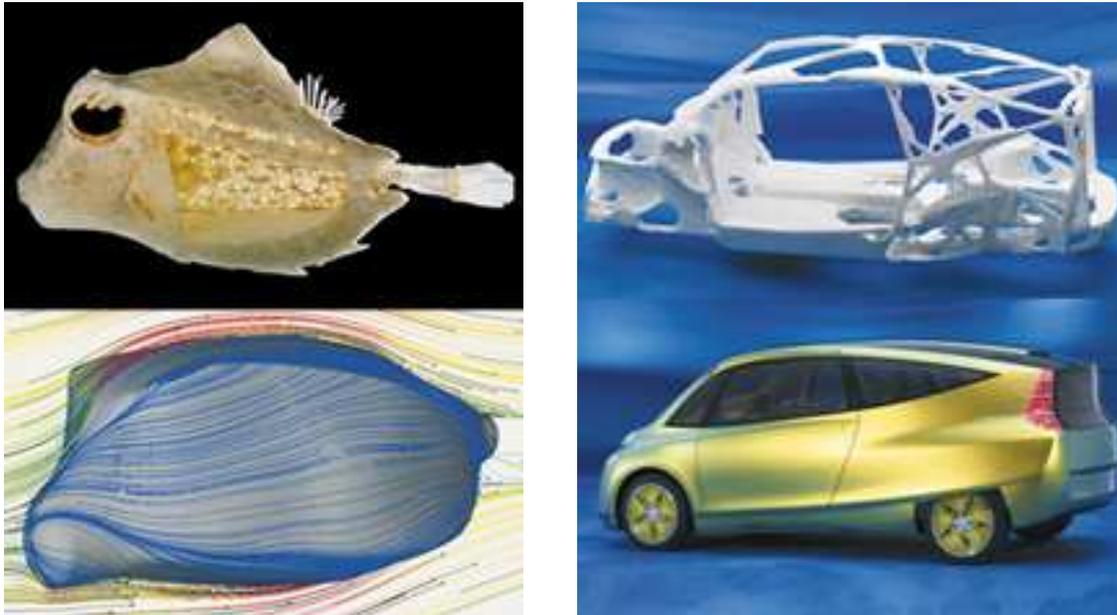
Image credit: *DaimlerChrysler*

Mercedes Bionic Concept Car design is based on the body shape of a boxfish, found in tropical marine habitats. This car has hexagonal shaped body which weighs less and it exhibits superior fuel efficiency

BMW GINA (*Geometry and Functions in "N" Adaptions*), Light Visionary Model

An innovative two-seater roadster that features a flexible and transformable outer skin made of special fabric material stretched across a moveable metal structure. *The car's front and sides, including the doors, create one single uninterrupted, seamless whole that converges to form an optical as well as a structural unit.*

Image credit: BMW Gina

The bionics approach and the results achieved, described through various examples so far in this article, is an attempt to enlist a few successful products, with a clear understanding that this list is endless, as mankind has always derived ideas from nature. This approach involves three steps in solving any problem: -

- Study and prepare a detailed description of biological model and understand its basic principle of working.
- Translate this biological description in to mathematical or logical model and state the various parts involved in this process like a typical flowchart.
- Design and develop hardware based on today's knowledge, to achieve desired goal optimally.

Bionics/ Bio mimetic approach at IDC, IIT Bombay,

Metaphors like Eagle, Rhinoceros, Elephant, Tiger and Cheetah etc. are used extensively to get inspiration for deriving new forms for vehicles and other products.

Taking inspirations from blossom of different flowers, mechanical flower mechanisms were tried depicting different opening approaches.
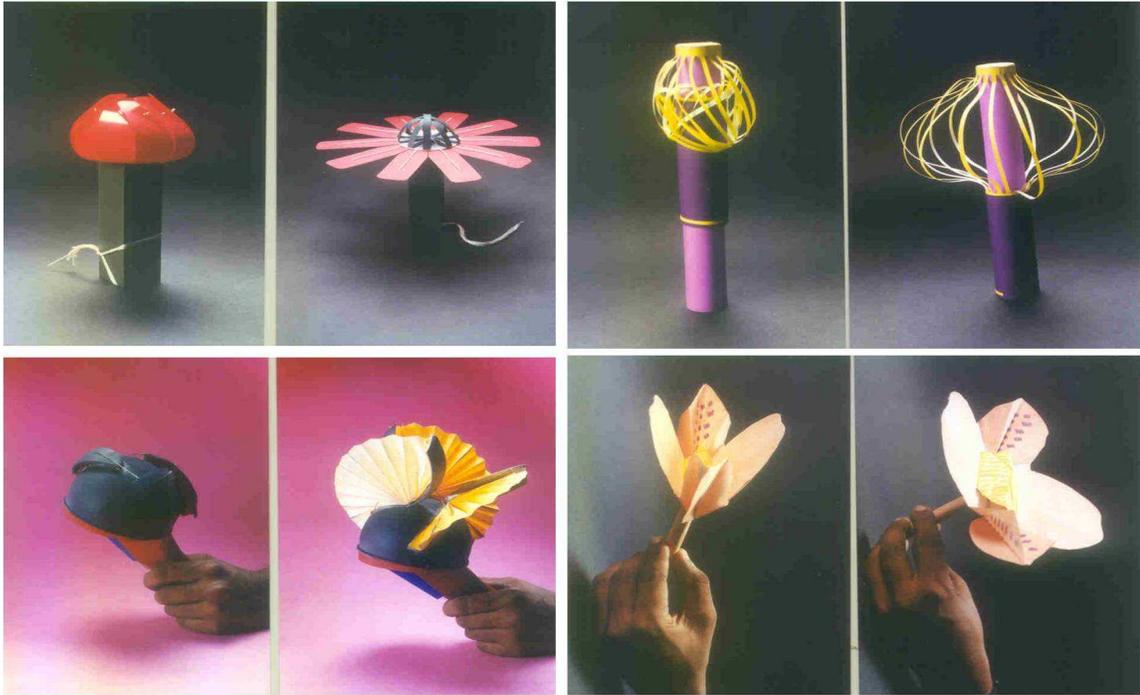
New candy packages were created taking inspirations from various fruits and the way they peel

Owl is capable in hunting its prey in total darkness with special sound **location power**. This inspired development of sound orientation device for two-wheeler riders.

Bionics approach is like a high-risk venture. It is a field for only research minded companies, which are not interested in quick returns, but believe in developing only quality products. Victor Papanek has promoted this approach in design in his book 'Design for Real World (1984). He believes firmly that designs from Nature never seem to go out of style. Bionics is most practical approach in reconciling technology with nature by imitating its principles.

In next decade or two the industrial revolution will be very interesting. The growth in electronics, discovery of DNA and mapping of human genome, will form a basis for the technology leap. The merger of biology and microelectronics is going to be at the heart of these advances.

Within a decade or so we are going to see big change in the ways we eat, what we wear, what we see, stay healthy or reproduce.

Scientific American: Your Bionic Future

http://www.sciamdigital.com

Further resources for Bionics

• *Alexander, RM. Exploring Biomechanis ,Scientific American Library, 1993*

• *Dario, P., and others, ed. Robots and Biological Systems: towards a New Bionics , Springer-Verlag, 1993*

• *Facklam, Margery,and Facklam, Howard. Spare parts for People ,Harcourt, 1987*

• *Silverstein ,alvin. Bionics: Man Copies Nature's Machines, McCall Pub. Co., 1970*

• *J. M. Benyus, Biomimicry, Innovation inspired by Nature, Harper Perennial, NY USA, 2002*

• *S.A. Wainwright,Biggs, Curry, and Gosline, Mechanical Design in Organisms, Princeton University Press, NJ , USA,1976*

• *Design and Nature II, WIT press, Boston USA, 2005*

• *R. Gadagkar, Survival Strategies, Universities Press, Hyderabad, 1997*

• *S. Vogel, Cats' Paws and Catapults, W.W. Norton & co. London, 2000*

Biomechanics Journals

• *Journal of Biomechanics, http://www.jbiomech.com/*
• *Biomechanics- the Magazine of Body Movement Medicine , http://www.biomech.com/*
• *Clinical Biomechanics, http://www.elsevier.com*
• *Mathematical Biosciences*

Some valuable articles and sites from net

Design Inspired by Nature.

http://www.teachersdomain.org/resource/eng06.sci.engin.design.biomimicry

Biomimicry: Nature-Inspired Designs By: Kate Rockwood http://www.fastcompany.com/magazine/129/truly-intelligent-design.html

http://scienceray.com/technology/information/10-product-designs-that-are-inspired-by-nature/#ixzz1TViVk0kD

http://www.bath.ac.uk/mech-eng/biomimetics

(www.biomimicryinstitute.org)

http://www.designnews.com/author.asp?section_id

TV channels like Discovery, Animal planet and National Geographic

VIJAY BAPAT

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Jiten Prajapati provides consultancy in architecture and green building design. He is the co-author of two books, namely, "Manual on Solar Passive Architecture (IIT-Bombay)" and "Handbook on Energy Conscious Buildings (IIT-Bombay)".
A few projects of note include the following:

- Education Park - India's first Zero Energy School Campus on a 14 acre site at Bhikangaon, Madhya Pradesh.

- Energy Conservation Techniques and PDEC Wind Tower System on Indias First Public Building (IGP-Gulbarga) to be awarded LEED Gold Rating by USGBC. One of the first few passive cooled buildings in the world to be awarded such a rating.
- Received runners up trophy at IAD Awards - 2008 for Green building design of an IT Complex at Mumbai (NSC, Encase India)
He has published a number of papers at national and international conferences and journals pertaining to thermal performance and design of buildings in Indian climatic conditions. He has been jury member for Architectural Competitions at Premier Institutions (like

Techfest of IIT-Mumbai) to select best eco-friendly designs of students and professionals. He is currently a visitng faculty at Rachana Sansad's Academy of Architecture.

In the past he has worked with Ar. Ashok Lall on India's first demonstration buildings for Solar Passive Architecture i.e. Commercial Bank Building at Shimla and 200 Bed Hospital at Rampur. He was also involved in the design of SOS village at Dehradun involving low cost and green building design. He was part of Ar. Sen Kapadia's team that worked on the integration of Green Building Technologies for the National Institute of Design, Gandhinagar.

Bio-climatic Architecture – An introduction

Jiten Prajapati

Since time immemorial man has been interacting with nature for his basic needs in terms of food, clothing and shelter. Nature has played a pivotal role in his cultural, social and economic lifestyle. Often we come across festivals associated with the changing of seasons such as Holi which represents the onset of the spring season. Holi also corresponds to the sowing season for farmers. Over a period of time man has learnt to adapt to nature and use it to his advantage. This has been amply demonstrated in the various vernacular architectural design styles which have developed in response to climate and the available resources. For e.g. the house of an eskimo (an igloo) in the extremely cold Tundra region shelters him from the cold icy winds as well as provides warmth due to its shape and insulation value. It uses amply available ice as a building material. Conversely, in the hot Arabian deserts, the tent has evolved in response to a nomadic lifestyle. It provides shade and is lightweight and portable. In India, a number of examples of vernacular architecture exist, such as, the Stepwells of Gujarat which use the earths thermal mass to keep cool, the narrow streets and Haveli's of Rajasthan which provide shade from the extreme sunlight and heat, the houses with steep sloping roofs and large verandah's in Kerala that provide comfort in a warm and humid environment, etc. Thus, we see that vernacular architecture provides numerous examples of how buildings have evolved in response to nature and been influenced by the sun, wind and rain.

With the advances in science and technology we have learnt to control the immediate environment effectively. Modern buildings use artificial lighting and air-conditioning to provide comfort. Technological advances have allowed us to make the same type of buildings all over the world building irrespective of climate. Thus you will find a fully glazed and air-conditioned building everywhere, whether it is in the cold and wet city of London, or the hot desert of Dubai or the warm and humid city of Mumbai. This has led to a disconnect with nature. We are frequently designing buildings which may be considered to be technological shoe-boxes, i.e. buildings that function well but lack character. Further, the varied lifestyles that evolved over ages are increasingly becoming homogenous. Consequently, the traditional knowledge and systems of architectural design are slowly going into decline.

The unabashed consumerism witnessed during the last few decades and centuries has led to a number of problems globally. The growing population, global warming and fast depletion of resources has led to an urgent need to address the issues related to sustainability. If we are to survive we have to learn to respect nature and use the finite resources efficiently. Buildings are major consumers of the world's resources. They require materials, manpower and energy to be constructed and also consume a lot of energy for maintaining comfort. Thus, designing energy and resource efficient buildings have become the need of the hour. A well ventilated and daylit building will definitely consume much less energy than an air-conditioned one. It also requires fewer resources to construct and maintain. Vernacular architecture gives us many clues of how to design efficient buildings. The relationship between the various factors affecting design is complicated and ever

changing. Human needs and aspirations are closely related to the availability of resources and the social context. Bio-climatic architecture takes lessons from vernacular architecture and applies it in the modern context.

It incorporates designing as per the site and the climate. It uses modern methods such as simulation with the help of computers to model the performance of a building and check the effect of various alternatives. The buildings performance can be improved significantly by using simulation studies. Simple techniques such as shading, material selection, zoning can be quickly analysed and implemented in design to optimise comfort. The penetration and quality of daylight can also be accurately predicted. A number of new and advanced techniques such as Trombe Walls (for heat gain in cold climates), PDEC (passive downdraft evaporative cooling) towers, etc are being developed to provide further comfort and optimisation. All depend on the natural environment and forces of nature such as the sun, wind and rain to store, collect and distribute energy in the building. These techniques are further augmented by using energy efficient appliances and renewable sources of energy. Efficient waste, soil, air, material and water management techniques are also being looked into. Bio-climatic architecture is now synonymous with passive solar architecture, sustainable architecture and green building design. A number of books, journals, and software are regularly published to aid in bio-climatic architecture. LEED and Teri-Griha provide guidelines for green building design. A number of buildings have recently been designed and constructed as per these principles. These have resulted in significant energy efficient and comfortable environments. Further, a new aesthetic is evolving as per the climate.

Bio- Climatic Architecture- An approach to context sensitive design

The architectural profession is expected to master both the arts and the sciences to design and build better. This is because all architecture and design problems address the issues regarding social, environmental, economic, technological and aesthetic considerations. Thus the context in which we design is of prime importance.

Fast developing technologies have helped to improve our lifestyle over the last few centuries, particularly after the industrial revolution. We are now able to live in most environments with the help of air-conditioning., artificial lights and mechanical modes of transport. We are also able to manage work better, have access to good education and health, and more leisure time in most parts of the world. Basic issues of food, clothing and shelter have been addressed to some extent. Space and ocean exploration are next on the agenda of scientists and government around the world. Thus, we are pushing the boundaries of our existence further and further, which is a good thing, because man is an constant need of new challenges.

A burgeoning population and fast development of infrastructure has led to concerns such as pollution, resource depletion and environmental degradation. This has been widely reported in scientific journals and newspapers. World bodies such as the UNFCC are actively looking into ways of mitigating an environmental disaster. An old proverb says, *"We have not inherited the world from our forefathers, but we have borrowed it from our children."* Thus,

how can we as architects and designers help to conserve natural resources and our environment? The challenge facing us today is that we have to design better without compromising too much on the comforts that we have become accustomed to. Bio- climatic architecture is one of the approaches that can help in achieving this. It takes into consideration the climate, the site and built-form to provide a comfortable environment by using minimum energy and resources. The appropriate use of materials and technologies can definitely help to design a better building for a particular place and context. This will also help to evolve new forms based on climate and user requirements

For example, in a metro a commercial air-conditioned building would look very different from that of a school in a rural environment. In both cases the design can be optimized for comfort and resources conservation. This is illustrated in the following two case studies:

Commercial Complex at Mumbai, Maharashtra

An 80000 sft commercial complex designed for the climate of Mumbai and as per green building guidelines. It got the IAD runners up award in 2008. It is a fully air- conditioned structure, so the basic focus of design was to conserve the energy by reducing cooling loads. This is done without compromising on the aesthetics. The design incorporates shading, daylighting, appropriate sizing of windows, low U- value materials and innovative use of terraces for providing shading and buffer spaces.

View of Commercial Complex in Mumbai (Architect Nesheil Shetty Consultants & Associates, Arch Jatin Prajapati,)
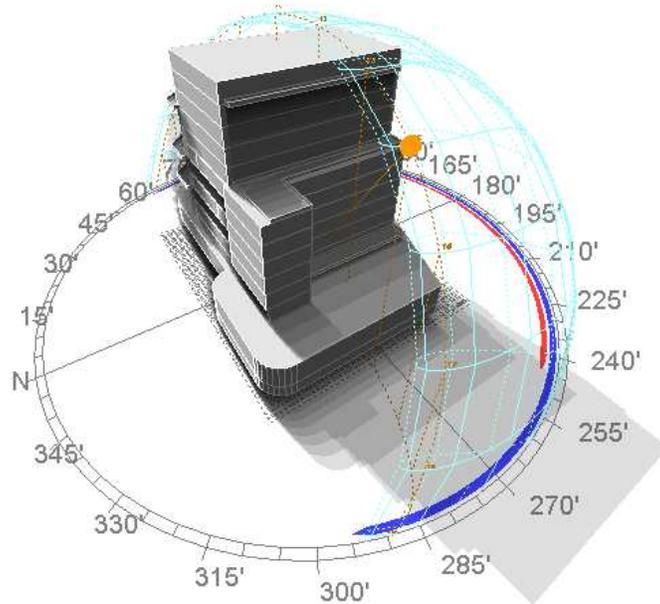
Shadow Analysis

School at Bhikangaon, Madhya Pradesh

A modern school spread 14 acres in a very backward region of India. This structure incorporates passive solar technique such as lightshelves, cross ventilation, courtyard, shading, and appropriate materials for providing comfort at a very low cost. Orientation, landscaping and zoning based on microclimate analysis are also considered in the design. The school does not use any air-conditioning. The classrooms are naturally lit and the use of cross ventilation for comfort, thus reducing the load on the solar based electrical system. The difference in inside and outside temperature as recorded April 2010 is up to 10 deg. C .It is the first zero energy campus in India.

View of primary block at Education park (Arch Jatin Prajapati)

Glare free lighting and Cross ventilation in Library

Methodology in Bio-Climatic architecture

The Number of books and publications are available to guide in designing bio-climatic architecture. Two books written by IIT-Bombay deal with the Indian context and may be referred. They are 1) Manual on Solar Passive architecture, and 2) Handbook on energy conscious building. The references of a few books including the above are given in reference section. The methodology and parameters considered for the design of the school and commercial complex is summarized in the figure given below:

BROAD PARAMETERS FOR DESIGN

- **HIGH QUALITY** EDUCATIONAL FACILITIES
- CREATE **ENVIRONMENTAL AWARENESS** IN CHILDREN
- **SUSTAINABLE GREEN CAMPUS** WITH ZERO ENERGY BUILDINGS
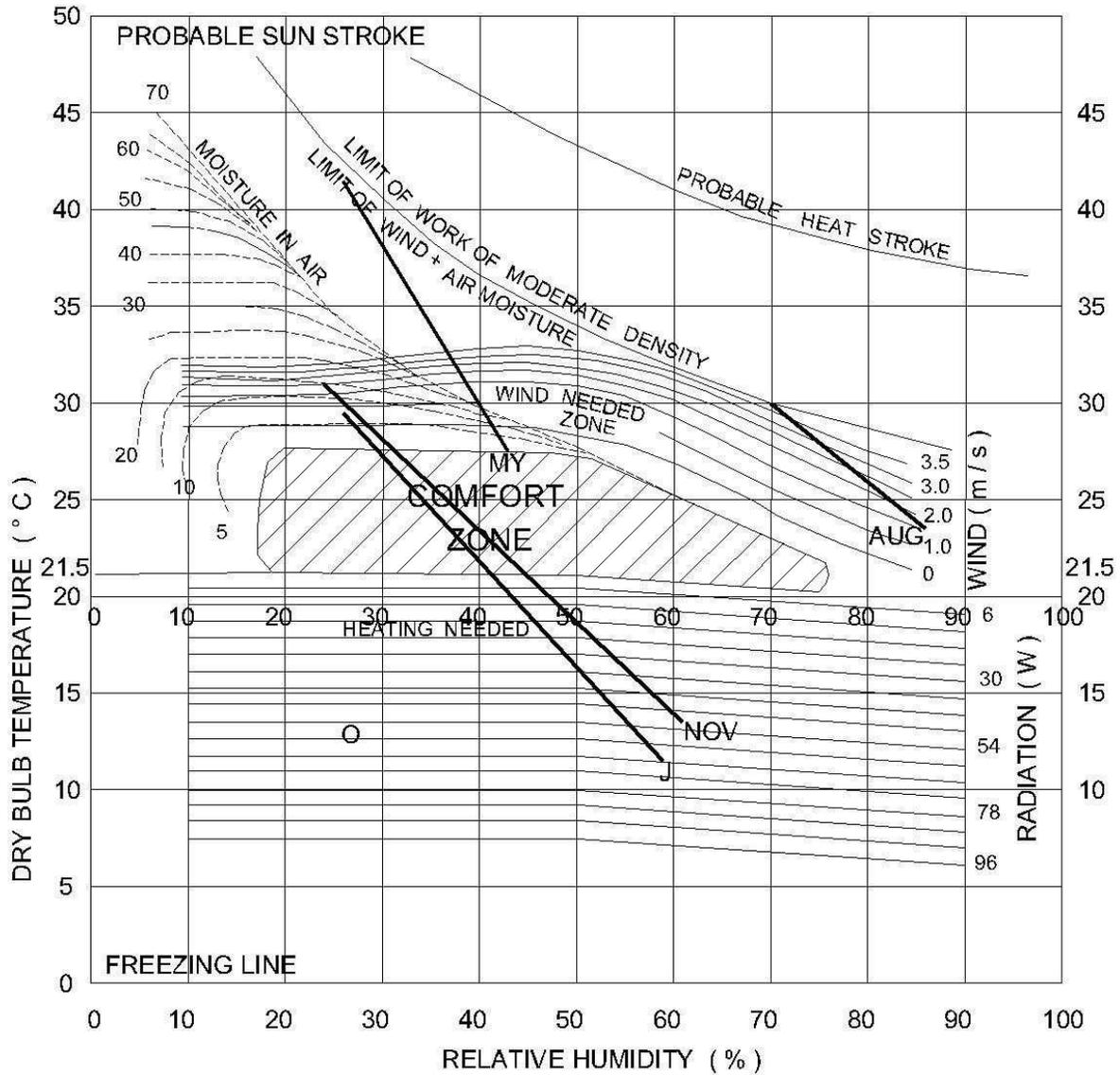- **RESOURCE AND TRAINING CENTRE** FOR LOCAL PEOPLE

ENVELOPE   MICROCLIMATE
ACOUSTIC, DAYLIGHT AND VENTILATION   MACROCLIMATE
CONSTRUCTION PROCESS   BIOLOGICAL FACTORS
CONSTRUCTION TYPE   TRANSPORT NETWORK
IMAGE   UTILITIES
STRUCTURE   ZONING
CIRCULATION   NEIGHBOURHOOD
ENVIRONMENTAL CONTROL   SITE

FORM   CONTEXT   CONTEXT

CONTEXT

FORM   NEED

NEED

OBJECTIVES / ACTIVITIES / SPACE REQUIREMENT / RELATIONSHIPS / PRIORITIES / ACCESS / ENVIRONMENTAL (INDOOR + AMBIENT) / EQUIPMENT / MAINTENANCE

ENCASE INDIA

Broad parameters of the design considered for Bhikangaon School

Climate study

The study of the climate gives a very good indication of the major focus for design. For example in a hot and dry region (Jodhpur), the main consideration for design would be to reduce the heat gain through the building envelope. Thus, resisting heat gain and promoting heat loss are of prime importance. Techniques such as shading, evaporative cooling, and ventilation etc for improving thermal performance can be deduced from the analysis of the climate. Various tools such as the bio climatic chart, psychometric tool and climate consultant may be effectively used to analyse the
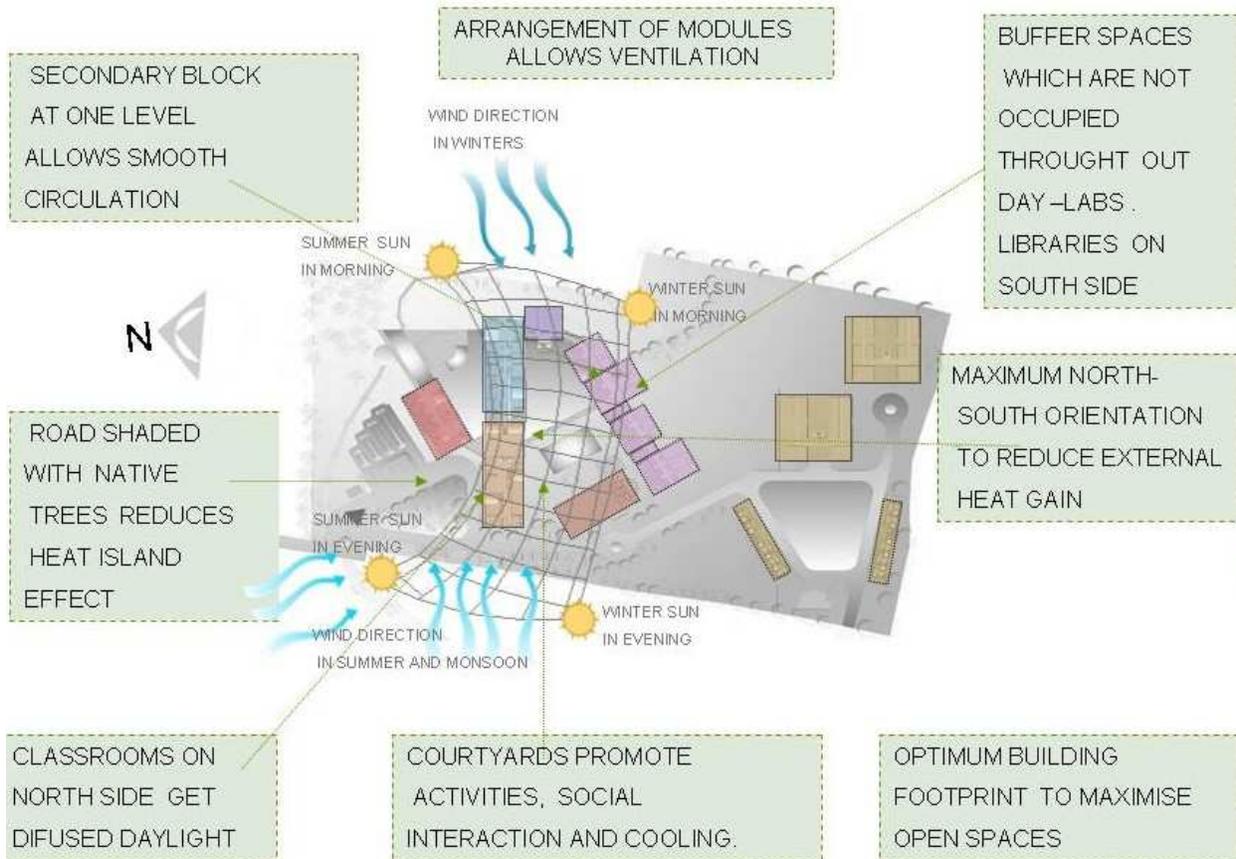
climate of the city. The sun path diagram helps to evaluate the shading and irradiation on a particular date and time.

Khandwa, Khargone District

*Analysis of Bio- Climatic Chart developed by Olgyay*

STRATEGIES FOR COMFORT

Significant Impact of various strategies for achieving comfort in summer months (March to June)

Design Guidelines generated by Climate Consultant

Microclimate analysis

The analysis of the site and its surroundings can help to predict the microclimate there. The temperature, wind, solarradiation, humidity, and daylighting can be positively changed by modulating the microclimate. Zoning, orientation and buffer spaces can be worked out by studying the microclimate.

SECONDARY BLOCK AT ONE LEVEL ALLOWS SMOOTH CIRCULATION

ARRANGEMENT OF MODULES ALLOWS VENTILATION

WIND DIRECTION IN WINTERS

BUFFER SPACES WHICH ARE NOT OCCUPIED THROUGHT OUT DAY –LABS . LIBRARIES ON SOUTH SIDE

SUMMER SUN IN MORNING

WINTER SUN IN MORNING

N

ROAD SHADED WITH NATIVE TREES REDUCES HEAT ISLAND EFFECT

SUMMER SUN IN EVENING

MAXIMUM NORTH-SOUTH ORIENTATION TO REDUCE EXTERNAL HEAT GAIN

WIND DIRECTION IN SUMMER AND MONSOON

WINTER SUN IN EVENING

CLASSROOMS ON NORTH SIDE GET DIFUSED DAYLIGHT

COURTYARDS PROMOTE ACTIVITIES, SOCIAL INTERACTION AND COOLING.

OPTIMUM BUILDING FOOTPRINT TO MAXIMISE OPEN SPACES

Microclimate analysis of site of Bhikangaon School

Optimisation routines

Modern science has helped to model the indoor environment prior to construction. A number of computer simulation tools such as eQuest and Radiance are freely available to analyse the performance of a building. Various parameters of the building envelope such as window types , window sizes, shading, building materials, insulation, lighting, air-conditioning systems etc. can be optimized though simulation. The simulation takes into consideration the building properties, the climate and user patterns and requirements of comfort. Significant saving of up to 50% of the loads can be

achieved by using simulation software.
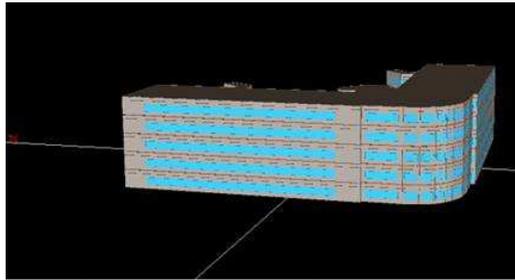
Annual Energy Consumption by Enduse

	Electricity kWh (x000)	Natural Gas Btu	Steam Btu	Chilled Water Btu
Space Cool	3,665	-	-	-
Heat Reject.	141	-	-	-
Refrigeration	-	-	-	-
Space Heat	47	-	-	-
HP Supp.	-	-	-	-
Hot Water	-	-	-	-
Vent. Fans	1,369	-	-	-
Pumps & Aux.	924	-	-	-
Ext. Usage	471	-	-	-
Misc. Equip.	4,725	-	-	-
Task Lights	-	-	-	-
Area Lights	2,245	-	-	-
Total	**13,585**	**-**	**-**	**-**

Electric Consumption (kWh)

(x000,000)

Legend: Area Lighting, Task Lighting, Misc. Equipment, Exterior Usage, Pumps & Aux., Ventilation Fans, Water Heating, Ht Pump Supp., Space Heating

Electricity pie chart: 17%, 35%, 3%, 7%, 10%, 27%

Legend: Area Lighting, Task Lighting, Misc. Equipment, Exterior Usage, Pumps & Aux., Ventilation Fans, Water Heating, Ht Pump Supp., Space Heating, Refrigeration, Heat Rejection, Space Cooling

Electric Consumption (kWh x000,000)

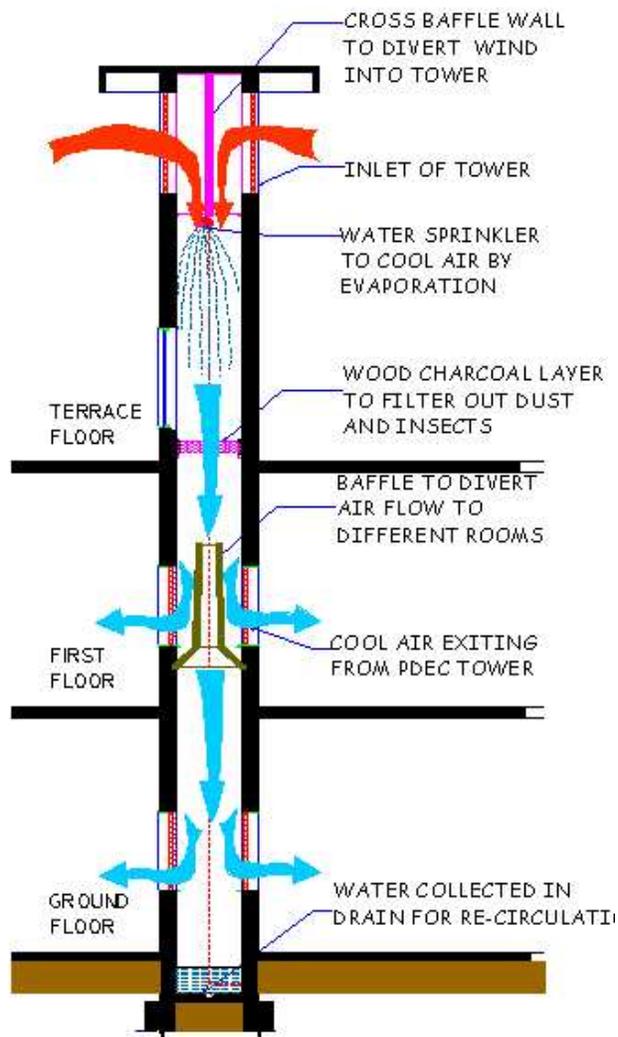|	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Space Cool	0.22	0.24	0.31	0.35	0.41	0.31	0.32	0.34	0.31	0.34	0.26	0.24	3.66
Heat Reject.	0.00	0.00	0.01	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.00	0.14
Refrigeration	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Heat	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.05
HP Supp.	-	-	-	-	-	-	-	-	-	-	-	-	-
Hot Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent. Fans	0.10	0.11	0.13	0.14	0.13	0.10	0.11	0.11	0.11	0.12	0.10	0.10	1.37
Pumps & Aux.	0.07	0.07	0.08	0.08	0.08	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.92
Ext. Usage	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.47
Misc. Equip.	0.40	0.36	0.39	0.40	0.41	0.37	0.41	0.40	0.38	0.41	0.39	0.40	4.72
Task Lights	-	-	-	-	-	-	-	-	-	-	-	-	-
Area Lights	0.19	0.17	0.18	0.19	0.20	0.17	0.20	0.19	0.18	0.20	0.18	0.19	2.24
Total	**1.04**	**0.99**	**1.14**	**1.21**	**1.30**	**1.10**	**1.18**	**1.19**	**1.11**	**1.20**	**1.06**	**1.06**	**13.59**

Day light analysis using Radiance software
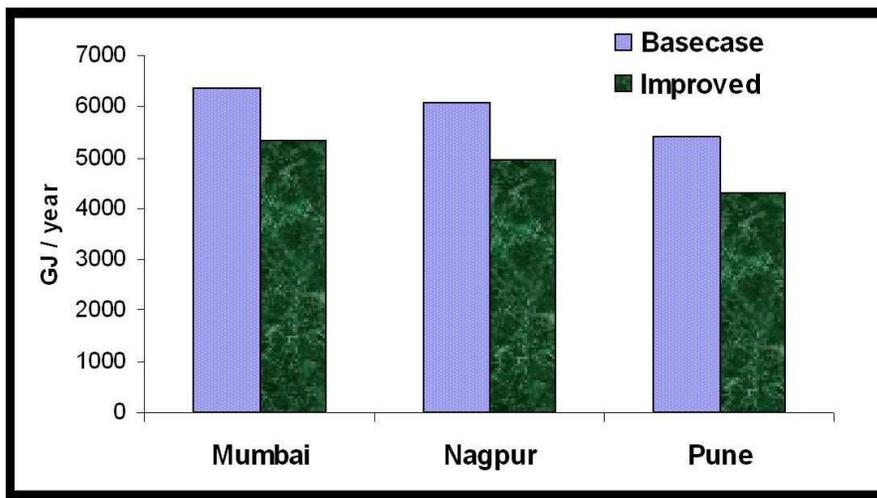
Optimization of commercial building in 3cities showing significant savings in load

Conclusion

User satisfaction is of prime importance for design. We have ensured that the building is safe, comfortable, within budget, is durable, functional and delightful. Bio-climatic architecture helps in this regards. Although, this approach is a bit more rigorous or the busy architect, it is well worth the effort as it can lead to energy conservation and the evolution of new forms and ways of design.

School of Bhikangaon in MP

CROSS BAFFLE WALL
TO DIVERT WIND
INTO TOWER

INLET OF TOWER

WATER SPRINKLER
TO COOL AIR BY
EVAPORATION

WOOD CHARCOAL LAYER
TO FILTER OUT DUST
AND INSECTS

TERRACE
FLOOR

BAFFLE TO DIVERT
AIR FLOW TO
DIFFERENT ROOMS

COOL AIR EXITING
FROM PDEC TOWER

FIRST
FLOOR

GROUND
FLOOR

WATER COLLECTED IN
DRAIN FOR RE-CIRCULATI

Inspector General of Police Headquarter at Gulbarga, Karnataka First public building in India to get LEED Gold rating (Architect Kembhavi Architecture Foundation , Consultant for passive solar Architecture; Jatin Prapati)

Bio climatic architecture can be extended to sustainable architecture by adopting methods and guidelines in TERI Griha and LEED by incorporating other aspects such as renewable energy, water and waste management and pollution control

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Nature inspired structures:

Dr Sanjay Chikarmani

The inherent efficiency in nature has been appreciated by Man over the past several centuries and many structures and structural systems have sprung up as a tribute to this efficiency over the long history of building structures. The inspiration has usually taken one of two predominant initiatives. The first one has been using the natural materials, either by themselves or in conjunction with other materials to exploit their properties. The second initiative has been to use the structural patterns and forms in nature to create similar patterns and shapes. The first form of exploitation has existed since prehistoric times when the first weapons were formed using wooden shafts, flint edges and hide bindings. The second initiative is more recent and in the rest of this paper some examples bringing out this inspiration are elucidated.

It is entirely possible that early man-made structures were inspired from natural patterns like (Figure 1) the spiders web was probably the inspiration for the fishing net – both in its form and its intended use, the tents were inspired from the foliage of trees and the early huts were made using the same material and a form of intertwining which is reminiscent of birds' nests and the sail was probably inspired from the structure of a leaf. The Chinese junk sails show a reticulate pattern which is fundamentally similar to the pattern existing in a leaf (Figure 2)

Figure 1: Spiders web and fishing nets
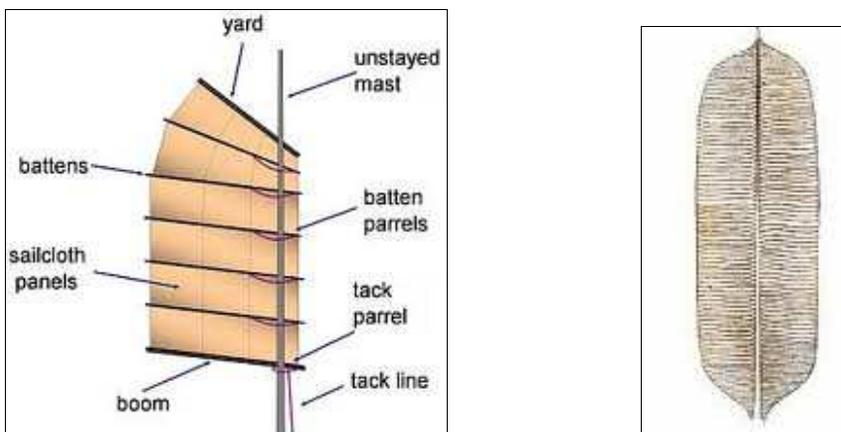
Figure 2 – Sail and Reticulate leaf pattern

Form in Buildings

Several notable designers like Frank Lloyd Wright, Calatrava, Felix Candela, Antoni Gaudi amongst others have successfully used natural forms as a basic inspiration for buildings. In the Johnson Wax Building Wright used a concept of a column grid to create a garden within the building. The columns were inspired by lotus stems and comprised tapering stems, a hollow core and a flared head (Figure 3). These revolutionary columns were designed with a minimal of structural computation and there was a general disbelief in the community that they would take the required loads of about 12 Tons per column. A practical loading test was performed where

the columns took loads of almost 5 times the requirements demanded. The essential strength in the system came from using a flared mushroom form where the tapering of the column efficiently collected the loads from the top and transferred them to the hinged base. Although the Johnson wax building is probably one of the best known examples of this type of construction, the first exponents of this form was the notable swiss designer Robert Maillart who used the mushroom columns to support a slab floor in a building in Europe.

Figure 3 – images of Johnson Wax Building

The pioneer in using thin concrete shells and creating umbrella structures was Felix Candela. His first prototype design created a roof span of 10 meters by 10 meters using a ultra thin 38 mm concrete roof (Figure 4). This extreme material efficiency is attributed to the "double curvature" of the form where in one axis the curvature is convex and in the perpendicular axis it is concave. This surface is called a hypar (hyperbolic paraboloid) surface. The hypar geometry (Figure 5) occurs commonly in nature as in the webbing between the fingers and the toes. This prototype structure gave significant deformations at the edges and fluttered in the wind, but did not show signs of any stress related failure.

Thus, the basic structural scheme of mushroom or umbrella structure consists of a roof and only one column. It depends of the type of the roof whether the structure is a mushroom or an umbrella structure. The main difference between mushroom and umbrella structures is that a mushroom structure is beamless and therefore uniform while the umbrella structure consists of beams attached to the central column. Another interesting umbrella structure is shown in Figure 6. This structure is used as a petrol pump and was designed by Milan Mihelic in Ljubljana some time in the 1960's.
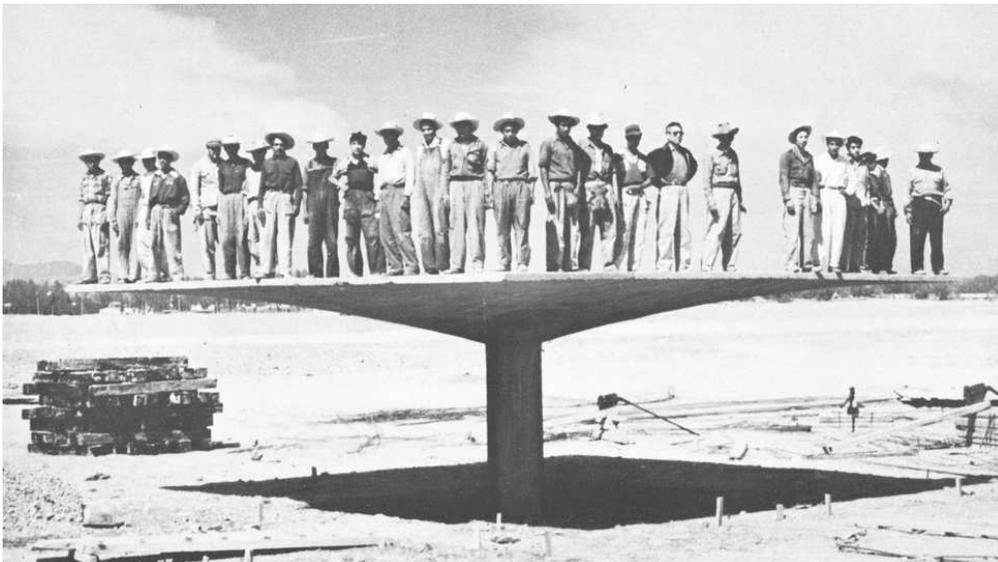
Figure 4 – Prototype umbrella structure by Felix Candela
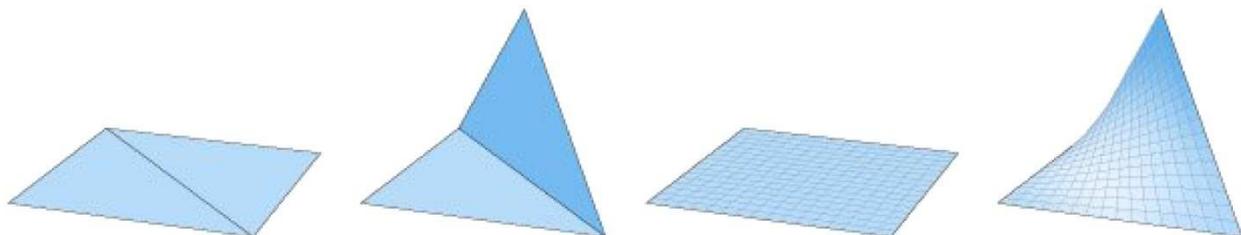
Figure 5 – how a figure forms an elbow using two triangles and a corresponding hypar surface

Figure 6 – Petrol Pump in Ljubljana

One very interesting property of a hypar surface is that it is the simplest surface which connects four points in space, while minimizing both the curvature and the surface area. While not being truly minimal (this would imply that the surface area is minimal subject to various physical parameters) it is a very close representation of a minimal surface for small curvatures and hence has an inherent strength more than either flat or highly curved surfaces.

One of the first and most notable exercises with truly minimal shapes was done by Frei Otto who built structures by first experimenting with soap film bubbles and then realizing the form created using tensile membranes. This was based on the understanding that soap films would naturally converge to minimal surfaces based upon the physical restraints they are subject to. Of course the sails used since Egyptian times are also examples of minimal surfaces, but Frei Otto took the concept to a much higher plane. He also experimented with air filled or pneumatic structures

which had the inspiration from balloons. The work done by Frei Otto has been given a mathematical flavor by several people like Bodo Rasch amongst others, but it is again interesting to note that Frei Otto designed structures directly from experimental evidence and taking photographs and making scaled models (Figure 7)
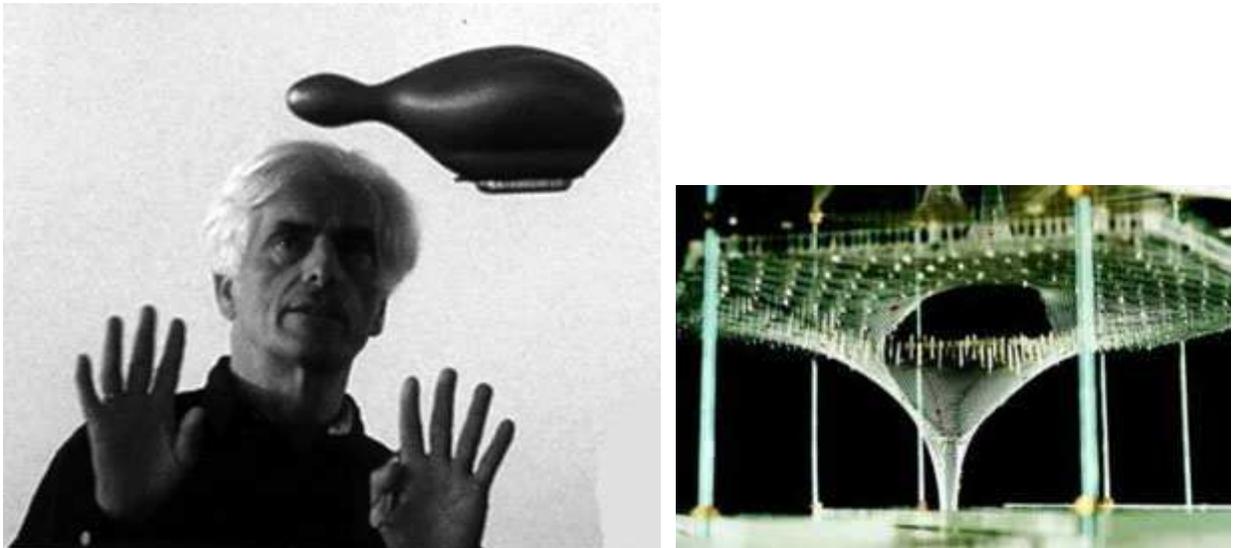
Figure 7 – Frei Otto with a pneumatic model and a soap film model

Structures like the Munich Olympic stadium, the German Pavilion at the Expo 1967 and several other forms have emerged from these experiments (Figure 8). His further experiments with Shigeru ban of using a minimal surface with parabolic shapes generated structures such as the Hannover Expo Japanese Pavilion (Figure 9) which is a grid-shell structure with curved ribs.

More or less at the same time, Buckminster Fuller was trying to find the most logical way of creating a grid system on a minimal surface using straight elements. This system generated the geodesic dome in the architectural front and a molecular structure called Fullerene (Figure 10)

Figure 8 - Frei Otto – Olympic Stadium

Figure 9 - Frei Otto, Shigeru Ban, Japanese Pavilion, Expo Hanover

Figure 10 - Buckminster Fuller, Geodesic Dome

Another architect who is notably influenced by natural patterns is Santiago Calatrava. In his work along with organic natural forms, there is also significant amount of technological innovation. In the Milwaukee Art museum, the movable louvers made in metal imitate bird wings, a cable stayed bridge has a mast which is reminiscent of a ship and the cable arrangement is reminiscent of a spider's web. The larger image is of a bird in flight (Figure 11).

Figure 11 – Santiago Calatrava – Milwaukee Art Museum

The building called the "Turning Torso" (Figure 12) is inspired through human motion and hence the name.

Figure 12 – Santiago Calatrava – Turning Torso, Sweden

Conclusions

There are fundamentally two approaches to bio-mimicry or bio-mimetic (which are the terms used for having structures which are inspired from nature). These are:

- *Bottom up approach – biomimetic by induction – solution based approach*
  In this approach the natural phenomena is taken as a starting point and the technology evolved to create a final product. An example of this could be identification that a spider's web is a very efficient structure and trying to see how it can be assimilated and incorporated in the building vocabulary.
- *Top down approach – biomimetic by analogy – problem based approach*
  In this approach the design problem is taken as a generator and a natural phenomenon is identified which can give a synergetic solution. An example of this could be that a certain scale of space has to be created, and trying to identify how nature creates these spaces and adapting the technology appropriately.

The terminology top-down and bottom-up was introduced by Speck and Harder. It was then argued that this introduces a ranking between nature and technology and hence the phrase biomimetic by induction/analogy were adopted.

The fundamental process is to transfer information and knowledge from one discipline to the other, and in this process it is always nature which is transferring information/knowledge to technology. On the first superficial level the transfer is of a "natural construct"

from nature to technology, but deeper transfers as natural qualities can also be explored. The phenomena transferrable from nature can include material, structure, organization principles, ordering principles, hierarchical structures, evolution processes, information processing and adaptability, etc. The process is truly complete when a significant number of phenomena can be assimilated and amalgamated together, and it is this end result which is to be strived for.

A fundamental and deep understanding of the life-science processes and systems is needed for this to happen with any degree of success. The information in one discipline has to be abstracted and then relations formed which, till now, fundamentally depend upon intuitive understandings.

Dr Sanjay Chikarmani

Occupy Reimagining Design

Interview with GK VanPatter
CoFounder of Humantific in New York

By Wycliffe Raduma, Aalto University Design Factory, Helsinki, Finland

Q1 Wycliffe Raduma: In the first CEB conference in Helsinki, in September 2009, you challenged Aalto University's designers to reach into the realm of organizational innovation by designing strategies and systems rather than products and services. Two years have passed since the conference and you have visited Aalto University a few times during this period. Do you perceive that Aalto University has risen up to the challenge? Has there been a noticeable shift towards the desired organizational changes?

Garry K. VanPatter: Hello Wycliffe: Happy to do this with you. Sure ask me a really easy question to get us started...☺

Yes, I do well remember speaking at that 2009 Future of Innovation Conference in Helsinki. I met many terrific people there doing interesting work including some Alto leadership folks who were working on the university combine initiative at that time. It seemed then like an ambitious undertaking. I do recall that several Aalto leaders were interested in the NextDesign Geographies Framework of Design 1,2,3,4 in addition to what Humantific does. As you know, NextD Geographies is a framework that makes a distinction of scale. For those who might not know: it acknowledges for example, that what goes on in Design 1 in terms of methods and skills is very different from what goes on in Design 3 or 4.

At that 2009 conference I did talk about the fact that around the world many graduate design schools have imported the American orientation that the furthest reach of design thinking is product and service creation, what we call Design 2. It was in 2003 when we started pointing out that leading practices had already moved beyond that picture. I repeated that message at the 2009 Helsinki conference. Not everyone welcomes this perspective, as many remain involved in the Design 2 business. Many still see Design 2 as a nice tidy, manageable in-the- box future for design. This view was popular in the new business press for a considerable time and subscribed to willingly by numerous high profile design school leaders in the US. We have never agreed to surrender to such a limited perspective of possibilities for design.

At the Helsinki conference that day I talked about the fact that the strategic opportunity and challenge today for graduate design education is to reimagine design beyond that stay

in-the-box picture, and create a school or program focused on skilling beyond product and service creation.

I asked the Helsinki conference audience to do a quick "Reality Check" exercise. I suggested that they look out into their own communities and ask themselves; How many of the challenges that they see in Finland can be solved by creating more products, or more services?

It is an exercise that I have asked audiences in India, Denmark, Switzerland, Canada, United States and many other places to do and it is one that typically serves to break the Design 2 fascination trance as it seems obvious to most that other kinds of skills beyond product and service creation are already needed.

It is a relatively simple step to then ask: if that is the case, why then do so many product and service creation oriented schools continue to be created? These are difficult questions that very few other than us seems to be asking design education leaders.

What we are really doing and have been doing for nine-ten years via NextDesign Leadership Institute and Humantific is advocating and modeling a much broader interpretation of what is possible for design. Since 2003 we have been out in the global community talking about the need to reimagine design beyond the present paradigms, certainly beyond Design 2. Whether we knew it at the time or not, early on we became design reimagination advocates. Not everybody gets that. Not everyone is happy to see strong advocacy in that direction. What we found over the course of 9-10 years is that not everyone is up for that journey. So be it.

We had no expectations around Aalto and were not asked by any Aalto faculty members to do any follow up work. We were delighted to be invited by the students to come back to Alto Design Factory to speak.

What we saw in the implementation of Aalto and the Design Factory in particular is that for whatever reason, the leaders decided to focus on a different challenge than the one touched on at the Future of Innovation Conference that day. In reference to the Design Factory evidently that challenge was: How might we create (another) high profile graduate product and service creation program in Finland?

That seems to be the challenge that the leaders of the Design Factory chose to work on, and what they built seems to have met that challenge. So be it. All very interesting, constructive developments but none of that really has anything to do with the "Reimagining Design Beyond Design 2" challenge posed at the future conference in 2009. What I heard that day was "Thanks for pointing out the geographies of Design 3 and 4. Lets go create a Design 3 and 4 school." That's evidently not what happened, or has not yet happened.

The difficult truth is, gearing up to educate a new generation for the Design 2 practice space is simply not enough to catch up to where the already reimagined leading practices were in 2003, let alone lead the practice community today.
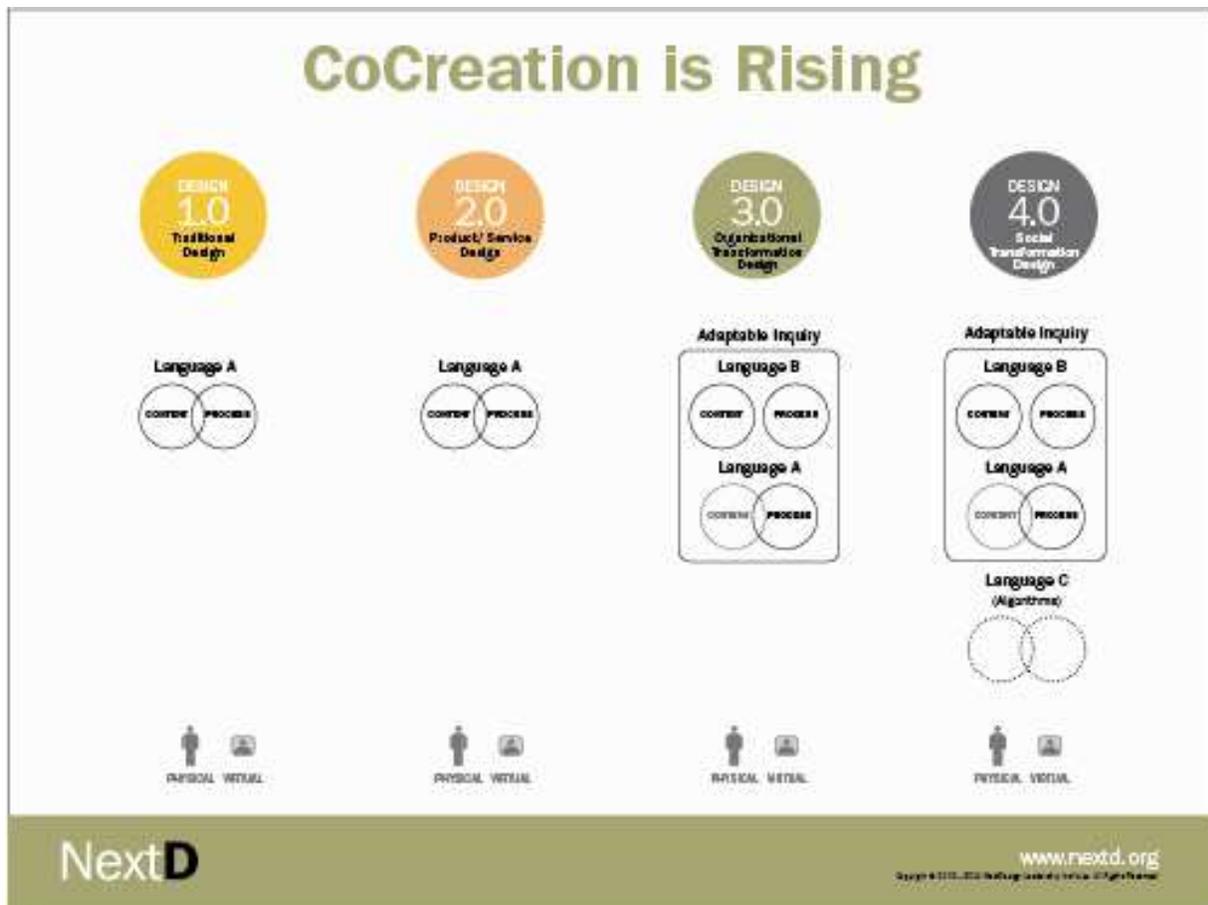
Source: GK VanPatter & E Pastor: NextDesign Geographies, 2003-2011.

To continue reading the rest of this interview click this link:
http://issuu.com/humantific/docs/humantific_whitepaper_02

See NextDesign Geographies / Understanding Design 1,2,3,4.
http://issuu.com/nextd/docs/nextdfutures2011_v02

You can follow Humantific on twitter:
http://twitter.com/humantific

APPEAL:

2nd Call for Papers:

HWID2012 working conference on "Work Analysis and HCI"

HWID Conference Website: Upcoming Soon

Wednesday and Thursday, 5 – 6 December 2012, in Copenhagen, Denmark

Deadline for submissions: August 1st, 2012.

Hosted by Copenhagen Business School

Venue: Copenhagen Business School (CBS), Solbjerg Plads 3,

DK-2000 Frederiksberg, Denmark

Theme, Scope and Focus:

The HUMAN WORK INTERACTION DESIGN 2012 (HWID 2012) working conference analyzes the combination of empirical Work Analysis and Human computer interaction (HCI).

Human work analysis involves user goals, user requirements, tasks and procedures, human factors, cognitive and physical processes, contexts (organizational, social, cultural). In particular in the HCI and human factors tradition, work is analyzed as end-user tasks

performed within a work domain. The focus is on the user's experience of tasks (procedures) and the artefact environment (constraints in the work domain). Hierarchical Task Analysis (Annett & Duncan, 1967) and Work Domain Analysis (Salmon, Jenkins, Stanton, & Walker, 2010) are among the methods that can be used to analyse the goal-directed tasks, and map the work environmental constraints and opportunities for behavior. In addition, there is a strong tradition in HCI for studying work with ethnographic methods (Button & Sharrock, 2009) and from socio-technical perspectives (e.g., Nocera, Dunckley, & Sharp, 2007). These approaches focus on work as end-user actions performed together with other people in a field setting, that is, the user's experience of using systems are social and organizational experiences. User experience, usability and interaction design are influenced by these approaches and techniques for analyzing and interpreting the human work, which

eventually manifests in the design of technological products, systems and applications.

The working conference will present current research of human work interaction design and industrial experiences in a wide spectrum of domains such as medical, safety critical systems, e-government, enterprise IT solutions, learning systems, information systems for rural populations, etc. The relevant domains not mentioned here could also be considered.

The purpose of the working conference is to enable practitioners and researchers to analyze the relation between empirical work analysis and HCI/user experience. After the conference, a limited number of selected papers will be published in an IFIP Springer book. We expect the participants will be people from industry and academia with an interest on empirical work analysis, HCI, interaction design and usability and user experience in work situations and at the workplace. The working conference will be conducted in a good social atmosphere that invites to openness and provides time to reflection and discussion about each of the accepted papers and cases.

We are interested in submissions that discuss the before mentioned aspects of work analysis and how the results of these manifests in the design of technological products, systems and applications. Also, today generic designs are applied to use-situations with very different purposes, as using the same social software or game for work and leisure situations. Thus, design shifts from design of a technology to design of various use-situations encompassing the same technological design, and we find that there is a need to discuss the relations between work analysis and design in both situations.

The topics include, but are not limited to:

• Techniques and methods for mapping the relations between work analysis and interaction design

• Translating (Cognitive) Work Analysis to Interaction Design

• How work analysis can feed HCI testing and evaluation

• Work analysis and HCI in medical and safety critical ICT

• Work analysis and HCI in business contexts

• Work analysis and HCI in enterprise-level systems

• **Work analysis and HCI in e-government services**

• **Work analysis and HCI in Mobile Devices**

• **User experience in work situations and at the workplace**

• **Design cases bridging the gap between work analysis and interaction design**

• **Socio-technical theory and HCI combined**

• **Work analysis and HCI in cultural contexts**

• **The concept of Work Analysis (Enid Mumford, Tavistock, "work style", HCI work analysis, cognitive work analysis, more)**

• **Theory for relating interaction design and work analysis**

• **Synergies between work analysis and model-driven interface development**

• **Evolution of interface models in accordance to evolving human activity systems**

• **Impact of emerging interaction technologies in human work practice**

Submission guidelines:

We invite two types of papers:

• **Full research papers (10 pages)**

• **Industry – case studies & work in progress (4 pages)**

For submissions to the working conference, the authors must use the LNCS templates and style files available from http://www.springer.com/computer/lncs?SGWID=0-164-7-72376-

Acceptance notification for conference papers:

Notification of acceptance will be provided by 1st October 2012. All accepted papers will be published in the working conference proceedings in the form of an electronic copy with ISBN and made available to the participants.

Selection of Papers for IFIP Springer Book:

During the review process, the reviewers are asked to evaluate (also among papers from industry and students) whether the paper is

suitable for an IFIP Springer book. We aim at most accepted full research papers to be included here, but also the possibility to have a very interesting perspective from industry or similar represented. This IFIP Springer book will be available after the conference. In addition, four to five papers will be selected for further development for a special issue in the International Journal of Socio-technology and Knowledge Development.

Organizers:

● Torkil Clemmensen, Associate Professor, Department of IT Management, CBS, Denmark, Denmark

● Dinesh Katre, Associate Director & HOD, Human-Centred Design & Computing, Centre for Development of Advanced Computing (C-DAC), Pune, India

● Rikke Orngreen, Associate Professor, The research programme of Media and ICT in a Learning Perspective, Danish School of Education, Aarhus University, Denmark

● Pedro Campos, Assistant Professor, University of Madeira, Campus Universitario da Penteada, Funchal, Portugal

● José Abdelnour Nocera, Postgraduate Computing Field Leader, Head of Centre for Internationalisation and Usability, University of West London, United Kingdom

● Arminda Lopes, Instituto Politécnico de Castelo Branco, Portugal

NEWS:

1. Mulberry plots global expansion with Universal Design Studio designs

Fashion brand Mulberry is set to open up to 90 new stores around the world in the next three years, using retail designs from Universal Design Studio.

The brand plans to open around 30 stores a year for three years, working with UDS and executive architect Gensler.

UDS has previously worked on designs for Mulberry's London HQ, as well as its flagship Bond Street store and, most recently, a store in Spring Street, New York, which opened at the end of last year.

Both Spring Street and Bond Street bespoke installations by Jonathan Ellery.

UDS co-founder Jay Osgerby says the brief for the London flagship store, which opened at the end of 2010, was to 'redefine what [Mulberry] stores should look like in the future.'

Mulberry store on Spring Street, New York

A spokeswoman for UDS says the new stores will 'have the same kind of core values' as the previous UDS projects.

The next stores to open will be in San Francisco; Shorthills, near New York; Zurich, Switzerland and Roermond, The Netherlands. These will all open in May and June.

The expansion programme will then roll-out throughout the USA, Europe and Asia

2.

Organization of Black Designers Primary Talent Resource for New NBC TV Show: Home Transformers

The Organization of Black Designers is pleased to announce our partnership with NBC as a primary talent and casting resource for its amazing new show: HOME TRANSFORMERS.

"We are pleased to partner with NBC to provide the broadest and most diversified talent pool possible for this exciting new show", stated Keir Worthy, OBD's Director of Communications and Global Programs. "Especially since the numbers of designers of color, and particularly African American designers are still relatively small compared to the total number of practicing design professionals" The concept of HOME TRANSFORMERS fits right in with our mission of diversity"(see article: http://www.stylelist.com/2012/02/29/black-designers-artists_n_1280883.html)

"We also welcome NBC's participation in our DesigNation8: Design Power! conference at the Hyatt Regency Hotel in Cincinnati, October 25-28. Our family of sponsors include Procter & Gamble, Nike, Ford, Steelcase, Red Door Digital, Chrysler, Herman Miller, Disney, GM, UPS,and notable others. DesigNation® is an international conference and it is the most diverse in the country; bringing together interior, graphic, architectural, product, car, and fashion designers," Worthy concluded. www.obd.org

HOME TRANSFORMERS is setting out to find America's best home designers, builders, decorators and craftsmen! We are looking for

contestants who can bring different skills and expertise to the table BUT still have one big passion in common: Creating a WOW factor!

This competition series will feature amazing craftsmen who will rebuild and transform rundown homes across America into EPIC & UNFORGETTABLE creations! WIN a life changing grand prize!!!

EMAIL US!

hometransformerscasting@gmail.com

Send to the Attenton of: M. Yates

Mention that you were referred by:

the Organization of Black Designers.

3.

Whether a senior is living at home or in an assisted or independent living apartment, it's important to ensure the ability to age in place, especially in important, high-traffic areas such as kitchens.

There are many design features that some architects are beginning to implement in kitchens that fall under "Universal Design," which Manny Gonzalez, an architect for design firm KTGY Group, Inc., says is a way to create houses and environments that make it easier for people of all ages to live.

The 85+ population has increased significantly, according to U.S. Census Bureau data, Gonzalez points out. "The amount of people that are living longer, who are more healthy and fit and wanting to stay at their house, keeps increasing," he says. "It's important for us to keep designing toward that."

In fact, some cities are beginning to require certain aspects of Universal Design as part of their building codes, and similar to the "green" movement which saw increased environmentally-friendly requirements, these features could start to be added to overall building codes across the U.S, Gonzalez told SHN.

Designs can be as simple as putting controls and appliances at heights that are not only wheelchair accessible, but also easier for children or anyone whose movements are impaired.

Electrical outlets: Currently, most electrical outlets are installed sixteen inches—roughly a hammer's height—from the ground, requiring people to bend over to plug or unplug cords.Instead, though, some outlets could be placed at the height of a light switch, says Gonzalez.

"When you think about it, not having to bend over to unplug something is better. There are little things you can do that's easier not just for someone who's getting older, but just for convenience."

Microwaves: Microwave ovens are often located in combination with the hood above the cooking range. But while this is a space-saving idea, says Gonzalez, "there's no more dangerous place than right above your oven" because its high location is harder to reach for both older adults and small children. It's a better idea to place them at cabinet height, he continues, for all-around easier access.

Cooking range controls: Many cooking ranges have the dials or buttons for stovetop and oven functions located at the top of the range, behind the burners, but this is inconvenient and possibly dangerous for people in wheelchairs. Controls should be located at the front or side, says Andrew Wong, vice president of strategic marketing at PulteGroup, the largest builder of active adult communities through the Del Webb brand.

"We want to make sure that our residents don't have to uncomfortably reach over a hot surface in order to manipulate the controls," he says.

Cabinets: While considering wheelchair-accessibility when designing cabinet space is important, it's not necessary to forego "upper" cabinets, says Gonzalez. "You want to have enough cabinets at a level so that somebody in a chair can do everything they would need to do in a kitchen, but that doesn't mean you have to not provide upper cabinets," he says. "It doesn't make sense to penalize the rest of the population for the sake of accommodating someone in a chair."Design as if you didn't have the "uppers," and provide enough

spaces for a person in a chair to live comfortably and then also include more cabinets in places that make sense, he says.

Additionally, it could be useful for upper cabinets to feature glass windows or lighting, or simply be open shelves without doors, he says. "To be able to look up into a cabinet and see what's in there without having to open it could be beneficial to people who have trouble getting up higher," says Gonzalez.

MASCO Cabinetry, which manufactures KraftMaid Cabinetry, Merillat Cabinetry, QualityCabinets and DeNova Countertops, is an example of a company with aging-in-place kitchen designs. These include upper cabinets where the cabinet door hinges from the top and can be lifted up and out of the way. Lower cabinets can also include special features such as "roll trays" where storage can pull out into the room and be accessed on three sides, reducing the need for people to lean down or over.

Other MASCO products are shallow drawers that make things closer to the countertop or have trays inside to segregate storage areas, such as those manufactured through its Merillat Cabinetry line.

Lighting: Good lighting becomes more important as people age and their eyesight fades. Getting the right wattage and the right location are two aspects to consider.

"Put lights where workstations require them," says Gonzalez. He suggests lighting fixtures over the sink in a kitchen, or on or by the cooktop so that areas where the most work is being done are well-lit.

It's smart to look at the floor plan when locating where lighting fixtures will go, as opposed to just ceiling plans, he says. "It amounts to, aesthetics are important, but practical aspects of the design are really important here," he says.

Sinks: Some kitchens feature sinks with removable front pieces that enable wheelchairs to roll partially under the sink. This could also apply to bathroom sinks.

Dishwashers: Instead of dishwashers with doors that open downward, some kitchens are including drawer-style dishwashers that can greatly reduce the need to bend over. Bending range can be shorted by elevating dishwashers just a drawer's height, says Sarah Reep, director of designer relations for MASCO Cabinetry, and this dishwasher placement modification is offered through the company's KraftMaid "Passport Series."

Islands: "There's been a trend where islands have been very high, maybe 42 inches, but instead of going up in height, like a stack bar approach, we're seeing islands and tables merging together to bring seating together," says Reep. "This really embraces both ends of the spectrum—grandchildren who are coming to visit have easier access, and older people who struggle to get up on bar stools. It's like sitting at your table, but within the workspace." The "Passport Series" offers designs for this, as well.

Designing kitchens that stay functional for residents is a growing trend.

"I see a movement into interiors that accommodate people more than ever before," says Reep, who obtained CAPS certification a couple years ago after nearly 20 years of design experience. "Aging in place is one of the things you're going to be increasingly seeing."

Written by Alyssa Gerace

4.

Differently abled don't want special coaches

The announcement by Railway Minister Dinesh Trivedi on Wednesday on provision of special coaches for the differently abled people has not found favour with a section of them.

"We expect the government to have a universal design for coaches, which would be accessible for all with furnished washrooms, considering the needs of the differently abled people," said Sminu Jindal, managing director of Jindal Saw and the chairperson of Svayam, a charitable trust for differently abled people. Ms. Jindal is herself a differently abled person.

Discrimination

"We have been working hard to provide equality and dignity to all, including the elderly and the disabled, and this step goes in the opposite direction discriminating the disabled from the rest. This renders the community more vulnerable, as it does not allow [their] joining the mainstream and restricts them from travelling on general coaches," she said

Further, the plan to build escalators would not help the differently abled, she said and requested the Minister to provide for ramps and elevators which would help everyone.

5.

Railway Budget: Need universal design/coaches, says JSW Saw

By Sminu Jindal, Chairperson, Svayam & MD, Jindal SAW

The Railway Budget 2012-13 announced by the Hon'ble Minister today may have provided relief to various sectors but the announcement on introduction of special coaches for disabled friendly is not a welcome step. We expect the government to have a universal design / coaches which would be accessible for all with furnished accessible washrooms, considering the needs for differently abled people.

We have been working hard to provide equality and dignity to all including elderly and disabled and this step goes in the opposite direction which discriminates the disabled from the rest. This is more vulnerable for the community, as it does not allow mainstreaming and restricts disabled from travelling on general coaches.

Further announcement of building escalators, will not come in aid of differently-abled people, we would request the Hon'ble Minister to alongside build ramps and elevators which would help all.

6.

NID gets Rs10 crore railway design centre

Railway minister Dinesh Trivedi has proposed a dedicated Railway Design Centre at the National Institute of Design, Ahmedabad, with an endowment fund of Rs10 crore. This money for the fund will come from the railway ministry.

Trivedi, who made this announcement while presenting the railway budget in Parliament on Wednesday, said the centre will develop design concepts in station architecture, coach layout, luggage storage in coaches, toilets, ticketing kiosks and an online services system.

Recently, when Trivedi was in city, he had visited NID to discuss possible design changes in engines and coaches. The idea of setting up a railway design centre at NID was discussed during his meeting with institute director Pradyumna Vyas.

He further said that through research and multi-disciplinary engagement, NID will provide the Indian Railways a springboard for a new era of design thinking that will promote social and technological change in the organisation.

"The scope for design intervention is vast. Several areas will be considered for such intervention particularly new graphic standards, signage designs, new color schemes and a billboard and hoarding design system," Vyas said. He said that other areas of the railways in which design can play an important role are railway uniforms, service design for all facilities in trains and at railways stations, exteriors and interiors of railway coaches, IT integrated design, environment design and design issues related to public transportation.

Initially, NID will get Rs 10 crore from the railway ministry to start the proposed centre, Vyas said.

He added that improved design of products, processes, services and systems can help the Indian Railways in rapidly transforming the social and economic landscape of the country.

7.

Designs for a sustainable future

Thailand Creative & Design Centre (TCDC) and British Council present the final bend of the "Everything Forever Now: Designs for a Sustainable Future" exhibition, which provides a round-up of the current environmental and natural resource situations, along with new ideas and missions to save our planet.

It also presents the fruits of sustainable design efforts jointly taken by contemporary designers and experts in various disciplines from Thailand and the UK.

Some of the works on display include:

X Endless by Neil Conley, who takes waste carbon fibres from obsolete aircrafts and turns them into everyday objects that are strong, durable and at the same time help reduce the amount of waste materials.

Aerogenerator X by Grimshaw Architects & Arup for Wind Power, a large wind turbine that fully extracts usable energy from the wind at half the weight of a conventional aerogenerator.

Another Life by Asst Prof Sompit Fusakul from the Faculty of Architecture, King Mongkut's University of Technology Ladkrabang,

who successfully turns waste material from factories into products with strong selling points.

The Plastic Bottle Project by Florie Salnot, a project that creates added value to otherwise discarded plastic bottles by engaging local craftsmen _ Saharawi refugees who used to live in Western Sahara _ to turn these bottles into nicely-designed necklaces and jewellery, which also generate income for the refugees.

Program & Events:

1.

Aging in Society: An Interdisciplinary Conference Announced

The 2012 Aging Conference will take place at the UBC Robson Square, Vancouver, Canada from 5-6 November. For more information please visit www.Aging-Conference.com

Call for Papers

If you intend to present a paper at the conference, your participation begins with submission of a paper proposal. For information on proposals, presentation types, and other options, please see our website. To submit a proposal, please click here. If your proposal is accepted, you will then need to register for the Conference.

Registration

Those who submit paper proposals should register following the acceptance of the proposal. Conference delegates who do not intend to present may register at any time. For registration options, or to register for the 2012 Aging Conference, see: http://agingandsociety.com/conference-2012/register/.

2.

Design & Innovation workshop in Delhi, India

The MIT Media Lab joins hands with the Apeejay Stya University to host the second Design & Innovation workshop in Delhi, India from March 26-30, 2012. This workshop aims to engage and inspire students, academics, and members of industry across all disciplines in inventing the future. The week-long workshop will engage participants in ideation, design, and implementation of prototypes together with Media Lab and local mentors. The workshop will culminate in a plenary conference and exhibition that will be open to visitors from academia, industry leaders, and the media.

The workshop has been designed around the MIT Media Lab philosophy, where the future is lived, not imagined. In a world where radical technology advances are taken for granted, Media Lab researchers design technologies for people to create a better future. The Media Lab culture of research involves working closely with industry and we believe this workshop will offer participants and attendees a flavor of how the Media Lab "invents the future."

3

4.

317 Narayan Peth, Op. Dainik Prabhat, Nr. Vijay Talkies, Pune-411030, India Tel: +91 (0)20 3241 7699 (Pune) OR +91 (0)22 6552 9069 (Mumbai)
Mail: info@designincubator.com

Design Incubator R&D Labs is conducting a Three Day Limited Edition Combo Course on Fundamentals of UXD, Advanced Information Architecture, Advanced Interaction Design and Interface Visualization in different cities in India.

Early Entry Discounts can help you save up to Rs. 4000 (on full fees of the same courses taken individually), if you register before the discount last date:

Course Details: http://www.designincubator.com/training_current_limited_edition.htm

› Delhi NCR- 25th, 26th and 27th May'12 (Fri to Sun)

  Discount last date - 20th Apr '12

5.

HInternational 2013

 HCI International 2013 21 - 26 July 2013, Mirage Hotel, Las Vegas, Nevada, USA

6.

Lecture topic: Curiosities...

Date: Tuesday, 6 March 2012, 15:00 hrs

Venue: VMCC Institute Seminar Hall

Indian Institute of Technology Bombay

Powai, Mumbai, India

Satyendra Pakhalé

A short biography

Award winning industrial designer Satyendra Pakhalé has been active internationally for two decades. He was born in India and trained as a designer at the renowned Indian Institute of Technology Bombay. He completed Master of Design at Industrial Design Centre, IIT Bombay in 1991 and later advanced studies at Art Centre College of Design Europe, Switzerland. He was part of the pioneering 'new business creation' team, conceiving some of the first product ideas for new technologies in the area of digital communication and transportation design at Philips Design in the mid 90's.

Since 1998 he has been working worldwide from his Amsterdam-based design studio on a wide range of disciplines with international design manufacturers, architectural practices, technological ventures and cultural and educational institutions. He has lectured on design in various international design events and conferences from Finland to South Africa and Brazil to Japan. The renowned Design Academy Eindhoven, The Netherlands, has invited him to devise and head the Master Programme in Design for Humanity and Sustainable Living from 2006 to 2010.

His designs emanate from cultural dialogue, synthesizing new applications of material and technologies with great ingenuity. Besides industrial design Satyen is constantly exploring new ways of making things which become limited edition pieces represented by Gallery Gabrielle Ammann, Cologne, Germany. His works are in the permanent collections of prestigious museums worldwide, including the Centre Pompidou, Paris, France; Stedelijk Museum, Amsterdam, The Netherlands; Montreal Museum of Fine Arts, Montreal, Canada; and Victoria & Albert Museum, London, UK.

Read more www.satyendra-pakhale.com

IIT B talk

7.

8th International Short Break Association 2012 (Respite Conference), 10-12 October 2012, Toronto.

8.

World Health Day 2012: : "Ageing and Health" - April 7th, 2012

The theme for World Health Day 2012 is "Ageing and health", and it will provide an opportunity for organisations and individuals worldwide to showcase solutions to population ageing, putting health at the core. "Good health adds life to years". The focus is how good health throughout life can help older men and women lead full and productive lives and be a resource for their families and communities. Ageing concerns each and every one of us - whether young or old, male or female, rich or poor - no matter where we live.

9.

10.

11.

FASHION : ADVERTISING : GRAPHIC : INTERIOR : PRODUCT
ANIMATION : ARCHITECTURE : INDUSTRIAL : NEW MEDIA

The Organization of Black Designers Presents

DesigNation8: DesignPower!

Hyatt Regency Hotel
Cincinnati, October 25-28
The Organization of Black Designers (OBD) is pleased to announce

DesigNation8: DesignPower!
which will be held in
Cincinnati, Ohio
October 25-28, 2012

DesigNation8: DesignPower! will bring together some of the world's top designers to explore how the power of design impacts and influences the local, national and global economies and national and global cultures. And to showcase and share their work. This is our 8th international design conference.
The conference attracts established and emerging designers, educators and students. With members and affiliates nationally and internationally, **DesigNation8: DesignPower!** reflects the mission of OBD of inclusion and diversity.

DesigNation® is the largest gathering of designers of color in the world and the first multidisciplinary design conference in the world!

Workshops : Lectures : Design Studio Tours : Job Fair
Portfolio Reviews : Recruiting

Early Bird Registration $195
(limited time only)
Regular registration fee is $325
Please register early! It helps us to create a better event for you.

To Register: www.obd.org

For more information: 202–489–4822 / 202–659–3918

DesigNationConferences@gmail.com

Sponsors: Procter & Gamble, GM, Nike, Herman Miller, Steelcase, BET, Haworth, Adobe, Ford, Chrysler

12.

13.

JOB OPENINGS:

1.

A job opportunity with HGS Interactive - a full‌service interactive communications consultancy based out of Mumbai (Above Vashi Station). They are looking out for a Web Usability Analyst/ Information Architect.

Profile for Web Usability Analyst/ Information Architect

Design and prototype advanced website/software UI/UX concepts for web clients and RIAs.

Know how of usability and accessibility standards for web.

Facilitating design ideation, prototyping, and usability test efforts

Ability to conduct task analyses, usability tests, heuristic evaluations, cognitive walkthroughs, site visits, focus groups and related user research.

Using ad-hoc tools and technologies (such as HTML, CSS, VS.NET, Flash) as part of the iterative prototyping-design cycles.

Translating user requirements into innovative design sketches, wireframes, prototypes and written specifications as needed to help translate ideas into production.

Establishing usability goals for the applications and generating long-term usability plans.

Collaborating with software developers, web UI designers, and marketing managers. Including presenting plans, UX designs and scenarios to the management.

Directing web UI developers and graphic designers to reach the desired UI UX functionalities.

Finding and fixing current usability and UX related errors and flaws in applications.

Conducting usability testing during various phases of product development.

Developing various types of user scenarios and stories.

Introducing new technologies and emerging trends in user interfaces and user experience approaches to the company.

You can get more information about them on their website - www.hgsinteractive.com

In case you are interested, please email your details on brian [at] hgsinteractive [dot] com

2.

We are seeking a Visual Designer and Interaction Designer with a deep

passion for smart phones, tablets, open innovation and experimentation.

1) Visual Designer (senior and lead position)* *

We look for,

- Great visual design skills and an eye for detailing.

- You should have an identifiable approach, but flexible enough to

dramatically modify your visual designs depending on the specific needs of

the project.

- You should have strong verbal, written and visual presentation skills.

- You understand the value of design and brand within a business context.

- Rapid iteration and prototyping of visual design using Ai, Photoshop etc.

2) Interaction Designer (entry and senior position):

We look for,

- Great requirement analysis skills and user scenario creation to narrate

storyboard.

- Great in information architecture and wire-framing.

- You should have strong verbal, written and presentation skills.

- You understand the value of design and brand within a business context.

- Rapid iteration and prototyping of wire-frame / workflows using Viso, Ai,

Photoshop etc.

For both the post, candidates should have at least 1-7 years of

professional experience in interactive media and likewise be comfortable

working collaboratively within multidisciplinary teams.

Send your CV + Portfolio to *hitesh.ruwala@techendeavour.com* before

20/March/2012, however the process is ongoing and we review applications on

a regular basis.

3.

Job Responsibility

To work with development team and extend UX support during the coding phase.

· To work closely with UX research and design teams.

· To conduct research independently on the current standards.

· To providing usability inputs to products (web/mobile) / Documents (word) and Presentations (PPT).

· Predefining and justify the usability framework for each engagement of company.

Pre-requisite:

· Ability to Create Usable prototype over iterative feedback.

· Complete familiarity with web technologies such as HTML/CSS/JavaScript, and /or RIA tools such as Flash, FLEX, Air, Silverlight / HTML5.

· Awareness of UI design principles and best practices.

· Good understanding of cross-browser compatibility and accessibility standards (W3C Guidelines).

· Hands on with all major tools.

· Should be good in UX research and best practices.

· Communicative and iterating in wireframe modeling .

· Justifying the reasons behind the usability inputs with right facts.

· Excellent analytical, Research and presentation skills.

· Excellent presentation and communication skills.

· Being creative in multiple mediums (PPT/ Word/Web/mobile etc).

· Being creative and knowledge of colors and its usage will be an advantage.

Pleasant to have

· Ability to translate the Usability and creative into UI designs and fully-functional interactive prototypes.

· Complete familiarity with web technologies such as HTML/CSS/JavaScript, and /or RIA tools such as Flash, FLEX, Air, and Silverlight.

· Understanding of database connectivity and server side programming.

Human Resource

Compassites Software Solutions Pvt. Ltd.

T: +91-80-42032572

U: www.compassitesinc.com

4.

Communication Internships at Auroville

Auroville Consulting provides multi-disciplinary expertise for ecologically responsible development projects. We also manage the Auroville Collaborative projects where we explore innovative and sustainable solutions for integral living at Auroville in partnership with internal and external experts. We have various projects related to sustainability with a strong communication component.

We are looking for two communication interns with background in graphic design, illustration, audio/video production to join our team in developing, designing and producing brochures, info-graphics and flash animations. The project duration varies but is usually between 2 – 5 months and requires intense team-work with a multidisciplinary and international team. Our projects are suitable for Master's thesis students or fresh graduates seeking working experience.

Interns will be provided dormitory accommodation and food at community dining hall and have to bear their own travel expenses to Auroville. We are a non-profit organization and traditionally do not offer any honorarium but we gracefully acknowledge the spirit of giving and good will.

Auroville is an international community of about 2000 residents from over 40 countries located near Pondicherry in South India. It offers a unique experience in sustainable living. Every year many students and young professionals from various countries work as interns/volunteers in diverse areas such as education, forestation, farming, architecture, design and others. Besides the project challenges, interns/volunteers experience serene forested surroundings, a multi-cultural international social life and ecologically conscious living.

If you are a post graduate student or a young professional interested in the internship, please send by email: 1. A one page CV (pdf file) with photo 2. Short descriptions of projects along with a web link to portfolio 3. Two references from a client, professor or supervisor.

Auroville Consulting

vimal@aurovilleconsulting.com

5.

There is an opening for product interaction / UI interaction designer in an industrial automation domain, Please contact Srini if interested on 9972893968 . http://www. abb.com/cawp/abbzh253/ ec5bc3eea21af278c125787f004679 e7.aspx?configurationId=Z_ UNREG_SEARCH& cuiconfigurationid=Z_UNREG_ SEARCH&cuiparameter= cGd1aWQ9NEY1Njk5RjIxNEVCMDE2MU UxMDA4MDAwMEEzMzEzN0Y= for the job details.

6.

Zynga Games is looking at expanding their team of UI members at the India office in Bangalore.

Few of the games developed by Zynga are CityVille, FarmVille, CastleVille, Mafia Wars, Zynga Poker, Empires & Allies, Scramble, Words with Friends and a few other top titles on the charts.

About the company Culture & Values :

●   Be the CEO of your own outcomes.

●   Build games you LOVE to PLAY

●   Meritocracy Level-up

●   Everybody is encouraged to play games at office; on Facebook, Xbox, PS3, Wii (also TT, Fooseball :-)

 If you are bored of indoor stuff we have Cricket Nets on the office building terrace, any more gaming stuff... you ask for it and you usually get it.

Roles/ Responsibilities/ Requirements will be broadly out of the following depending upon the band that one fits in –

●   Use metrics data to optimize features, product, overall UX, and franchise goals.

●   Expert understanding of logo development, branding, and identity systems.

●   Expert user of Flash and Photoshop (Illustrator not required, but is a plus)

●   Knowledge of design fundamentals: typography, color, layout, composition, perspective, imagery, iconography, and branding.

●   Researches interaction design trends

●   Make a point to understand how Zynga's audience interacts with its games/services, and make use of this knowledge in the development of the best possible user experiences

- **Portfolio must illustrate strong UI skills, and graphic design skills**

- **Work closely with Producers and Product Mangers to create simple creative solutions to complicated design needs**

- **Mock up and prototype features according to UI spec**

- **Provide variety of solutions to design needs**

- **Work closely with engineers to implement UI features**

- **Identify multi-week goals and break them up into objectives.**

- **Partner with engineers to collaborate and iterate in fast-paced design-build cycles.**

7.

Company Profile :

A 3 mins video which will give you an insight about Compassites's culture http://www.youtube.com/watch?v=g5Mc7TCZwMo .

Job Responsibility

To work with development team and extend UX support during the coding phase.

· To work closely with UX research and design teams.

· To conduct research independently on the current standards.

· To providing usability inputs to products (web/mobile) / Documents (word) and Presentations (PPT).

· Predefining and justify the usability framework for each engagement of company.

Pre-requisite:

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· Complete familiarity with web technologies such as HTML/CSS/JavaScript, and /or RIA tools such as Flash, FLEX, Air, Silverlight / HTML5.

· Awareness of UI design principles and best practices.

· Good understanding of cross-browser compatibility and accessibility standards (W3C Guidelines).

· Hands on with all major tools.

· Should be good in UX research and best practices.

· Communicative and iterating in wireframe modeling .

· Justifying the reasons behind the usability inputs with right facts.

· Excellent analytical, Research and presentation skills.

· Excellent presentation and communication skills.

· Being creative in multiple mediums (PPT/ Word/Web/mobile etc).

· Being creative and knowledge of colors and its usage will be an advantage.

Pleasant to have

· Ability to translate the Usability and creative into UI designs and fully-functional interactive prototypes.

· Complete familiarity with web technologies such as HTML/CSS/JavaScript, and /or RIA tools such as Flash, FLEX, Air, and Silverlight.

· Understanding of database connectivity and server side programming.

8.

MudPie, a young brand strategy, design and advertising firm based in

Gurgaon is looking for:

- Graphic Designer/Visualizer

With keen interest in advertising/branding/packaging and at least 2-3 years

Relevant experience. Be able to ideate & conceptualize.

Fluency in softwares is a must. Position based out of Gurgaon.

Looking for talent who can join full-time.

If interested, please mail your latest resume and samples of work to:

start@mudpieindia.com

9.

digitalgreen (digitalgreen.org) is looking for an experienced design person. the role of the designer would include:

User Interface Design

 Visual Representation of Data: We have a lot of data which we try to display in a useful form for our stakeholders, and we would like a designer who is able to really think about what the best way to do that could be. Our Analytics Dashboard as it is today -

http://www.digitalgreen.org/analytics/adoption_module/?geog=state&id=10000 000000001

 Since we deal with videos on agriculture, we have a Video Search Application (http://www.digitalgreen.org/analytics/video_search/) which is crying out for a redesign, and for ways in which it can be made much more useful for a variety of stakeholders

Very Basic Mobile Interface for Data Collection (Nokia Phone): We currently use a web application for collecting data about our operations on the field. We want to redesign the interface of this application for a very different device, for the basic Nokia phone, so that rural users find it easy to use

 Website redesign , Graphic Design ,

We have a Facebook game called Wonder Village and we would like you to design assets for that

 Assets (and also UI design) for other new applications which we are creating

Print Collaterals Annual Report,   Key Facts, Stationery Presentation Templates

If the job profile interests you and you are keen to work in social sector please contact digitalgreen for more details or apply along your resume' and portfolio.

the contact details phone number: 9899850843

email: jobs@digitalgreen.org

10.

Job Description: Visual Designer

Company Profile: PeepalDesign [a Unit of User Experience Design Consulting (P) Ltd.]

PeepalDesign is a Bangalore based Ux consultancy with few Fortune 500 clients. Started in 2010, Peepaldesign is currently working on designing the User experience for enterprise software applications ranging from business intelligence to enterprise mobility solutions. PeepalDesign also works closely with companies in the life sciences & mobile device space in their quest to understand users needs and design great user experiences.

 We want to hire smart, young designers who want to design top of the line software products & enterprise applications. Selected candidates will get the opportunity to work in dynamic project teams jointly staffed by experienced Ux professionals from Peepaldesign and the client organizations.

Peepaldesign provides a supportive learning environment that encourages new ideas and informed risk taking in the interest of providing unique & innovative solutions to our clients.

Job Profile:

Education : From any creative stream or self-learners with a good portfolio of work

Experience: 3-4 years.

Design Skills

§ Design of screen layouts, typographic expression, icons and other basic UI graphical resources elements to support identification of actions, objects, status information and UI properties.

§ Excellent Knowledge of standard graphic design software tools. (e.g. Photoshop, Illustrator, Flash)

§ Knowledge of UI best practices and interaction patterns .

§ Construction of interactive UI prototypes that can be used to test user preference, performance and behavior.

Soft Skills

§ Works efficiently and effectively with people in other locations where the development process is not clearly defined.

§ Communicate effectively with all project stakeholders

Please send your resume to careers@peepaldesign.com

11.

iXiGO.com is looking for a full time UI/UX designer with 1 - 3 yrs of

experience for its Gurgaon office.

Interested designers should send their resume and portfolio (5 MB max) to

* kanchi(at)ixigo(dot)com* and *shaurya(at)ixigo(dot)com*

Following are the details

Role:

You will be responsible for creation of interfaces, all online visual design, including typography, visual concept, logo and icon design for the Internet and interactive platforms.

Key Responsibilities:

- **Understanding the user specifications, needs and behaviours**

- **Coming up with innovative ideas to suit user requirement**

- **Designing functional, usable and aesthetically pleasing web pages, banners, icons other marketing collateral**

- **Quickly communicate ideas through sketches**

- **Gather user feedback & incorporate valuable changes**

Experience & Educational Qualifications:

- **1-3 years experience as a UI/UX designer**

- **Bachelor's degree / diploma in design preferably from top design schools**

- **Understanding of and experience in corporate branding, layout, colour theory and typography primarily in digital media**

- **Portfolio must exhibit understanding of user experience design principles**

and knowledge of UI best practices and usability

- **Skill in animation, video and/or storyboarding as well as writing skills**

are considered a bonus

Technical Skills:

- **Proficiency in Photoshop, Illustrator and Flash**

- **Strong design style, including creative design solutions within the constraints of the Internet.**

- **Knowledge of Web site structure and functionality**

- **Fluency in current graphic design trends**

Soft Skills:

- **Strong communication skills**

- **Multi-task and manage multiple deadlines**

- **High energy and drive to work in a start up environment**

- **Ability to work under pressure and confidence to deal with complex issues**

- **Hands-on and detail oriented**

- **Conceptual thinking, flexibility and ability to juggle with multiple responsibilities.**

Compensation:

Competitive, will not be a constraint for the right candidate

Please visit the company website for more details: www.iXiGO.com

12.

Zeppelin design and environments is a multidisciplinary design firm with a focus on building brands and creating interesting spatial experiences. Currently we have a couple of vacancies for interior designers\architects\furniture designers with 1 to 4 years of experience in interior design. Knowledge of CAD and the ability to produce detailed drawings is a must for all applicants. Candidates can send their resumes on som.s@zeppelindesign.net.

13.

We are MediaShala (www.mediashala.com), a design studio + an IT company, and we are currently working on exciting web and smartphone platforms for activism, medicine, energy, logistics & infrastructure, mining, telecommunications and many more intriguing domains.

We are looking for a team-member who would be a go-to Graphic Design expert with an inclination towards UI, UXD and interaction design as applications of his/her art.

Please mail portfolio's / web-link's at careers@mediashala.com,

14.

A specialist firm required for a VM/retail design project for a leading apparel brand.

The scope is to re-imagine the stores as a canvas of announcing the 'new ' through all relevant areas: windows, doors, mannequins, ceiling, floor areas, product display areas.

The objective is for the shopper/passerby to recognize 'whats new' from outside the store and feel compelled to walk-in and check it out .

The Designer/s should be able to conceive the story and deliver it through a complete retail design/VM experience in the store – conception – production – implementation.

anubha.kakroo@futurebrands.co.in

15.

ABOUT STORMGLASS

Stormglass is an online gaming company founded by Pete Deemer, a well-known

Silicon Valley entrepreneur and company leader. Stormglass is an espionage- and crime-fighting-based online experience, with some highly innovative approaches to creating an immersive fantasy experience. It's not a traditional "gaming site" -- it's much more about using creative skills and problem-solving to gather clues and use them to solve crimes, all while working collaboratively with friends.

Stormglass' CEO, Pete Deemer, was the founder of the Webby-award-winning GameSpot.com, and he served as an advisor to GoToMyPC (which was acquired by Citrix for US$225M) and as an investor in Zeal (which was acquired by Looksmart for an undisclosed amount), SendMe, and ThisMoment. Pete also served as Vice President of Product Development for Yahoo! in the US.

Stormglass is well-funded by a group of Silicon Valley investors, and is planning its initial product launch in May 2012. Stormglass is not an "offshore" operation -- the entire team (including the CEO) is located in cool Silicon-Valley-style offices in Bangalore's Langford Town. Our main focus is on software craftsmanship and agility, and a vibrant culture of innovation. At Stormglass, we pay corporate-level salaries, and we have employee-friendly policies and a work environment that is very conducive to personal and professional growth.

www.stormglass.com

OPEN POSITIONS

Senior Designer

We're looking for a user interface designer with a minimum of 5 years of web-based user interface / user experience design. Candidates should have a strong artistic sense, as well as an extensive portfolio of freelance and personal design projects to show. Advanced proficiency in Adobe Creative Suite is required. The ideal candidate has game design experience, and is a gamer themselves (PC, console, and / or casual gaming). Experience with video editing, animation, or Flash development is a plus, but is not mandatory.

Front-End Developer

We're looking for a front-end developer with a minimum of 5 years of experience in front-end development. Basic knowledge of data structures and algorithms is required. Should have good knowledge of web technologies like Web Services and REST. Should have good knowledge of JavaScript, CSS and HTML5. Experience with Flash/ActionScript or iOS development is preferred, but not mandatory. Prior experience on online games development is a plus.

Tester

We're looking for a tester with a minimum of 5 years of experience in functional testing. Good knowledge of data structures and algorithms is a must. Experience

with building automated tests and automated build systems is required. Knowledge of Python and Linux is a plus. Candidate must be able to work independently, write their own test cases and work with the product manager to define test cases.

Front-End Developer at Stormglass, the hot new Bangalore-based company from GameSpot founder Pete Deemer. Work with front-end technologies including JavaScript, ActionScript, and iOS to create an innovative gaming experience in a fun, informal, employee-oriented company located in the heart of Bangalore.

Mail your CV/Resume and portfolio link/attachments to
khushboonagpal@stormglass.com

16.

Infosys has UX openings for Pune, Bangalore, Hyderabad, Chennai locations.

If anyone is interested, Kindly sanjaypm@gmail.com

17.

The Project

A leading non-profit healthcare organization in rural India, JSS (http://www.jssbilaspur.org/), is building an open-source health information system ("Raxa") and is seeking a few energetic, talented volunteers. In a catchment area of about 300,000, JSS operates a multi-nodal hospital, three remote village sub-centers, and an extensive public health outreach program with 104 community health workers.

JSS' founding doctors hail from AIIMS, the premier teaching hospital in south Asia. Instead of following contributing to India's brain drain by leaving for better paying positions in the US and Europe, these doctors established JSS in one of the least developed states in the country, ten years ago. Today, in furthering their vision of high-quality healthcare for the poor, JSS has set forth the ambitious goal of transitioning from its current paper-based recordkeeping system to a cloud-based digital Health Information System. This project will undoubtedly benefit tens of thousands of people in the near term and many more in the long term.

Totally free & open source software

This project not only involves building a health information system for JSS, grounded in the data model of the robust and field-tested OpenMRS platform (http://www.openmrs.org/), but also making this system modular, extensible, freely and widely available for other organizations to implement as easily as possible in the future.

In a sense, we are making a canonical open-source point-of-care system, one that will hopefully be the seed for a large number of such developments in the future.

Already, healthcare organizations in Cambodia, Kenya, Israel, Armenia, Nepal and the United States have expressed interest in this platform, with its mixture of voice recognition technology, cutting edge design and sophisticated back-end analytics.

We need your help!

Ready to revolutionize user-experience in healthcare? Do you have experience with UI/UX design and/or graphic / visual design? We want your creativity and critical eye to take our usability and graphics to the next level.

We are seeking a full-time UI designer to join our team in New Delhi. The ideal candidate has vast experience in the areas of usability, graphic design, mobile & web design and speaks fluent English and Hindi. Since we are a small organization the candidate has to be willing to do a bit of everything and should enjoy constant researching and learning, being self-motivated and working without direct supervision.

Our designers spend a large amount of their time in the field doing usability studies, talking to and understanding our users. If you work with the Raxa JSS EMR project that means that you have an itch to make the world a better place and provide healthcare providers in low resource setting with the necessary tools to provide better care for their patients.

Required Skills:

Excellent graphic design skills, Excellent user centered UI design skills (Mobile UI design is a plus) , Excellent communication skills, Fluent Hindi and English Speaker, Self-managed

Required Tools: Photoshop, Illustrator ,Ccs/html , Rapid Prototyping tools (such as Balsamiq Mockups)

More information about our organization and our UI/UX process please look here:

https://raxaemr.atlassian.net/wiki/display/RAXAJSS/Raxa+JSS+EMR

https://raxaemr.atlassian.net/wiki/pages/viewpage.action?pageId=5046289

https://raxaemr.atlassian.net/wiki/display/RAXAJSS/Raxa-JSS+EMR+UI+and+UX

For more information about JSS itself please see the link above and this news item about its work: http://www.youtube.com/watch?v=4yY_JSO-Dqg

The position is available immediately. You will need to re-locate to New Delhi. Please send your resume and cover letter to Daniel.pepper@gmail.com

18.

Uttejna is a turnkey design services firm providing premium design servicesin healthcare & Industrial domain .We are looking for Creative Product Designers who shall also possess the drive to push their creative ideas to their logical end (I.e. a working product) for healthcare projects

The bandwidth of experience shall be in 0-1.5 years range Kindly send your details directly to ratanjit@yahoo.com

19.

We have two positions, one at a Senior level (8+ years of experience) and one at a Junior level (3+ years of experience) at Srishti Labs for immediate hire. We have our own internal design research projects and exciting client projects waiting for you. Our client list includes Xerox, Siemens, Tupperware, Intel, Nokia, Herman Miller, Unilever to name a few. Projects range from early discovery to conceptualization and UX development.

If you are excited about this opportunity, please send your resume and innovation and UX portfolio to labs@srishti.ac.in (Attn: Girish Prabhu, Director - Innovation, Srishti Labs with a Subject Line: Innovation Specialist Position at Srishti Labs)

Innovation Specialist: 2 positions

About Srishti Labs

Srishti Labs is a new venture of Srishti School of Art, Design and Technology, which is being launched in 2010. Its focus is to enhance early phase innovation with design exploration and research into users and business. It provides design services across technology-driven industries from multi-nationals to startup companies bridging from the design school to industry. It is currently recruiting core and foundational staff for its initial projects with high profile companies. From its establishment in 1996, Srishti School of Art, Design and Technology has grown into a design school of more than 300 students with a long involvement with major universities and multinational companies including Hewlett-Packard, Intel, MIT and Nokia. Details on the labs can be found at http://labs.srishti.ac.in

How we work

At Srishti Labs, Innovation is a multidisciplinary process that enables us to develop solutions for our clients that are sustainable and successful within the context. Business and design thinking will play an important role in this multi-disciplinary approach. Design and business thinking will be utilized in empowering our client organizations with deep insights about customers' and end users latent needs and uncovering opportunities that will lead to ground breaking ideas, services and products.

The Role: Senior and Junior Innovation and UX Specialist

We are looking for innovation specialist (s) in a doer-manager role, who has hands-on experience with multidisciplinary innovation and is also capable of managing such work with our external partners. The candidate should believe that better work is done through collaboration and have the ability to lead and inspire diverse teams through collaboration and respectful influence, not control, as well as direction, vision and planning. Successful candidates must know what excellence is. They not only identify and evangelize best practices, but also are able to push new boundaries and explore new territory in order to deliver innovation.

Responsibilities

In this position, you will be working closely with a multidisciplinary team to conduct user research, design and business research to define usage models, usage and business scenarios, personas and use-environments in and around various verticals and environments. Your responsibilities will include but not be limited to:

§ Developing user and design research plan

§ Conducting research and converting the research findings into actionable insights

§ Discovering, interpreting and communicating design insights and opportunities, and contributing to all phases of design

§ Planning validation research to help determine how interested both the customers and line-of-business end users are in the planned product capabilities, and to refine design constraints for delivering compelling user experiences

Requirements:

Education

§ 3-5+ years of relevant work experience for Junior position, 8-10+ years of experience for Senior position

§ Formal education in any of the design fields such as industrial design, business design, visual design, interaction design, UX design and human factors engineering is a must.

§ Additional formal education or on-the-job experience in ethnographic methods, user research methods is a plus.

Skills: Research

§ Candidates must truly believe in a Human-centered approach to design and be comfortable going out into the world for inspiration. They understand basic Human Centered Design methodology, are comfortable with ambiguity and want to push

design methodologies. Must be prepared to plan and lead user research to discover insights first hand

§ Proven skills in discovering, interpreting and communicating design insights and opportunities, and in contributing to all phases of design.

§ Natural skill to engage with people at a deep level. They should be passionate about representing a human and humane perspective and should have skills in bringing this passion to life for the team.

§ They must have deep insights that help the team read between the lines and discover latent needs.

§ This job demands comfort delivering a range from quick but compelling inspiration - to comprehensive research and frameworks.

§ You must be able to lead the team through analysis and synthesis processes, helping to distill the most important insights and linking them together in frameworks or principles for design.

§ The insights and information drawn from research must be translated into an inspirational and useful foundation for design. You must delight in cross-disciplinary collaboration to generate user-centered opportunities and concepts.

§ A critical element of this role is to deliver insights – verbally and visually - in a way that generates empathy, emotion, and engagement from the overall team and our clients. Candidates must have strong presenting, verbal and written skills. They understand the business environment and what it takes to make something actionable.

Skills: User Experience

§ Prior experience in user interface design and full life-cycle needs-research as well as evaluation methods for designing ease of use into technology and products

§ Familiarity with usage models, personas, usage scenarios, task analysis and requirements writing

How to Apply

If you are excited about this opportunity, please send your resume and innovation portfolio to labs@srishti.ac.in (Attn: Girish Prabhu, Director - Innovation, Srishti Labs with a Subject Line: Innovation Specialist Position at Srishti Labs)

Additional Information

Srishti only accepts resumes / CV's submitted to us directly by the candidate. To enable us to process your application, please submit your resume/CV to the email id provided above. Srishti hires qualified candidates who are authorized to work in India that is, authorized to work without restriction as to a particular employer. At

Srishti, we are committed to equal employment opportunity. We respect, value and welcome diversity in our workforce, as well as in our customers, our suppliers and the global marketplace. Srishti also values being a great place to work and strives to maintain a safe and drug-free workplace. Accordingly, Srishti conditions all offers of employment on satisfactory completion of a background check. Srishti does not accept resumes from headhunters or suppliers that have not signed a formal fee agreement. Therefore, any resume received from an unapproved supplier will be considered unsolicited, and Srishti will not be obligated to pay a referral fee.

Director - UBD Innovation

Strategic Business Development

Srishti Labs, Srishti School of Art, Design and Technology

girish@srishti.ac.in

20.

UX positions at Informatica Hyderabad,

Please share updated resume, and a copy of portfolio directly to rarora@informatica.com

About Informatica:

Informatica Corporation (NASDAQ: INFA) is the world's number one independent provider of data integration software. Organizations around the world gain a competitive advantage in today's global information economy with timely, relevant and trustworthy data for their top business imperatives. More than 4,350 enterprises worldwide rely on Informatica to access, integrate and trust their information assets held in the traditional enterprise, off premise and in the Cloud.

Our Team: Global Ux team

The global user experience team takes responsibility of designing easy to use interfaces for the enterprise applications informatica offers. It's a team consisting of highly experienced Ux professionals, and user researchers. Informatica is currently seeking a talented senior user experience designer in Hyderabad to join our world-class User Experience (Ux) team.

Your Opportunity

You will be responsible for designing leading edge solutions for Information lifecycle management suite of Informatica products.

The senior user experience designer works collaboratively with customers, the Ux team, and other product team members to generate usable, consistent, useful and

elegant designs for the Informatica Administrator product. They are expected to be fully proficient in user-centered design concepts and approaches.

Our Ideal Candidate

We are seeking a talented, multi-dimensional player who is a fast learner and is skilled in: user-centered design techniques, working with diverse constituencies of internal and external customers, and who excels in designing rich, visual, interactive solutions.

Your Responsibilities

The senior user experience designer's duties involve but are not limited to:

• Design and execution of design projects

• Contributing as a full member of cross-functional teams to create innovative user experiences for new and extended product offerings

• Helping drive user and vision-keeper interviews

• Synthesizing research into a coherent set of ideas that describe product user experience

• Creating information architectures, user interaction models, wire frame screen flows, prototypes, design briefs, design specs and guidelines

• Helping to influence product teams and the organization to achieve solutions that are right for our users

• Fostering a fun, creative, collaborative spirit

Your Qualifications

• A minimum of 4 years of experience in user interface design for software, with experience in rich internet applications or desktop software

• Demonstrated experience conducting at least one user-centered design project from start to finish

• Ability to synthesize complex requirements, generate design concepts, and carry these through to production detailing

• Ability to develop and communicate User Experience design guidelines, templates, and standards

• Working in cross-functional teams that include product management, engineering, marketing, and other Ux professionals

• High degree of proficiency with prototyping tools such as Fireworks, Photoshop, Visio, Flash, HTML, etc.

• **Understanding of formative and summative user research techniques and their proper application**

• **Excellent written and verbal skills required**

• **Experience working in an offshore-onsite model highly desirable**

• **Experience working in cross cultural teams and client locations highly desirable**

• **Living in Hyderabad area**

• **Ability to travel 10-15% of time for meetings with customers and development partners in the USA and Europe**

Desired Qualifications:

• **Bachelor's degree in HCI, Cognitive Psychology, Industrial Design, Engineering Psychology, Computer Science, or a related field. Masters preferred.**

Informatica offers a competitive compensation package that includes base salary, medical/dental, 401(k), employee stock purchase (ESP), flexible time off and more. Our generous benefits vary depending on your geographic work location. It's an exciting time to work at Informatica, you can learn more about our company, and our products and services at www.informatica.com.

Talent Acquisition , rarora@informatica.com , 080-40203514

21.

This position is for Bangalore Location and team is IDC EM (Enterprise Manager) UX team

The ideal candidate will:

Possess Bachelors, Masters or Ph.D. in Design (Interaction Design, Human Computer Interaction, Product Design, Visual Communication)

Possess 6 or more years as a UX professional experience in product development as an individual contributor or architect within the enterprise software industry

Possess complete user-centered design skills with superb interaction design skills

Enjoy working with the technically complex systems

Possess extensive experience with developing and iterating on UX designs -- conceptual modeling, ideation, LoFi and HiFi mockups, click-through flows

Work effectively in a team environment consisting of other UX professionals, software developers, product managers and exec-level managers

Possess experience with personas, use cases and usability testing

Possess outstanding verbal and written communication skills to effectively communicate designs, ideas, and concepts

Sparkle with passion and enthusiasm for superb UX/UI design

Interested candidates should send their strong portfolio and CTC Details to achappa.bheemaiah@oracle.com

22.

We are an emerging startup in the enterprise space, founded by IITB Alumni in 2010. We have been working on some cutting edge technology products catering to the Insurance vertical. We've already deployed a couple of them and they have been validated and appreciated by top Insurance and Banking corporates in India.

As we venture into the second leg of our product development phase, we're planning to go that extra mile for production design and usability and try and develop a world class Do-It-Yourself enterprise product suite.

We have a highly enthusiastic and passionate team of developers which largely comprises of alumni from IIT Bombay, and are now on the lookout for an equally passionate Design guy with 2-3 years of experience. The designer would be closely involved in all the phases of product development to provide inputs on usability and interactivity. He should be able to grasp the market needs of a product and provide design inputs catering to specific consumer bases.

*Must be based out of Mumbai.

** We have cookies.

Ph: +91 900 403 8889 ,Skype: ranedk ,Gtalk: ranedk

23.

We are Hiring the Best Brains in the Industry!!

hCentive is a leading product company based in Reston, VA. The company is co-founded by three serial entrepreneurs who have already been part of two very successful companies together.

● hCentive selected as a Finalist for the 2011 Red Herring Top 100 Asia Award.

● hCentive selected as a Finalist for Red Herring North America top 100.

Hcentive is in the business of simplifying the complex world of health insurance. We provide technology solutions for health insurers, state health insurance agencies and health care technology companies. These solutions help them reduce cost and administrative complexity, while enhancing relationships with their customers. For more information, visit www.hcentive.com

Position : HTML Coder

Location : Noida

Experience : 3-6 yrs

JOB DESCRIPTION

Command over Dream weaver 7 Photoshop.

• The individual must have the ability to convert PSD to web standards XHTML (1.0 min)

• CSS3, CSS2

• Good knowledge of applying Java Script and JQuery.

• Should have knowledge of HTML5.

• Excellent communication skills

• Good team player

If the job profile interests you, do write back on sahil.jain@hcentive.com or reach on 9891800419

Manager Recruitment

Phone: +91-9891800419 | Email: sahil.jain@hcentive.com

Skype : sahil.hcentive

B-34/2, Sector-59, Noida- 201301

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about our newsletter to the Editor**
Feedback@designforall.in

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your support for popularizing the concept of our
social movement of Design For All/ Universal/
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request kindly submit your latest articles,
research findings , news and events with us for
publication in our newsletter.
With regards
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