

Design for All



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Guest Editor: Executive Director Marnie Peters

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Letter from the Chairman's Desk

By Sunil Bhatia PhD

One day I was cooking and incidentally my hand burned with fire. Human skin is sensitive and cell can experience burn with extreme cold also. I immediately dipped that burned finger in cold water vessel placed close to me on the cooking shelf for controlling my unbearable burning sensation and as thought to apply cream for prevention of attack of bacteria on exposed burnt skin it appeared impossible for me to do so. There was extreme burning sensation and I remembered my friend's story when he was in similar situation that hold the ice cubes in other hand that would confuse the mind for pain signals. I did the same and I found there was great relief. 'Is confusion responsible of designing in reducing the pain?' My answer was in affirmation and I remembered if we experience mild headache we apply the balm that is nothing but generate artificial itching sensation and it helps in shifting the focus of pain of brain signal from real to artificial and in this process after few moment we forget the real pain and artificial pain subside as effect of medicine over. It is confusion that helps in designing. Confusion is not exclusively confined to medicine but we extensively use it in our product design and I can say foundation of progress of the society is on confusion. We try, we are bound for err still we experiment for conquering for desired outcomes by eliminating possible confusion.

I was looking for my burn hand and started thinking how and when confusion was responsible for designing the product. In primitive times a few people created noise from one side for hunting animal for food and that to confuse the mind of animals and run in opposite direction for escape but it proved trap for animals where group of people killed with their weapons . Haunted animals tried their level best to use their survival instincts for lives but attacking person confused their minds and turned to prey for food. It is nature's law. Man learnt the art of distinguishing the different animals or birds with their voices that clear the confusion in classifying the animal for food or animals no use as food. As knowledge advanced they were able to locate the direction and distance for killing the animals for food and that helps in minimizing confusion. Fishes have habit to jump opposite the falling water and by placing a piece of clothes close to falling water that holds the jumping confused fish for food. Our body reacts in reflex action as something proved to be harmful slips into our foods. It may be a hard substance that is difficult to chew or something like hair slip into food gives nausea feelings and our taste buds confused and sends signals to brain for some actions and we immediately stop chewing and search for foreign elements either by rolling tongue for location of it or spit out or vomit . It is the confusion that helps in rescue from future harms.

Nature has devised various techniques to deceive us by confusion. Lizards or other animals change skin colors to confuse the attacking enemies. Camouflage is extensively used in military and the disguising of military personnel, equipment, and installations by painting or covering them to make them blend in with their surroundings. Survival of living beings is basically based on use of confusion for their respective enemies. Color is a biggest tool for

generating confusion but in some places physical changes in appearances of their body leads to confusing not to be prey.

Color combination techniques are extensively used by modern interior designer to make the room look bigger by using different colors. Nature has mirage in desert where it appears there is water but in reality nothing exists, it is nothing but confusion. When mind is confused it fails to organize right control growth of human cells and it is known as cancer. Our minds confuse when a body part is taken out or inserted to support the life by surgery. Human mind has registered of it's functions will continue to perform in absence of it or constantly in confusion by foreign elements for rejection. When women uterus is taken out, her mind keeps working for signals for timely menstruation period then medical practitioner medicates for long time to clear the confusion of mind for forgetting that specific actions or person heart has stunts for opening of artery for acceptance.

When we watch cinema it is entirely based on confusion where stand still pictures are move in such a manner it overlaps the earlier frame with new one and it does not give enough time to mind for reinterpreting and it gives the visual impression of moving picture. It is further added to create the virtual world of three dimensions. Holograms or three dimension movies are purely based on concept of confusion.

I visited Lucknow in India and found in Mughal garden where used of dense bush plants are arranged in such a way that it hides the walking person in lanes and by lanes and prevents to reach the destination of exit if you do not know the exact route . It is best example of confusion in public place for entertainment. There was special palace and one area was known as "Bhul Bhulaiya" or labyrinth .A major attraction, labyrinth, is part of

huge structure of Bara Imambara (palace). Bhool Bhulaiya is a labyrinth of hundreds of narrow stairway passages, some of which have dead-ends, some end at precipitous drops while others lead to entrance or exit points. The Bhool Bhulaiya was built up to confuse any enemy or intruder. The narrow lanes of the labyrinth can make anyone feel lost. The king and other few only knew the way out.

I have noticed that nursery students are allowed to answer by placing two parallel lines those are cuts with small lines at uniform distances one with left and another with right tilted for which line is longer. It confuses the mind of toddler and he points one. In fact both are of same length. A renowned artist successfully uses the same trick of confusing the mind of viewers by applying different colors combination as well as shading techniques for creating depth of three dimension effects. To create the confusion they have designed various brushes and color combination for achieving perfect effects.

Masks are designed not to establish the true identity of wearing person and confuse the minds of others .This confusion has given us many professionals like magicians, gamblers, illusionists and sports for entertainment. Bull fighter uses red color of piece of clothes placed close to his eyes that makes him to remove it by physical force of his head. As matador keeps on doing the same act of placing the cloth in front of his eyes and bulls fails to remove, his mind confused and out of irritation he turns aggressive. In modern era, cryptographers use the algorithm for transforming message to meaningless sentences where they designed the language of cryptographic that helps in sending the message intended for specific person and confuse the intruders. Design of language came into the existence to eliminate the confusion between senders and receivers by agreeing on rules

before sending message. In ancient time grass was in abundance and to perform the last rites they used to carry dead body at riverbank and they conveyed the message to those who were left behind and wish to join the last rites by using rice flakes thrown over the grass and it stays over grass because of light weight . It was the message of rice flakes that procession has gone from this path and people who were left behind used to reach to the cremation ground by locating the rice flakes. This message was further developed and has helped in designing traffic lights for elimination of confusion of drivers for avoiding accidents. Similarly railway or air traffic signals are extension as our technology progresses. One thing is common in elimination of confusion in masses for avoiding any eventuality standardization is simplest tools. To avoid electrical or fire accidents designed the products with standard tools that make user not to confuse. We witnessed multi-functional products and it can be complex. Often, users of these devices don't understand their capabilities and have little experience with how they work. In this case standardization reduces a few confusions and it further minimizes human intervention that also help in fast growth of that specific industry and best part is it controls certain extend of confusion. Ideally, operational functions can be designed in a way that lead to the user easily perform the desired actions. There are number of basic ergonomic guidelines designers can follow which will eliminate confusion and reduce overall learning curve time and effort. No designers design the products or services to fail but how far he succeeds in eliminating the confusion among the users that is the crux of successes.

Cameras are designed with high pixels or better lenses for capturing the photo and it helps in establishing better identity and low resolution cameras confuse the mind of law enforcement

agencies. Other side need of DNA test helps in establishing true identity of the person and clears the confusion. When computer receives too many instructions to perform in short time it slips to hang because it experiences confusion in processors which one to perform first. All scientists' communities are working to find the truth and remove the web of confusions where truth ties. Puzzles are designed to create confusions.

Confusion is the beginning of learning. Adam and Eve were confused and ate the apple of knowledge not apple of life. A child learns from his confusion. Too much confusion creates doubts the person's mind and he asks questions to remove confusion that are his focus for specific job is sign of intelligence. Confusion helps in progress as well in plays vital role in construction and destruction of the situations. It makes man wiser when constant confusion haunts and pushed him for search for proper solution of the problem and helps in taking proper decision making power. A qualified scientist lives with his confusion of solution of problems and sometime he succeeds and gives that theory no one has earlier attempted. It was the Einstein who set aside the earlier tradition of thinking in classical mechanics to relativistic. Confusion helps in establishing thesis and antithesis and when we synthesis that acts in searching truth and cautiously removing confusion associated with it. That has given new dimension to our thought process and call it rational thinking. When a person enters with the aim of stealing, he first looks for escape route in case he was noticed by others. It was the confusion that makes him extra cautious and makes him confident for attempt in stealing. It was the confusion that allows a few select group to realize some people of their generations because of age related problems or physical challenge are living in confusion of operation

of specific products and services and in attempt to reduce the confusion they realized concept of Universal design.

Designers generally argue that in most cases this isn't so and we never give importance to role of confusion but design process is entirely progressing on elimination of confusion. If they fail then designer is to blame because they produced something that's not easy to understand or something that lets errors and misuse happen. If we have trouble using something then it's probably because that thing is badly designed. To eliminate confusion designer should design as far less human intervention should required and should know when the human intervention can remove confusion. It is called forced function and helps in eliminating confusion. When driver ignites the engines of automobiles his confusion is somehow eliminated and readily drives for avoiding any eventualities. Irony is that machines cannot segregate what is the intention of driver. Sometime confused mind of driver working for suicides and ignited the vehicle for ramming into wall for accidents. Use of graphic is best way to handle the confused minds. To avoid accidents we draw yellow centre lines on roads, it is simplest design that eliminates confusion in the mind of drivers and helps in reducing accidents. Designers have designed special tiles for help for walking blinds that reduces the all possible confusion for locating the destinations. At the time of fire emergency proper design of exit saves lives. Road signals are best for graphic use for elimination of confusion of drivers.

Child's mind is curious not confused. When we acquire some basic knowledge then we call it common sense that is culture based and someone expect to perform some level and fails to perform designated task on common sense is called confused mind. Is confusion external factors that influences the mind and confusion

appears. I have noticed a dog who was not raised in urban environment comes to city he simply runs here and there to save from speeding vehicles and there is high chance he met with an accident where a dog of urban culture is not confused and save his life better than dog who has no experience of urban culture. Survival instincts try to save life but confused minds persists and as survival fails, death embraces. Similarly when I visit in friend's house that has different culture my mind is in confusion but I managed with my common sense. Is elimination of choices to perform certain task helps in eliminating confusion? I experienced the same when I visited cloth merchant shop for purchase of piece of cloth for my shirt. Shopkeeper has shown me all possible varieties of range of clothes available in his shop by opening the rolled clothes for display in front of me and asked me to select the cloth of my choice. I was temporarily confused and could not decide which one is worth of my money. When confusion persists longer and acutely affects the mental state that confusion is often used interchangeably with delirium. Is future of design is extensive use of sensors for controlling for not surfacing the confusion in users as we are witnessing in fully automatic washing or dishwasher machines or microwave . Does paradox of choice originates confusion? Anticipatory design could prevent that paralyzing effects when presented with too many options? Experiment in laboratory is design for specific task in smaller scale for understanding the outcome in large scale and helps in judging and verifying the level of inbuilt confusion. Blowing of horn of speeding automobiles approaching fast cautions other persons and turned pedestrian to attentive on the road and helps in eliminating his momentary confusion that might invite accidents. Is confusion surfaces when we design plan or at the stage of implementation? Is confusion because we have two hemisphere lobes of left and right in mind and each has assigned

specific roles to perform certain specific tasks and when task needs role of both hemisphere of brain that moment we experience and surface confusion to understand what one is communicating and what receiver has exactly received message for performing. Is confusion inbuilt character? Does it surface at the time of formation of mind?

We are honoured that international organization GAATES actively, passionately and collaborating selectively for working to make this universe worth living. *Marnie Peters GAATES Acting Executive Director has invited authors of her choice from her organization. It is great to be part of GAATES.*

With regards

Dr. Sunil Bhatia

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Forthcoming Issues

July 2016 Vol-11 No-7

Prof Cigdem Kaya Associate Professor at Istanbul Technical University, Turkey will be the Guest Editor.



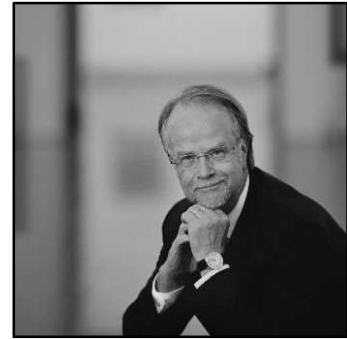
August 2016 Vol-11 No-8

Asst. Professor Yasmeen Abid Maan In charge Architecture Program, LCWU, Lahore Pakistan.(Associate MIAP, MPCATP) will be the Guest Editor



September 2016 Vol-11 No-9

PROFESSOR YRJÖ SOTAMAA PRESIDENT EMERITUS University of Art and Design Helsinki and Cumulus Association, **ADVISORY DEAN AND PROFESSOR** College of Design and Innovation, Tongji University and **DEAN LOU Yongqi** of Tongji University will be the guest Editor



September 2016 Vol-11 No-9.1

Professor Ricardo Gomes has been a faculty member in the Design and Industry (DAI) Department at San Francisco State University for nearly 25 years. He was the Chair of the Department from 2002-2012. Prof. Gomes coordinates the Design Center for Global Needs and the Shapira Design Archive Project in the DAI Department. This non-profit international research and development center is dedicated to promoting responsive design solutions to local, regional and global issues such as: inclusive/universal design, health care, the aging, community development, social innovation and sustainability of the built environment.



October 2016 Vol-11 No-10

David Berman Accessible design thinker, expert speaker, author (*Do Good Design*), UN advisor on IT accessibility, GDC ethics chair. **Communications strongly believes that we can design a better world that leaves no one behind. We've been leaders in the online accessibility field for over 15 years, and we're eager to help you gain from the benefits of inclusive design. David is a senior strategic consultant to the Canadian government, as well as other governments on four continents**



November 2016 Vol-11 No-11

Prof Niraja Tikku and Associate Prof Kriti Gera of Industrial Design of School of Planning and Architecture Delhi will be the Guest Editor



January 2017 Vol-12 No-1

Gerhard M. Buurman is the founder of a couple of programmes, initiatives and institutes at the Zurich University of the Arts (ZHdK). Hochparterre called him a steady initiator and Bernhard Bürdek commended his distinguished ideas on the university level. As theorist and vibrant researcher he worked in international groups at the ETH Zürich and Harvard Law School as a practitioner. He will be the Guest Editor.



March 2017 Vol-12 No-3

Bonollo, Emeritus Prof. Elivio

Emeritus Professor, Industrial Design Faculty of Arts & Design, is one of Australia's leading industrial design educators and researchers. In 2008 he was conferred with the Honour of Cavaliere by



the President of the Republic of Italy in recognition of his collaborative work in design and education. He is emeritus professor of industrial design at the University of Canberra (UC), and recently visiting professor in the School of Design and Environment (2004 -2007), and the Department of Mechanical Engineering (2007) at the National University of Singapore (NUS) will be the Guest Editor

Guest Editorial



Marnie Peters

GAATES Acting Executive Director

The Global Alliance on Accessible Technologies and Environments (GAATES) is very pleased to be able to provide this guest editorial and articles for the Design for All Institute of India newsletter.

GAATES is the leading international organization dedicated to the promotion of accessibility of the built and virtual environments. Based in Canada, GAATES was incorporated in 2007 by an international consortium dedicated to promoting accessibility worldwide, and has an International presence in 6 regions: the Asia-Pacific, Arab, North America, South America, European and African Regions. GAATES members include technical experts, individuals, organizations of people with disabilities, companies involved in information and communication technologies, architects and engineers of the built environment and transportation, and experts in disaster risk reduction, emergency planning and life safety, and interested supporters.

GAATES has also been recognized by other organizations as the International leader in accessibility and has successfully completed a number of projects for UN DESA and UN Agencies in addition to various Government Agencies and States Parties.

The articles for this edition have been provided by a number of persons serving on the GAATES board, and by some GAATES members whom are persons living with a disability. I would like to thank each of them for sharing their knowledge and experiences in relation to Universal Design, accessibility and making the world a more accessible place for everyone.

While 164 countries have ratified the UN Convention on the Rights of Persons with Disabilities (UN CRPD), which focuses on ensuring the human rights of persons and clearly defining accessibility and Universal Design, there remain many countries around the world where people with disabilities continue to have to fight for their human rights, and where accessibility of the built and virtual environments is not considered at the conceptual or implementation stage.

In her article: *Wrong Questions, Wrong Answers: The Statistical Barrier to Accessibility*, Ann Frye highlights the use of attention grabbing statistics on disability - 'facts' - that governments and organizations around the world are quick to use, but often fail to question the true reliability of. Statistics are only as good as the method of collection, whether the appropriate questions are being asked, and whether the questions are being asked of the whole population. Furthermore, it is also important to recognize that cultural nuances and perceptions of disability will also influence responses to given questions, highlighting the need to 'ask the right question, in the right way'. In many cultures, having a disability is seen to bring shame to the family, and many would rather not admit that their family unit includes a person with any type of disability. As such, new methodologies of statistical collection are moving away from asking about 'disability, and asking about 'functional activity limitations', which captures people who would not consider themselves as disabled, but who

will admit to having functional limitations to a number of activities of daily living.

Ann Frye concludes that we still see national censuses indicating absurdly low levels of disability because the wrong questions have been asked, and as a result we will continue to see neglect at the political level of issues that are seen as insignificant. All the more reason she argues, to ensure design and implementation of built and virtual environments is based on the principles of Universal Design, ensuring barrier free environments for everyone.

Working with Ann as Chair of our Transportation Committee, GAATES undertook a statistical exercise of its own – *A Global Snapshot of Accessible Transportation*. The GAATES Transportation Committee carried out an on-line survey of GAATES members around the world to determine what the biggest mobility problems are that people with disabilities face. It will come as no surprise if you have experience in the disability/accessibility field, that the answer is a combination of factors, the top three being: inaccessible transportation vehicles, inaccessible public realm and rights of way (i.e. sidewalks, curbs, paved roads, etc.) and the attitude of transportation service providers and their staff. When asked what is the priority for remedying the situation, there was no clear priority but there was a common theme – systemic societal change is required: in training of service providers; in training of designers and developers of the built environment and public realm, and in creating awareness about Universal Design and accessibility so that governments and the public see that accessibility considerations benefit everyone, and are not only for the persons with disabilities subset of the population.

Even if we had correct statistics, and people understood the benefits of Universal Design, Thea Kurdi, a long time GAATES member and accessibility of the built environment specialists, poses the question *What is holding back progress in creating accessible buildings?* In her article, she examines the long held practice of engaging accessibility consultants once the building design is already well underway, and questions why accessibility specialists aren't consulted at the programming and conceptual stage.

Even once we are able design and develop accessible built and public environments, there continue to be challenges related to *Keeping Accessible Environments Accessible*, as highlighted in an article by GAATES' Matthew Fleet. He rightly points out that this is not just an issue for architects and designers, but that we all have a role to play, especially building managers and operators. Too often environments are 'sabotaged' and barriers created in an environment that was previously accessible. Keeping environments accessible often doesn't cost anything additional - but failing to do so can mean the unintended exclusion of persons with disabilities and older persons.

Those of us who actively work in the field of disability, accessibility and Universal Design recognize the diverse range of human functioning. However, many people when they hear 'disability' automatically think 'wheelchair user'. GAATES board member Joseph Kwan addresses accessibility for persons with vision disabilities in his article on *Finding Your Way with Wayfinding: Navigation Tools for People with Vision Disabilities*. This article highlights the use of a multitude of design features and personal assistive devices, from: tactile wayfinding surface indicators, tactile maps of entire facilities, Braille signage, and other assistive wayfinding technologies. Remarkably, people think

of these wayfinding tools as being for the exclusive use of persons with vision disabilities, whereas the reality is – if you ever have the opportunity to follow a tactile wayfinding guide path, do so, it will never lead you astray – and a tactile map of a facility, makes it easier for everyone to find their way.

Of course, accessibility isn't just about things we can touch and feel – it is also about the ability to access and understand information. GAATES' board member and Country Representative for Bangladesh, Vashkar Bhattacharjee has long been working towards ensuring accessible information for all, working on the conversion of educational materials into Braille and DAISY format. His article on *Accessible Books: A Vision Moving Forward*, addresses the issues and solutions for the way forward in regards to access to information, in his home country of Bangladesh.

From the breadth of articles presented, it is clear that much work has been done, and much more continues to be needed; on educating the governments, organizations, and the masses on the rights and protections contained in the Articles of the UN CPRD; on the need for capacity building on Universal Design and accessibility by architects, engineers, designers and building managers, and on how the implementation of accessibility of the built and virtual environments can benefit us all, not just persons with a range of disabilities.



Marnie Peters

GAATES Acting Executive Director



Ann Frye

GAATES 1st Vice President

Chair - GAATES Transportation Committee

Ann specializes in accessibility of transportation systems Ann Frye is an international specialist on the mobility needs of older and disabled people. She advises public, commercial and professional bodies on sustainable policy solutions to meet mobility needs in all transport modes, and in the pedestrian environment. Ann co-chairs the US Transportation Research Board sub-committee on International Activities in Accessible Transportation and Mobility.

She has led Europe-wide projects for the European Commission and the European Science Foundation to develop Standards and Best Practice in accessible buses and heavy rail services. Ann has worked in this field for over 30 years.

WRONG QUESTIONS, WRONG ANSWERS

THE STATISTICAL BARRIER TO ACCESSIBILITY

Ann Frye, Chair, Transportation Committee, GAATES

SUMMARY

It is now widely estimated that approximately 10% of the world's population are people with disabilities (over 650 million people). It is also recognised that approximately 80% of people with disabilities live in developing countries.

This is fine as an attention grabbing statistic but it doesn't tell us very much about what is happening in individual regions or countries of the world, nor does it give policy makers a clear basis for action or prioritisation.

The difficulty is that the attention which is paid to the needs of people with disabilities by governments varies greatly around the world. In some countries or areas, disability issues are given a high and sustained political focus which is backed up by improvements in accessibility to transport systems as well as in many other areas such as education, health care and employment. In others, there is scant attention paid to disability as either a social or economic priority.

There are many reasons for this wide variation but one fundamental factor is the widely different base on which the statistics on the numbers of people with disabilities are gathered in different countries. Estimates of the prevalence of disability range from 20 per cent of the population in Australia to just 1 per cent in Kenya. Intellectually and intuitively we all know that this cannot be right.

We also know that for politicians faced with acute economic pressure, the lower the number, the lower the level of interest and commitment to address need. It can be noted that there is a strong correlation between the recognised numbers of people with disabilities and the legislation put in place to address access and other issues.

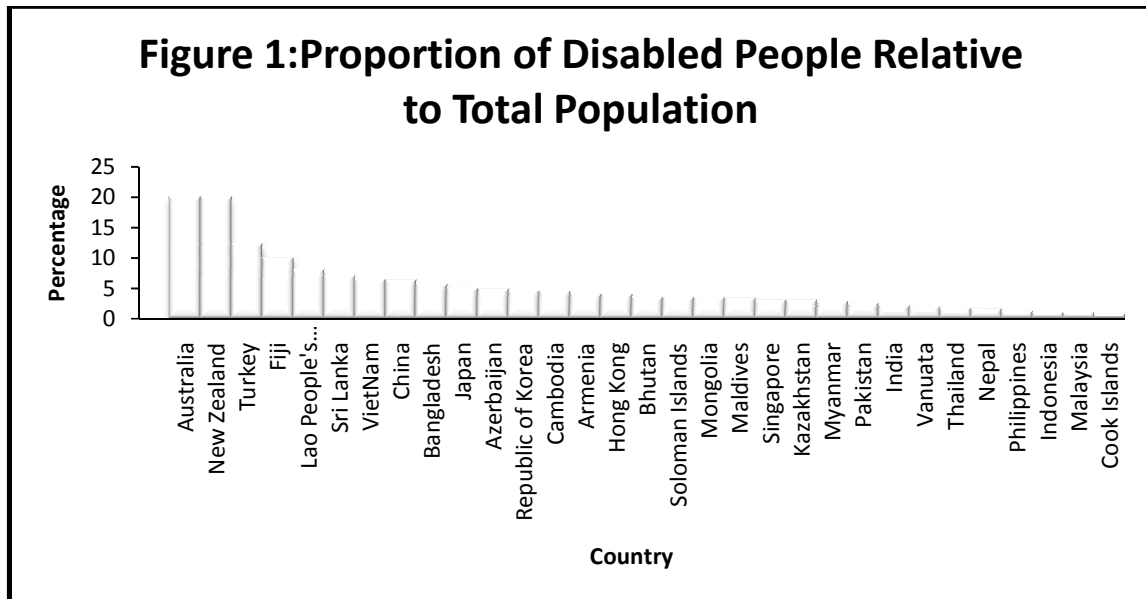
The reason for the discrepancies is in large part the nature of the questions that are asked to determine whether an individual has a disability and how that disability impacts on his/her life chances.

ASKING THE WRONG QUESTIONS

The Convention on the Rights of Persons with Disability (CRPD) emphasises the continued need for reliable and comparable data on people with disabilities (Article 31). This article requires that governments collect appropriate statistics to facilitate the monitoring of the CRPD and that they develop and implement national policies and programmes promoting the rights of persons with disabilities.

A study for the World Bank [Mont, D 2007, "Measuring Disability Prevalence"] drew attention to the wide variations across the world in the way that statistics on disability are gathered. These range from medical/condition based categorisations through to functional and "activity limitation" based questions. The result of these different approaches is a significant difference in the level of disability recorded. As noted above, estimates range from 20 per cent of the population in Australia to less than 1 per cent in Kenya. Between these two extremes are many other examples which look to anyone with experience in this field to be wholly counter intuitive.

Figure 1 below illustrates the enormously wide variation in the countries of Asia and the Pacific



Source: UNESCAP, 2010

The difference that can be made by changing the nature of the questions asked is illustrated in Brazil. At first the National Census asked about a specific set of medical conditions. This was later changed to ask about functional difficulty in carrying out various activities. The second approach led to an increase in the estimate of the prevalence of disability from 0.9 per cent to 14.5 per cent. This has had a profound effect on Government policies.

Worldwide these discrepancies have a major impact on the level of political interest that is given to the subject of disability. In the field of transport and mobility they also have a major impact on understanding at practical and technical levels of the barriers that need to be removed to enable disabled people to live independently.

The difficulties created by the lack of consistency in data collection are highlighted in a United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) report [UN ESCAP,

“Disability at a Glance 2010: A Profile of 36 Countries and Areas in Asia and the Pacific”]. The report notes that *“definitions of disability, methods and institutional capacity regarding data collection vary considerably. Consequently the comparability of the data across the region is called into question.”*

The Report goes on to assert that, in spite of these shortcomings, such data can still reveal valuable information at a regional level. It does, however, call on Governments, researchers, organisations of people with disabilities and other stakeholders to take further action to *“enhance their data collection efforts and create an inclusive, barrier free and rights based society.”*

The UN General Assembly has also reiterated the urgent need to include disability in the international development agenda, and has identified the strengthening of the collection and compilation of national data on the situation of people with disabilities as a means to achieve this goal.

The UN notes that disability continues to remain largely invisible in most mainstream development processes. They stress that better information on the situation of people with disabilities is urgently needed to prevent the perpetuation of barriers to participation and inclusion, and to help towards the overall objective of equalisation of opportunities.

It is clear, however, that this is not a new issue. As long ago as 1981 the UN published Guidelines on this topic [UN, 2001, “Guidelines and Principles for the Development of Disability Statistics”]. At that time it was noted that *“Over the past several decades, national efforts to collect disability statistics have increased significantly. However, this increase is due mainly to the inclusion in the census of a question or questions on disability.*

Some countries have included a special module on disability in an ongoing survey, usually a health survey. Only a few countries have undertaken a special disability survey. National registers of persons with disabilities are rare, and another problem is the lack of international standards to guide the production and compilation of statistics in the field of disability. As a result, the quality, completeness and detail of existing statistical information are usually inadequate for national policy and programme needs.”

In the years since that guidance was published, there is certainly evidence of data on disability being gathered more routinely in more places, but the fundamental problem of the questions that are asked and the impact that the resulting data has on policy and practice remain.

The UN Convention is clear that disability results from an interaction between a non-inclusive society and individuals. Indeed this is the basis of the long established social model. But until we start to measure the extent to which non-inclusive societies – in all their forms – are impeding the daily living of people with disabilities we will not have a clear basis on which to establish priorities for action.

It has been argued that dividing the population into disabled and non-disabled people, although useful for many purposes can also be problematic and can contribute to a focus on negative differences in abilities. However, if we focus the statistical analysis on activity limitation it takes on a much broader perspective and one that enables us to focus on where and how changes need to be made to remove the barriers that have created that limitation.

As a 2005 report [Eide, Arne and Loeb, Mitch, 2005 “Data and statistics on disability in developing countries” Disability

Knowledge and Research Programme] comments "*Comparative statistics is particularly powerful as a tool for lobbying, sensitising and influencing decision makers as well as the population in general*".

The Washington Group on Disability Statistics was formed as a result of the United Nations International Seminar on Measurement of Disability that took place in New York in June 2001. An outcome of that meeting was the recognition that statistical and methodological work was needed at an international level in order to facilitate the comparison of data on disability cross-nationally.

The Washington Group has developed a short set of questions aimed at overcoming the distorting effect of many of the more traditional methods of categorising disability. The questions are intended to identify people in the population who are "*at greater risk than the general population of experiencing limited or restricted participation in society*" [Washington Group on Disability Statistics, 2009, "Understanding and Interpreting Disability as Measured using the WG Short Set of Questions"].

The questions devised by the Washington Group cover 6 key areas of functioning: vision, hearing, mobility, cognition, self-care and communication and capture the degree or severity of difficulty in each case.

The Report describes the change in data obtained by using this method in Zambia. The questions used in the 2000 Censusto capture disability were: "Are you disabled in any way?" (Yes/No), and "What is your disability?" This approach gave a disability prevalence rate in Zambia of 2.7per centwhich represented a trebling of the 1990 population prevalence rate of 0.9 per cent

which used the same approach but included only 4 impairment categories.

Using the Washington Group short set of questions in a 2006 Living Conditions Survey in Zambia a disability prevalence rate of 14.5 per cent was obtained.

Asking appropriate questions on a common basis is clearly a significant step forward, but as the Washington group notes the word "disability" often carries with it negative connotations and people may feel stigma or shame at self-identifying as disabled. For this reason, the question *Do you have a disability?* is considered inadequate at identifying, for example, mental or psychological impairments which tend to be particularly stigmatising. People in some cultures may deny their disability or hide the fact that they have a disabled family member. "Disability" often also implies a very significant condition. People who can walk around their homes but are incapable of walking to market may not think of themselves as having a disability even though their daily activities are limited. This whole issue of cultural differences and personal perceptions of ability or disability underline the importance of asking the right questions in the right way.

The World Health Organisation's International Classification of Functioning Disability and Health (ICF) [WHO, International Classification of Functioning Disability and Health, 2001] includes definitions of "*limitations on participation*" and "*limitations on activity*" as well as a specific domain dealing with "*mobility*" which includes a range of fields from walking to driving and using public transport.

STATISTICS AS A TOOL FOR POLICY AND ADVOCACY

WHO advocates the use of the ICF as “a powerful tool for evidence based advocacy. It provides reliable and comparable data to make the case for change. The political notion that disability is as much the result of environmental barriers as it is of health conditions or impairments must be transformed, first into a research agenda and then into valid and reliable evidence. This evidence can bring genuine social change for persons with disabilities around the world”.

The Washington Group goes on to argue that statistics are only of value to policy making if the numbers enable solutions to be targeted correctly at those who need them.

There is, however, a bigger issue that is particularly relevant to transport. The smaller the sub-sets of disability are revealed to be, the less likely it is that economists and politicians will see the justification in investment to solve those problems.

One example from the UK in the early 1990s illustrates the point. There was at that time a strong lobby from people with disabilities to replace conventional high floor buses with low floor buses equipped with ramps. The UK bus industry was largely privatised and profit driven and there was little interest in investing large sums of money for what were seen (correctly) as a very small minority of the population who used wheelchairs. The argument went on that, in any case, very few wheelchair users would choose to travel by bus even if the vehicles were accessible.

The breakthrough came from a Government sponsored trial in which operators were offered, on free loan, a low floor bus to try out on routes that they would normally operate with high floor

vehicles. Predictably, there were virtually no wheelchair users sitting eagerly at the bus stop in those early days, but there were large numbers of people travelling with baby buggies (strollers) who had not traditionally been able to access the buses and were now choosing to travel on a regular basis. This meant that the economic case for low floor buses was made quickly and for many years now in the UK as in most of the rest of Europe they have been the norm.

Essentially this was an early example of the principle of universal design with a focus on providing a solution that benefitted everybody.

There are, however, other areas in which a clear and realistic picture of the numbers of people whose daily lives are impeded or restricted is a valuable catalyst for change. The argument is clearly more persuasive politically and economically in countries which provide a system of social care to support those who cannot live or function independently. The costs of bringing care into the home will in many cases greatly outweigh the costs of removing barriers to accessibility.

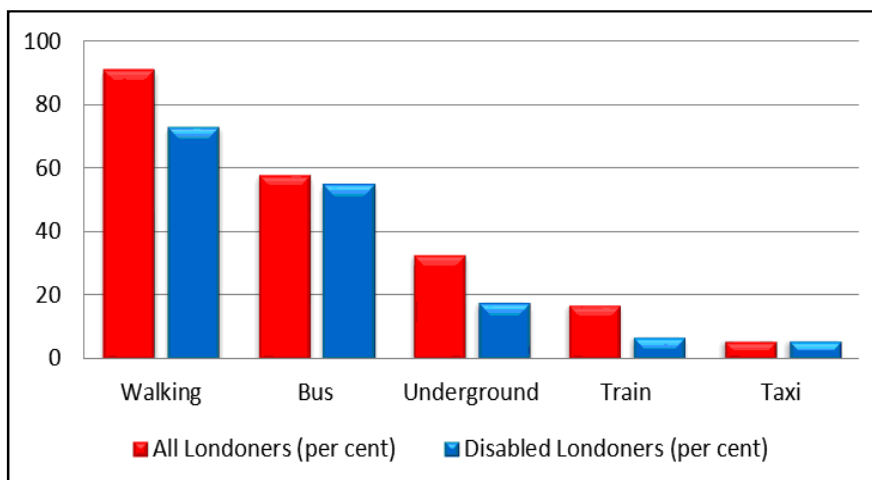
One simple example is the state of pavements (sidewalks) in many countries. If older people or people with disabilities cannot get from their homes to do even the most basic of local activities such as shopping for food because they cannot physically cope with broken and uneven paving or because they are frightened of fast moving traffic, the economic costs as well as the costs in terms of quality of life are considerable.

Lack of access to basic outdoor mobility and to local public transport plays a major part in sustaining the link between disability and poverty. Without the ability to travel, the chances of

finding or keeping employment, or continuing in education are very limited indeed. Here too there is no clear picture of how many people are prevented from finding employment because of transport systems and local streets that create barriers to mobility. It is often easier to assume that people with disabilities are not in employment because they would be unreliable workers – even though there is clear evidence that disproves this. In India, for example, the employment rate of people with disabilities is 60 percent lower than that of the general population.

Mainstreaming the collection of disability data so that it is directly comparable with broader population data is particularly useful in a transport context. In the example in Figure 2 below, Transport for London regularly gathers data about the total number of Londoners using specific transport modes compared with the numbers of disabled Londoners using the same modes.

Figure 1. Travel patterns of disabled persons in London, UK (the percentages of Londoners using a given mode of transport at least once a week)



Source: Transport for London "Perceptions of Public Transport in London among Equality & Inclusion Groups" 2007

Data of this kind makes it possible to see immediately where barriers to mobility are successfully being tackled and where further work is needed.

Sometimes, micro level analysis and data gathering can be more effective than a broad brush assessment. One example comes from Shanghai where a World Bank funded project engaged older people and people with disabilities in auditing the city themselves and reporting problems to city authorities. The project set out to establish the issues that were of greatest concern to people in the city, to prioritise problems and engage the public in delivering access improvements. This audit process is now repeated on an annual basis by the city authorities. It has helped to increase awareness of city authorities and contractors about the needs of disabled and older people, focus attention on the need for quality in the construction and maintenance processes and bring access improvements into the mainstream of city planning.

Tourism is also an increasingly powerful economic driver and the potential market among tourists with disabilities is beginning to impact the thinking of some countries where accessibility had not previously been considered as a priority issue.

A report to the Caribbean Tourism Organisation from the Barbados Council for Disabled people [Caribbean 360 (2010) 'Disabled people a growing tourism market'] noted that: '*Collectively 75 per cent of Canadians, Americans & Europeans with disabilities who are physically and financially able to travel do so with their caregivers, family and friends. The current economic climate dictates that we target this emerging market.*'

The examples given above of targeted and sector specific gathering of data can be a much more effective policy tool than

the traditional national census data simply because it can delve into much more detail and be more current. The time lag between national censuses and the often long delay in publishing data from them are both negative points in the context of transport planning.

The World Health Organisation (WHO) reports [WHO World Report on Disability 2011] that there is a correlation between the type of statistical collection done and the rate of disability. Those countries using large scale censuses are more likely to report low levels of disability than those using targeted surveys and applying a measurement approach that records activity limitations and participation restrictions. For example, if pain is included as a measurement, unsurprisingly, the numbers of people recording difficulty in certain activities will increase significantly.

National level censuses are, nonetheless very valuable in building up an overall picture and in tracking trends over time.

Countries are increasingly moving towards a continuum approach to measurement where estimates of prevalence of disability and functioning are drawn from assessments made across a range of different activities and life functions. Critical differences can still occur depending on the extent to which environmental influences are taken into account.

CONCLUSIONS

It is clear that the way that statistics are gathered and used can have a profound effect on the life chances of people with disabilities. It is however essential that data continues to be gathered so that resources can be targeted and policies and practices adjusted to meet changing needs.

The global recognition of the demographic trends and the significant growth in the numbers of older people is one clear example of a wakeup call that has been heeded (albeit rather late in many cases) by politicians and policy makers. The sheer numbers of older people have made a strong impact on thinking and actions to deal with the policy and practical implications are now being put in place.

Where we still see national censuses indicating absurdly low levels of disability because the wrong questions have been asked, we will continue to see neglect at the political level of issues that are seen as insignificant. More widespread adoption of the classifications suggested by the ICF or the Washington Group will certainly help but will inevitably take a very long time to make an impact in many countries in the developing world.

In any event, although there is clearly benefit from large scale long term studies at national and international level, the data they generate is often too late or too broad ranging to be of use in planning and delivering improvements in transport services and the built environment.

In this context, local “micro” surveys involving people with disabilities in gathering the data and determining the policy are likely to be much more effective as drivers of change.

Paradoxically, at the other end of the spectrum the adoption of policies of universal design are another effective tool for addressing real need at street level. The policy that everyone benefits from barrier free, intuitive design is one that does not depend on knowing how many people with what kind of disability may benefit, they will simply be part of the mainstream for whom the barriers have been removed.



Ann Frye

GAATES 1st Vice President

Chair - GAATES Transportation Committee

A GLOBAL SNAPSHOT OF TRANSPORT NEEDS AND PRIORITIES

Ann Frye

Chair, Transportation Committee, GAATES

Abstract

The Global Alliance on Accessible Environments and Technologies (GAATES) carried out a survey in 2013 among its members worldwide.

Responses to the survey came from 39 countries in Africa, the Indian sub-continent, the Pacific Rim, South East Asia, North America, Europe, Latin America and Europe. The majority of respondents were people with personal experience of disability.

The survey asked about available public transport in the region in which people lived and invited them to identify the biggest problems affecting mobility. The major factor cited was inaccessible public transport vehicles followed by the attitude of drivers and other transport staff.

Priorities for change identified by respondents in many countries included a clear legal framework for accessibility and the means to monitor and enforce it. Understanding and commitment from elected officials and from transport professional were also cited by many. The survey respondents called, above all, for technical guidance on inclusive design solutions aimed at civil engineers, planners and other professionals.

1. GAATES

The Global Alliance on Accessible Technologies and Environments (GAATES) is a not for profit international organisation dedicated to the promotion of accessibility of the built, transportation and

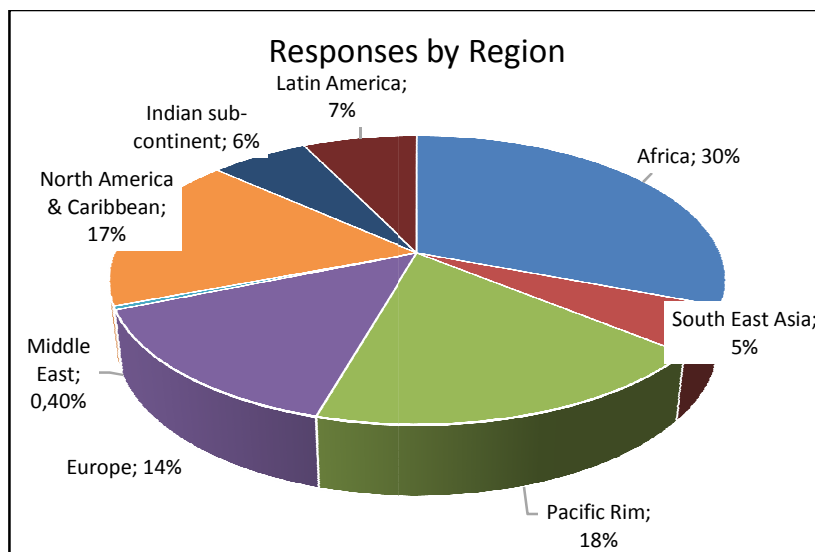
virtual environments, as well as disability inclusive disaster risk reduction (DiDRR). GAATES is working to improve access for the estimated one billion people with disabilities around the world. People who are marginalised by the lack of accessibility to the built environment, transport and related facilities, as well as lack of access to information and communications.

GAATES membership includes people with and without a disability, and from diverse cultural, educational and disciplinary backgrounds around the world. The majority of members have personal disability experience and many years of experience in the accessibility or advocacy fields

2. The Survey

In 2013 the GAATES Transportation Committee carried out an on-line survey of GAATES members around the world to determine what the biggest mobility problems are that people with disabilities face and what they feel that GAATES could most usefully do to address those problems.

The Survey was completed by 257 people from 39 countries .The chart below shows the breakdown of responses by Region.



The biggest response came from Africa, with South Africa topping the table with 51 responses.

3. Findings

3.1 The respondents

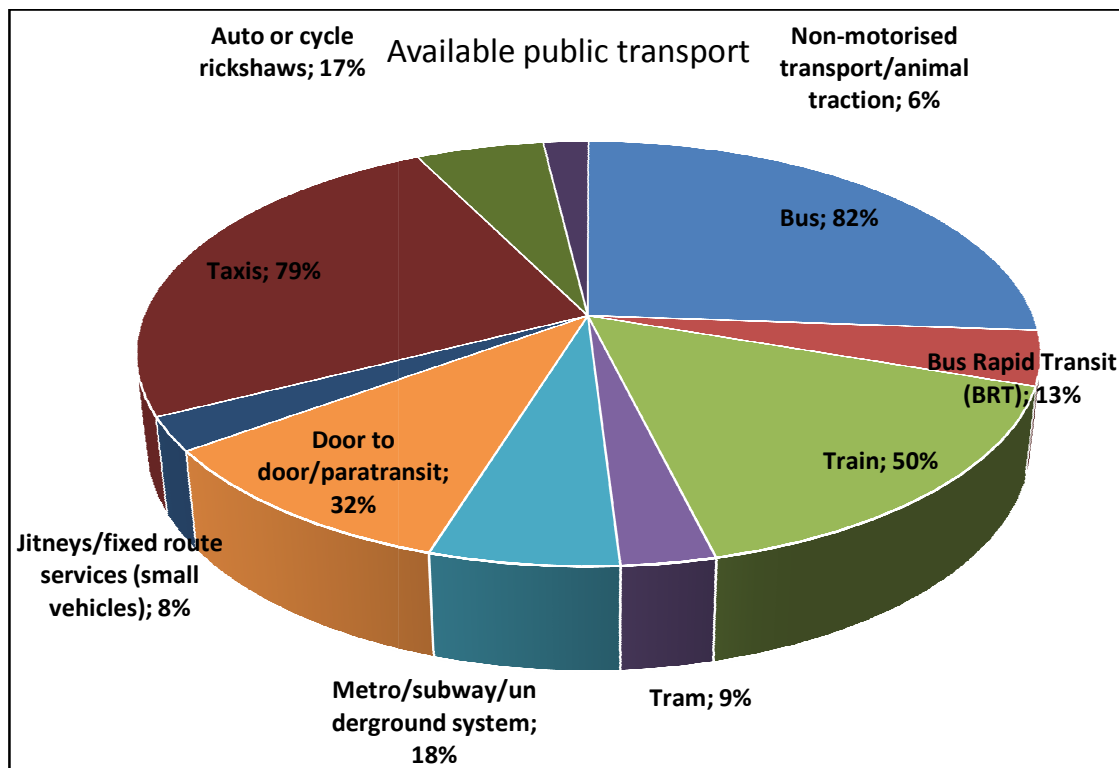
76% of respondents said that they have personal experience of disability.

Respondents were asked what type of area they lived in. 60% described their location as "mainly urban", 28% described it as "suburban or township" and 10% as "mainly rural".

3.2 Available Public Transport

Respondents were asked to identify all the types of public transport that are commonly available where they live.

The chart below summarises the responses across all regions.



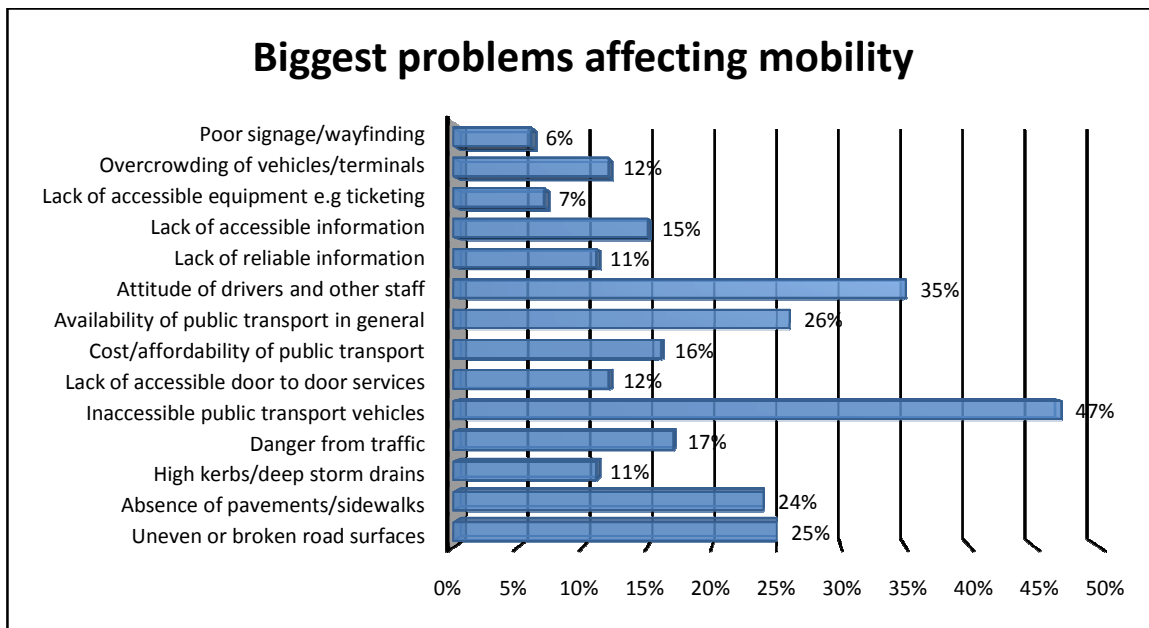
If the same analysis is run separately for the respondents from different regions of the world, there are obviously variations in the mix of available transport. Responses from the Indian sub-continent, for example, identified no availability of door to door or other fixed route services in small vehicles. They did, however identify high level usage of cycle or auto rickshaws and of taxis (77% of respondents).

Respondents from Africa indicated a greater usage of door to door/paratransit services (35% of respondents) and in addition a small number (6% of respondents) use non-motorised transport or animal traction. Other transport modes identified included motorbike, private car, Jeepney, ferry, trolleybus and donkey rickshaw.

Responses from Latin America showed the highest level of any region for BRT availability (32% of respondents) and a high level of access to metro/underground systems (53% of respondents).

3.3 Biggest mobility problems

The next question asked respondents to identify the three biggest problems affecting the mobility of people with disabilities in their country/region. The Chart below indicates the worldwide responses.



Percentage of Respondents

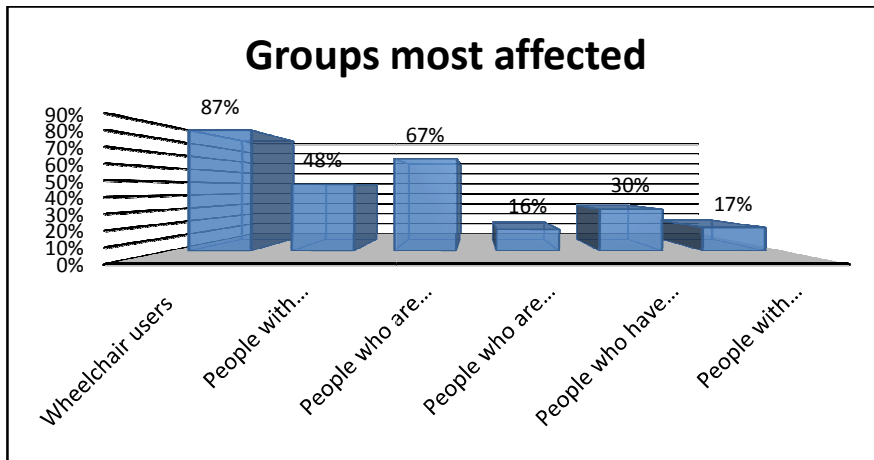
Additional comments from respondents in included:

- ***"Attitude, and lack of care for pwds" (Kenya)***
- ***"Inappropriate wheelchairs that cannot push over uneven ground to get to roads". (South Africa)***
- ***"Lack of last mile connectivity and lack of reliable public transport connecting all destinations.' (India)***
- ***"Places reserved for wheelchair users are always taken by able bodied passengers." (Mexico)***
- ***"Communication challenges, particularly for those who are deaf". (Zimbabwe).***

3.4 Groups most affected

The next question asked whether some groups of people with disabilities were worse affected than others by the kind of problems identified in the previous question.

Respondents were asked to identify the three groups they thought had the biggest problems. The responses are summarised in the Chart below:



Other categories identified by respondents included:

- **People of short stature (Kenya)**
- **People who are deaf/blind (Kenya)**
- **Older people who are unable to drive (New Zealand)**
- **People with autism (South Africa)**
- **People unable to speak (South Africa)**
- **People with multiple disabilities (USA)**
- **People with intermittent pain (USA)**
- **Upper limb amputees (Argentina)**

3.5 What needs to change?

The next question asked respondents to identify the three most important changes that would enable people with disabilities to move around the streets and pavements/sidewalks and access public transport more easily.

The most frequently identified (from many different countries) were:

- **Better attitude and staff awareness/need for training;**
- **Legislative support and control mechanisms/enforcement and monitoring of access improvements;**

- **More attention to making the pedestrian environment accessible;**
- **More accessible public transport (buses in particular).**

Other issues identified include:

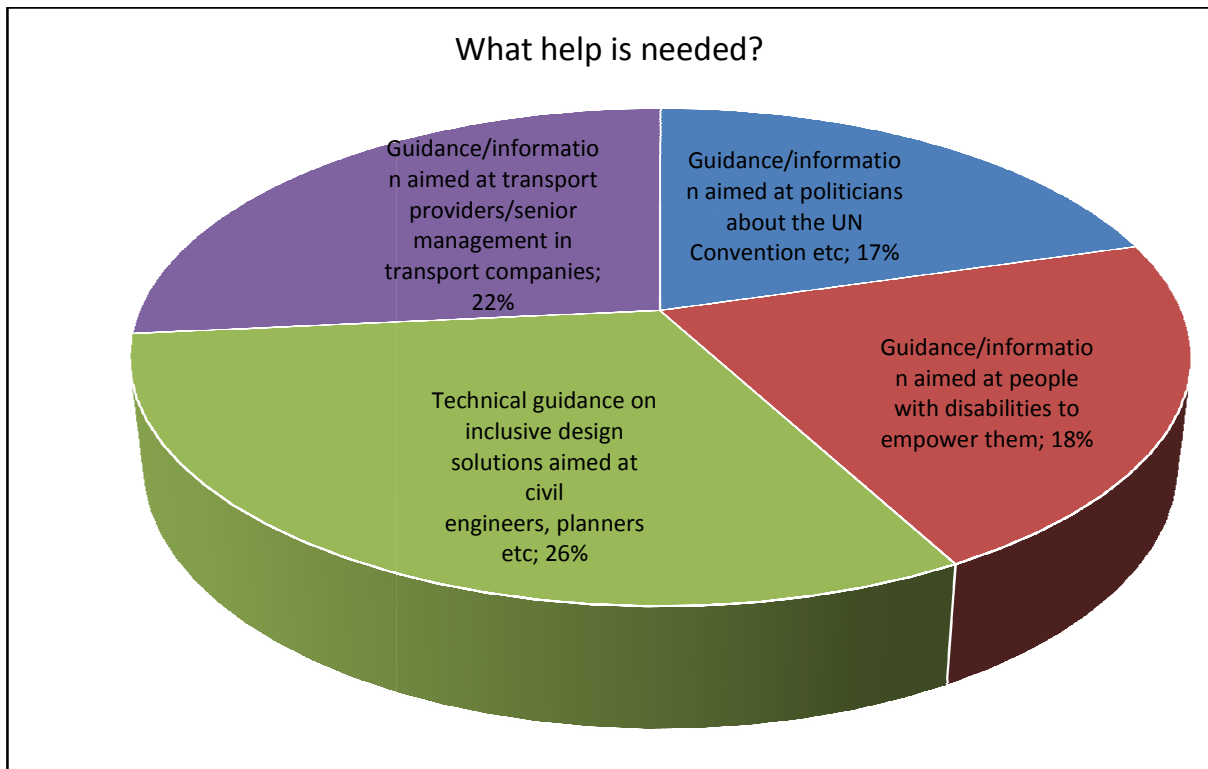
- ***"Public and professional awareness and commitment to make the city accessible". (Malaysia)***
- ***"Developing and enforcing public policies to provide for effective, progressive and consistent implementation of safe and accessible public transport." (Mexico)***
- ***"The Improvement of the transport system, proper consultations with PWD's in the initial planning phase and maximum use of the Technical Assistance Guidelines". (South Africa)***
- ***"To have good wheelchairs which they can use to walk on the sidewalks and to establish Physical rehabilitation centre". (Somalia)***

3.6 *"Policy formulation, budget allocation and implementation within a given time frame". (Kenya).*

What help is needed?

The last question asked what one initiative GAATES could most usefully take to help tackle the wide range of problems identified by respondents.

The breakdown of responses can be seen in the Chart below:



As the Chart indicates, there is no clear priority identified, with almost equal weighting given to each of the options which the survey had identified as being areas in which help is needed.

Additional comments from respondents addressing the direct question of what GAATES could do and offering more general observations on changes that are needed, included the following:

- ***"Empowering PwDs and include them to be members of the accessibility monitoring teams under state/independent institutions/mechanisms." (Sri Lanka)***
- ***"Integrating of Disability issues in ALL curriculum but preferably for teacher trainees (colleges, universities) so that this cascades to pupils/students and then to community at large. Economic empowerment to enhance self reliability"***

as in this will help them acquire adapted vehicles and other mobility devices.” (Kenya)

- ***“Persons with disabilities also need to be empowered to know how to address these challenges constructively.” (South Africa)***
- ***“Information to the community in general to increase disability awareness and thus improve community understanding and thus empathy towards an individual with a disability. The community can then pressure government better than a lone specialised group.” (South Africa)***
- ***“Awareness about inclusive design and universal design to general public to see the importance of these things that it's not only applicable to persons with disabilities but also for other groups of citizens such as the elderly.” (Thailand)***
- ***“Small grants to organisations working for the disabled, in order to do trials in transporting the disable at low cost.” (India)***

4 Drawing lessons from the findings

Although the survey responses span a wide cross section of the world's populations from highly developed industrial nations to less developed areas, there are some clear common threads running through the responses which can be summarised as follows:

- **Even in countries/regions where laws are in place and accessible public transport exists, there is intense frustration that laws are not implemented or enforced and that there are still significant gaps in accessibility;**

- **At the most basic local level, lack of suitable wheelchairs and barriers preventing access to streets and pavements/sidewalks are a huge problem;**
- **Everywhere in the world, lack of understanding and awareness of disability is a major problem. This applies to transport staff (drivers etc.); to those who design and plan transport and pedestrian infrastructure (engineers, architects etc.); politicians and government officials and the travelling public as a whole;**
- **Poor design of public transport and inability to travel spontaneously (without pre-booking) also affect many people.**

5 Moving the agenda forward

There is already some excellent material addressing some or all of these issues (for example from Access Exchange International and the World Bank). However, it is clear that this material is not yet universally available to those who could use it to promote accessibility around the world.

An obvious first step – and one which GAATES is taking – is to try to broaden knowledge of and access to the information already available on the internet.

Some material has global relevance and should be disseminated as widely as possible. However, it is important to recognise that high tech, high cost solutions that work for some countries may be out of reach – and indeed inappropriate – for others.

It is also important to note that however good the material provided to those who want to push for change and to start to

make a difference, unless Governmental structures and political positions are aligned, progress will remain limited.

6 Positioning accessibility in the global agenda

Accessibility should not be seen as a policy goal in isolation. It needs to be considered as part of the broader process of innovative thinking underway in many countries about sustainable development and the creation of liveable communities.

This would strengthen the position of accessibility as a non-negotiable part of policy making, planning and funding at international, national and regional levels.

7 United Nations Convention on the Rights of Persons with a Disability

The UN Convention on the Rights of Persons with a Disability (CRPD) is seen as a catalyst for change in this context, particularly in developing countries. The Convention, which has now been signed by 159 countries and ratified by 152 (many from the developing world), places an obligation on signatories to provide access to the physical environment and to transport. There is a clear stated link between access to transport and the ability of disabled people to use basic services including health, education and employment. There is some evidence of the UN Convention being successfully used to provide leverage to initiate or enforce access improvements at a local level. At a broader level, the USA, for example, builds the Convention into their memoranda of understanding in working with other countries on disability and accessibility issues. The World Bank also regards the Convention as an important tool in building partnerships.

The UN Convention refers to “progressive realisation” of the goal of accessibility. In other words it must be seen not as a one off but as a step by step process. To get that process started, it is important to build up sufficient momentum among stakeholders, including disabled people, technical experts and policy makers to think innovatively and to implement change.

8 Developing coherent structures and processes

In organisational terms, many countries lack the administrative structures to implement a mandate for accessibility. There is also clear evidence of limited or no collaboration between different sectors and levels of government and agencies.

Lack of understanding and awareness about the need for accessibility also impacts on the quality of implementation and monitoring and often means an absence of enforcement even after laws have been passed.

One possible model to address this problem would be the creation of oversight boards at national or regional levels to represent the interests of stakeholders, including people with disabilities, and ensure correct and timely implementation and follow up.

Key to this process too is the engagement of disabled people from the drawing board through to realisation at every phase of the process. Establishing and formalising effective stakeholder engagement is fundamental to success. It is particularly important to ensure that stakeholder organisations are fully representative across the whole spectrum of disability issues and are well briefed on legal and other frameworks. The process by which they are established also needs to be robust so that there is continuity of input.

Progress in driving the accessibility agenda is often dependent on a small number of individuals with understanding and commitment. Successful though this can be in the short term, continuity over time can only be achieved through the establishment of processes and laws. A clear legal framework (both at the international level of the UN Convention and at more specific national and regional or local levels) is also essential, together with political commitment.

Another obstacle to coherent progress can be the multiplicity of agencies involved, often without clear strategic thinking or communication between them. While it is evident that disability and therefore accessibility are cross-sectoral issues, there needs to be co-ordination between the different parties to optimise progress. Some good examples of joint working include: the USA where Government Departments responsible for transport, housing and environmental protection are developing joint approaches to addressing need through establishing liveable communities; Norway which has brought all its relevant Government Departments together under the banner of Universal Design; and China which has formalised (in Shanghai for example) an annual process of consultation between city construction authorities and disabled and older people.

More effective and cost effective progress can also be made by developing detailed implementation strategies at national, regional and local levels, together with penalties for non-compliance. "Hearing" boards could be set up (again at national or regional levels) to address non-compliance by public and private transport providers and agencies. Local volunteer advisory boards of professionals and users to monitor progress can also be valuable.

9 Economic and Financial Issues

In financial terms, there is competition for national spending and accessibility is given a low priority by many cash strapped national, regional and local government agencies. The initial cost of achieving accessibility is often viewed as unaffordable, especially for developing countries, despite ratifying the UN Convention on the Rights of Persons with a Disability.

There is therefore an urgent need to re-think the economic and fiscal basis for accessibility.

A major step forward in making the case for routine investment in accessibility would be to re-position accessibility as a benefit rather than a cost. One means to address this problem could be to incorporate access to transport, in its fullest sense, within an official measure of economic progress.

Strong governance and a clear legal base are essential to successful funding of accessible transport and infrastructure. Understanding local culture, demonstrating improvement and introducing technical innovation are also important.

Tourism and international sporting events (e.g. Olympics/Paralympics) are also key global economic drivers which should be harnessed.

10 Marketing

The positioning of accessibility issues in the global consciousness is also important. There is currently little understanding in the population at large of the enormously detrimental impact that a lack of mobility can have on people's lives. There needs to be greater momentum built up at international as well as (in many

countries) at national level to raise accessibility up the political and public agendas.

11 Planning

Settlement patterns are changing. Since 2007 more than half the world's population has lived in urban areas and by 2025 this will rise to 60%. Population growth may strain the fiscal capacity of urban areas to respond to new infrastructure needs.

There is too often a disconnect between the planning and political processes and the realities of daily living for those with mobility difficulties. In developed countries the growth of out of town retail and health facilities that can only be accessed by those with private cars is one such example.

One solution being explored in some countries is the concept of "ageing in place" which allows older people and those with disabilities to continue to live in their own communities by creating barrier free and accessible environments around them.

At the opposite end of the spectrum, rural poverty and isolation are still major factors and are disproportionately affecting older and disabled people. There are many countries and areas still without basic facilities such as paved roads and indeed without basic equipment such as wheelchairs.

12 Training

One key factor in addressing needs in both urban and rural environments is for transport and planning professionals as well as architects to be routinely trained in accessibility issues as a part of their basic curriculum. There are some good examples, such as Catalonia in Spain where university students must take

credits in the Design for All concepts but this is still the exception rather than the rule in most countries.

As a result of this simple gap, opportunities are lost and expensive mistakes are made in planning and developing infrastructure which are often impossible to put right and may leave a negative impact for many years.

13 Research and Knowledge Transfer

As the GAATES survey revealed, a number of key gaps exist both in basic knowledge (particularly knowledge that is relevant to developing countries) and more generally in the application of that knowledge and its availability to practitioners.

For example, we still lack consistent and meaningful indicators of accessibility. There is a tendency to measure progress in terms of numbers of, for example, accessible buses or bus stops. This kind of indicator does not give enough information about the impact on the day to day mobility of disabled and older people.

An international forum for the exchange of knowledge and research data would be valuable, with an emphasis on helping developing countries to identify the right technology or approach for their particular situation. Such a forum, which GAATES is working to develop, could also have an important role in promoting and disseminating information on innovation in this field.

Some means, at international or national levels, to evaluate progress and to advise on next steps would be welcome. There are some examples of innovation in this field. One such is a recent joint project funded by the United National Development Programme (UNDP) and the Government of Malaysia which was intended to support the development of a fully accessible

transport system for Penang State, as a pilot for the rest of Malaysia. The project focussed on access audits of public transport facilities, capacity building and awareness raising activities.

It is also interesting that while there are clear guidelines on the correct technique for installing access improvements, often there is no explanation of why they need to be done in a particular way. This has an adverse impact on the quality of installation and maintenance, for example, in areas such as tactile paving. This can be a factor in both developed and developing countries. A good example of tackling this problem comes from Shanghai where there is one "access checker" per square kilometre of the city whose job it is to identify barriers to access.

Developing countries tend to adopt standards drawn up either by international bodies or by developed countries even though they may sometimes be inappropriate or unaffordable. There is a need for further work to identify the "low hanging fruit" that could give developing countries a clear and affordable basis for sustainable accessibility. One obvious starting point would be basic improvements to the local pedestrian environment to create access for disabled and older people. Another is to consider simple low cost improvements such as the use of contrasting colour on step edges that can assist people with low vision.

There is also a need for stakeholder engagement in research. The example of "Citizens' Science" committees and other kinds of community engagement could be useful as a means of focusing on the topics of greatest relevance to disabled and older people.

14 Design and Technology

There is a clear need to distinguish between solutions appropriate for developed and developing countries. The low floor bus is one such example. This is now almost universal in developed countries with very positive benefits but may not be the best solution in some developing country situations without paved roads or other basic infrastructure. High floor vehicles with access aids and smaller vehicles may be better solutions at least on a transitional basis.

Universal Design, which is based on the premise that products and environments should be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design is a very valuable concept. However, it can only be applied where a culture of inclusion and accessibility has been established. Although the concept of Universal Design has been in existence for over 20 years, its take-up is still mostly at local or regional levels.

There is a particular need to find the means to support development of low cost products for developing countries. Accessible three wheeled scooters are one prime example which could not only provide low cost mobility for many but could also create employment through establishing manufacturing bases in developing countries. Although this market is too small in a single country to make an economic product, the combined market size of several countries could make it a commercially viable proposition.

13 Summary and Conclusions

The GAATES survey of key issues on transport accessibility has identified a number of clear priorities as well as illustrating the

difficulties that exist still in many developing countries in moving the accessibility agenda forward.

As this paper has demonstrated, it is not simply a matter of providing the right information and technical resources to those championing accessibility in their own communities – though this is certainly an important step. To make progress that is coherent and sustainable, there needs to be fundamental shifts in attitude and understanding among politicians and economists as well as among practitioners in the transport field



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THEA KURDI

Thea Kurdi is an accessibility code consultant and universal design specialist for the built environment. Thea has over fifteen years of experience practicing and teaching accessible architecture with a specialization in universal design. In her role as an accessibility consultant, Thea has assisted design teams realize the benefits of universal design and achieve higher levels accessibility on projects within the health care, education, justice, institutional, commercial, residential, and entertainment sectors.

Thea has presented workshops and participated in conferences, educating design professionals, building owners, and policy makers about universal design of the built environment. She has also had several articles published exploring convergences in accessible and green design as well as how to improve the accessibility outcomes in the built environment.

What is holding back progress in creating accessible buildings?

by Thea Kurdi

Creating accessible built environments – that are actually accessible – is almost as much of a challenge today as it was years ago when the first technical requirements addressing accessibility for the built environment were addressed in building codes, standards and accessibility guidelines. Certainly there have been breakthroughs in our society’s understanding of what accessibility means, some progressive research indicating what dimensional requirements are actually needed for people using assistive equipment[1], and even movement at the government level in the form of new legislation and cyclical changes to building codes. Despite all these positive changes, the new building projects reviewed for accessibility during the design phase continue to have many of the same issues encountered years ago. Certainly some problems persist due to attitudinal bias, and many others are due to insufficient training in schools of architecture about accessible and universal design. Yet it must be recognized those can’t be the only reasons.

This past year I set out to determine if I could discover what is hindering our progress and find the cause, or causes, of so many of the common mistakes. It seemed that the issues must be occurring before the design phase where accessibility specialists do most of our consulting. Speaking to clients seemed the best place to start. These conversations quickly revealed that the biggest obstacles were items that had a space requirement in conflict with the spatial allowances listed in architectural programming, an earlier step in the process for creating a

building. Following up on this information, and in speaking with contacts at a well-respected architectural programming firm, it was surprising to learn that there is no one typical process for establishing room space requirements.

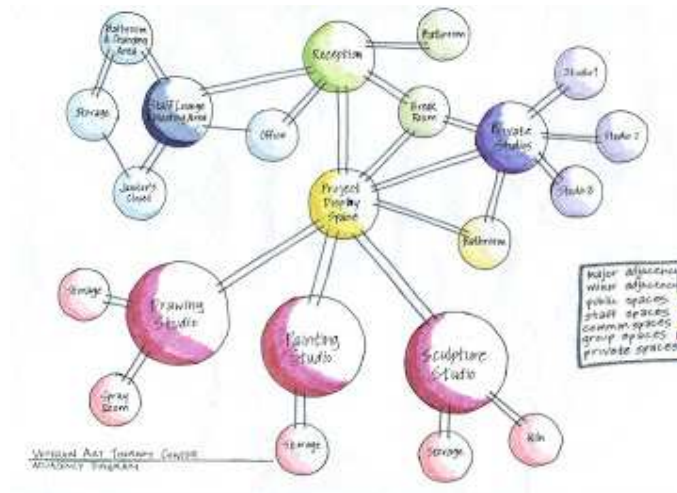


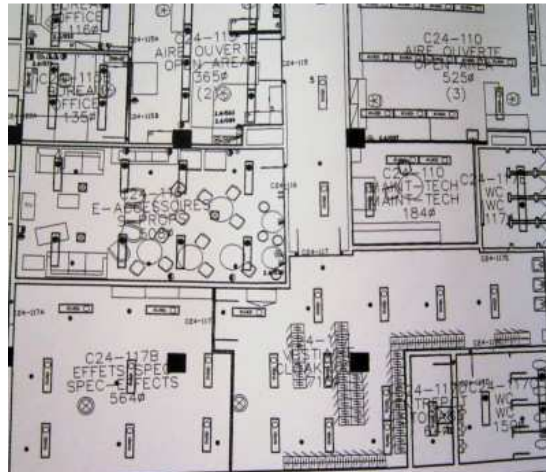
Image used by GAATES with permission, and with thanks. Image by Tiffanni Reidy, Interior Designer

The American Institute of Architects (AIA) defines architectural programming as, “[the] thorough and systematic evaluation of the interrelated values, goals, facts, and needs of a client’s organization, facility users, and the surrounding community.” In summary, an architectural program identifies and prioritizes client and user values, determines project goals, and also identifies project constraints and opportunities^[2].

Who is responsible for creating space requirements? Typically this work is undertaken by building owners and property developers who often do not have the training, awareness of the need for, or knowledge about accessibility and the principles of universal design. For larger corporations and government projects, a great deal of time is spent on space planning during early building stages, as Master Planning or Feasibility Studies. Smaller

buildings with smaller budgets, space planning and programming is frequently done by the architect prior to the design phase.

The size of a building is based on the total of the rooms and spaces which are required for the building's use. Determining the size of each space starts with deciding how many people the space is to accommodate, choosing the equipment and furniture required, and then designing a typical room layout which establishes the amount of physical space or square footage required. When all room types have been designed and calculated, the programming stage determines the size of the future building by adding up how many of each room is desired with the additional space need for circulation, which include corridors, stair cases, and elevators, etc.



If accessibility requirements are included in space planning, they typically only meet the basic requirements of the current building code. By the time the building gets to the design phase a year or two later, the accessibility provisions are usually out of date or insufficient because the building codes they were based on have changed or the items included to be accessible were not extensive enough to meet the building owners and stakeholders accessibility needs.

How could accessibility in space allowances be missed so often? There are many reasons, but this article will focus on addressing perhaps the two most important. First, as indicated by the nature of the problem, accessibility specialists are not consulted during the space planning or programming phases. Second, and just as important, only building code requirements are considered instead of future population demographics, which means the full range of functional abilities and needs are not considered.

Globally, there are over 1 billion persons with disabilities. Using Canada as a 'typical' developed country, Statistics Canada indicates that 14% of the Canadian population are people with disabilities, a percentage that we are told will increase to 25% by 2025. By the summer of 2014 in Canada, there were already more older persons (aged 65+) than children under the age of 15[3]. We know older persons are more likely than younger people to not only live with one type of disability, but typically two or three as they continue to age[4]. Experts in health also tell us that we can expect that by 2025, approximately 25% of our population will be overweight and obese – which means they will have additional spatial and dimensional requirements beyond what codes currently accommodate[5]. According to the Vision Council of America, approximately 75% of adults use some sort of vision correction[6].

In addition, approximately 70% of disabilities are 'invisible' which means that people with some disabilities do not need to use assistive equipment that distinguishes them from the able-bodied[7]. Statistics are also not collected for the percentage of the population that has a temporary disability due to a change in health, accidents and illness.

Making all spaces in our buildings accessible is not just a human right, but supported by our demographics. Our statistical information does not clearly support this conclusion because of how the data is collected. The number of people with disabilities is not based on an objective or knowledgeable source, like from our doctors, but instead only relies on each of us to self-identify as having a disability which of course will be inaccurate. The number of people who would benefit from accessible design is clearly not known and appears to be far greater than we design for.

By ignoring or not accounting for the space needs of persons with disabilities and older persons as a part of the population of people who use all of the spaces in our structures at the beginning of the building process, it is clear why during the design phase architects often feel that making the built environment accessible is difficult, expensive, and frustrating. When accessibility spatial requirements are addressed so late in the process, architects and building owners are often forced to make difficult choices about where this space can be taken from. Resentment and hostility is not an uncommon reaction, and frustration often leads to blaming people with disabilities or claims that these space needs are ridiculous and unjustified.

If we want to stop building discrimination into our built environment and finally make significant progress for accessibility, the process for creating buildings needs to start including accessibility requirements from the very beginning. When space allowances are allocated and included during the programming phase, the problems and limitations that currently obstruct accessibility in the design phase will be gone and the improvements in accessibility for all types of buildings will be immediate.

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FINDING YOUR WAY WITH WAYFINDING: NAVIGATION TOOLS FOR PEOPLE WITH VISION DISABILITIES

Ar. Joseph Kwan MH

Introduction

Those with a vision impairment face significant challenges to independence and equality when navigating the built environment. There are however some strategies available that can make a difference. This article introduces the broad range of tools and technologies that can either be built into facilities or are personal assistive technologies users can carry to help them find their way. We also look at next steps for integrating these tool and technologies necessary to fully realize a more inclusive environment.

Tactile Guide Path

Tactile guide paths, as a wayfinding tool for people with visual impairment have been used in many developed countries for many years, in fact, Hong Kong has employed them for over 15 years. These tactile tools are indeed beneficial for



wayfinding and orientation, yet due to environmental, economical or political factors, they have not been widely adopted globally. In

the case of Hong Kong, tactile guide paths are provided mostly in newly constructed public facilities such as shopping malls and train or subway stations.

Most MTR train stations have tactile guide paths leading users to key elements such as customer service centres; entry and exit gates; staircases, lifts and elevators. At station platforms, tactile guide paths lead to tactile warning surfaces to caution users of the platform edges. In the United States for example, it is mandatory for pedestrian crosswalks to use warnings of truncated domes or textured cement at all curb ramps. Truncated domes are also used at landings of staircases and ramps in many places. A recent research indicated that a majority of the visually impaired found ramps with truncated dome detectable warnings safer, more slip-resistant and more stable. (Bentzen, 2004)

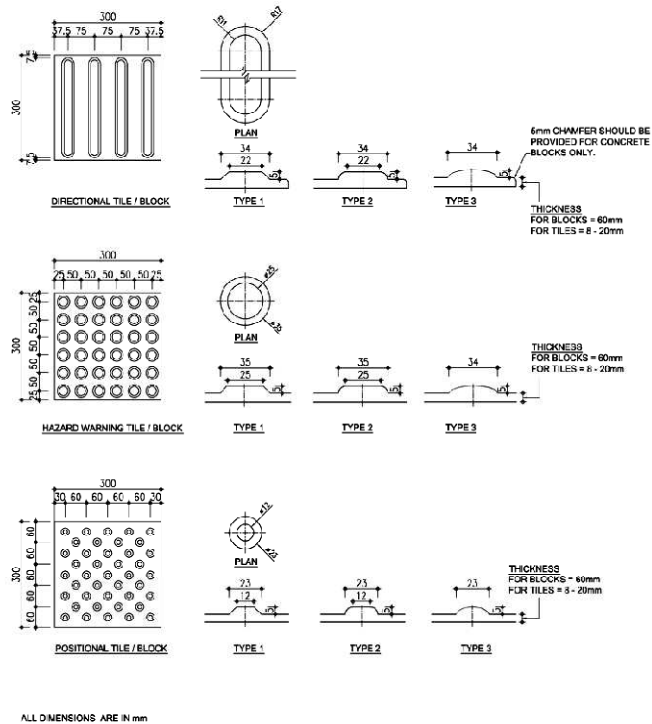
Standardization of Surface Indicators

The contrasting textures of tactile guide surface indicators typically use a pattern of truncated domes or bars to provide tactile underfoot cues for the visually impaired in wayfinding, and also act as warning signals against potential dangers and hazards ahead. Apart from truncated domes indicating key features and hazards, there can also be other changes in surface texture to indicate a change in functional areas such as a rest area beside a pathway.

All these tactile guiding and warning indicators are helpful, however, the dimensions, sizes and locations of dots and bar tiles are only now beginning to be universally standardized. People with visual impairment may not be able to distinguish easily between existing variety of raised dots, domes and bar tiles or to effectively or conveniently make the most use of them within a densely populated urban environment such as busy shopping

malls or high traffic public transport interchange terminals. To some, such tactile indicators may add additional risks to them.

Extensive studies to standardize the dimensions of various tactile surface indicators have been underway and there continues to be ongoing research in this aspect and much improvement is expected in the near future. The ISO 21452 'Accessibility and Usability of the Built Environment' Standard and the ISO 23599



'Assistive products for blind and vision-impaired persons – Tactile Walking Surface Indicators' should be able to provide leadership on this design feature.

Tactile and Braille Map

In addition to tactile guide paths and warning indicators, there are other devices which provide assistance to the visually impaired. Tactile and Braille maps of building plans and layouts can help users to develop mental maps of the site or building layout, as well as providing an effective intervention for increasing the access and orientation awareness. Ogasayama Sports Park in Japan where *universal design* principles are applied throughout this sporting venue has such provisions.

Likewise, The International Communication Centre for Persons with Disabilities (the BIG-I Centre) near Osaka in the Kansai Prefecture has a highly sophisticated tactile signage system. The system is installed in locations to assist users to wayfind within the building proper, the auditorium and its washroom facilities. Many vision-impaired persons can find the use of unfamiliar public toilets an uncomfortable experience. Many reported that it is a most difficult task to locate the sanitary fittings within the toilets without proper guidance and prior knowledge of the room layout; and thereafter a most challenging task in navigating themselves out of the maze of airlocks, basin compartments, urinal stalls and WC cubicles. For such situations, the provision of Tactile and Braille Maps will facilitate not only independent access but also reduce the stress and the psychological anxiety of navigating public toilets.

On a lesser basis, tactile Station Layout Maps are provided in MTR train stations in Hong Kong. Complementing tactile guide paths and warning surfaces, Tactile and Braille Maps are now commonly adopted as orientation devices.



Braille or Raised Letter/Symbols on Objects

Other examples of aids include Braille or raised letter or symbols on handrails which enable the visually impaired to identify their locations. Domed buttons on handrails can indicate the end of a stairway or a ramp is approaching. Tactile information on handrails can also highlight locations of exit staircases and ramps; nearby facilities such as taxi stands, bus stops and other useful public information.

Braille or Raised Letter/Symbols on Equipment & Products

As part of the experience of being in a facility, users should also expect to be able to navigate the equipment and products. In these days where consumer choices are vastly extensive, consumers are more educated and informed, and thus are more demanding and selective; products and goods must be designed to need market demands. Again in Japan where not only Braille and raised letter indicators are provided commonly in buildings, such informative features are also provided on most public vending machines, ATM machines and even on other daily consumer products and goods such as drinking cans. With such provisions, the visually impaired can determine, select and consume products independently with lesser reliance on their sighted counterparts. Japan is perhaps one of the few countries in the world where the provisions of Braille and raised letters/symbols are mandated under Codes of Practice on the provisions of goods and services.

Architectural and Design Features

Some other architectural features can be simple and low-cost yet make a profound difference in the legibility of the facility. As discussed earlier, the locations of washbasins and urinals within unfamiliar public toilet surroundings can be a traumatic experience faced by users. To assist users to locate these washroom fittings correctly, more conveniently and more hygienically, tactile floor indicators are laid in



front of the basins and urinals. Similar techniques are deployed with the upturning of handrails beside doorways and door openings to inform users the existence and the locations of doors and openings.

Colour Contrast and Luminance Contrast

Other mechanical techniques in building design include the deployment of colour contrast, luminance contrast and appropriate levels of illumination. Colour contrast, as the name implies, is the difference between two colours. It is believed to enhance vision for persons with low vision. However, studies have shown that luminance contrast, the difference in light and dark properties of two adjacent surfaces is even more important to enhancing vision for people with low vision than colour contrast. For instance, cherry red on black has a high colour contrast but low luminous contrast and is not as visible as pale pink or yellow on black to the low vision group. In addition to assisting people to locate important aspects within a building,

luminance contrast has also the added value of highlighting potential hazards and dangers, and even to all other fully-sighted users.

Illumination Level

Further to luminance contrast, illumination level is of equal importance. In general, persons with low vision require two to three times more the amount of light normally required by the fully-sighted. And also colour and luminance contrast cannot be treated separately with lighting (Queen's University, 1997). If the surrounding areas present very little colour and luminance contrast, even optimum illumination level may not enhance the vision of people with visual impairment. While illumination should be adequate to enable the visually impaired to utilize their vision effectively, it should also be controlled so that glare would not be created.

ATS and APS

Audible Traffic Signals (ATS) and Accessible Pedestrian Signals (APS) are two examples of technology in daily use by everyone. ATS, located on each end of a pedestrian crossing was first installed in Japan in 1964 to provide the visually impaired with the status and relative position of pedestrian light signals. However, these ATS emit the same sound simultaneously, hence the visually impaired has no clue of which street is safe to cross. With improvements over the years, the current generation of ATS now emits different sounds, but the problem has not been solved entirely. Notwithstanding the deficiency, ATS are widely installed in places such as Berlin, Vienna, Sydney, Tokyo and Hong Kong.

Australia and some European Countries later invented the Accessible Pedestrian Signals (APS). Installed at street crossings,

APS help people with visual impairment to navigate and wayfind by providing a sound, a vibration or both during the walk interval. Types of APS include post-mounted, pushbutton-integrated, vibrotactile-only and the receiver-based type. Receiver-based APS differ from the other types by providing information to hand-held receivers of the users. Some of these go further by providing multi-lingual audible information for tourists and business travelers.

Similar to receiver-based APS, round plastic discs imbedded with computer chips laid in Underground Passageways can be found in Tokyo, Japan. Instead of having infrared transmitters mounted in or on pedestrian signal heads, these discs are imbedded in the floor to transmit speech messages to hand-held receivers to navigate the visually impaired through their travels.

Tormes

The high-tech hand-held system "Tormes", based on the Global Positioning System (GPS) is also an example of personalized aids for the visually impaired. This wayfinding device includes a Braille keyboard, a voice synthesizer and a GPS receiver to help the visually impaired to self-navigate. Audible direction is provided by tapping into global positioning satellite system which enables the visually impaired to precisely access and ascertain directions, routing and locations. It also provides the users with detailed information about their surroundings. City maps can be downloaded from the web and stored in the hand-held device, thus allowing users to create a database of their own. The device can also be connected to the internet, and messages can be sent to ask for specific directions.

VoiceNote GPS

VoiceNote GPS, similar to Tormes, is also a GPS-based wayfinding device for the visually impaired. Computer technology including digital voicing is combined with GPS, allowing the users to pinpoint their locations making an audio map. Furthermore, routes can also be recorded. The data stored can then be uploaded to a database or a website for use by other people with visually impairment.

Both Tormes and VoiceNote make use of GPS in helping people with visual impairment to wayfind. With continually growing precision in such devices, the accuracy the visually impaired require for detailed navigation can be met. However, these GPS-based devices are not substitutes for canes or guide dogs, but should be regarded as complements. In other words, these devices should be considered as secondary aids for use in conjunction with the primary aids as certain deficiencies do exist. For instance, small obstacles cannot be detected; or built-up and dense areas may not be reached by the satellites.

With improvement in technology, not only do these devices extend from mechanical to electronic format; from public to personalized domain; but also from meeting the daily living necessities to fulfilling the leisure and educational needs of people with vision impairment.

BATS

Blind Audio Tactile Mapping System (BATS), a map-navigator software is one of the devices that fulfill the leisure and educational needs of the visually impaired. By moving a cursor across the map, a speech synthesizer will then pronounce and

spell the name of the location. For the time being, it is a teaching tool for geography lessons to students with visual impairment.

Talking Map and Talking Lifts

Audible information has been incorporated into tactile and Braille maps in recent years. For example, auditory description of restroom layout is provided in the Big-I Centre and in the Ogasayama Sports Park in Japan. Talking Maps are installed in MTR Stations in Hong Kong. Apart from talking APS, ATMs and GPS-based devices as discussed earlier, there are also the audible talking lifts which have been commonly installed in many developed countries. These lifts provide audible annunciations of whether the lift is going up or down and at which floor it has stopped at.

Seeing Machine

Furthermore, experimental invention of the seeing machine is another device aiming at providing people with limited vision a chance to see (Reuters, 2006). Recently in the United Kingdom, a legally blind poet has successfully invented such a machine. By plugging the device into a computer, light-emitting diodes will project selected objects into the user's eyes allowing the visually impaired to see words or picture images. With the success in the trials undertaken, a commercial version of this device is planned to be developed shortly.

Other Limitations of These Technologies

Although there is a myriad of devices available, we have to bear in mind that all these devices are mostly provided in developed countries. But the fact is, of the staggering 45 million people with vision impairment worldwide (Sight Savers International, 2000),

those living in developing countries are a much larger proportion than those living in the developed countries. So, the largest proportion of people that could benefit from wayfinding tools are the ones that are least likely to be able to afford it. Much has to be done in order to fully and truly utilize the great inventions for the real benefits of the millions of visually impaired in the developing countries.

Integration - The Road Ahead

In this article we have discussed the broad range of technologies that can be applied to wayfinding in one way or another. Moving forward, we need to look at ways of collecting them into an integrated IT system. The ubiquitous mobile telephone, the PDA, the GPS, audio or talking sign systems combined with a proximity sensing detection device could provide an exact location, immediate surroundings and provide warnings of potential dangers. The information can be transferred to the user audibly or through tactile sensors. The same integrated IT system can also assist the user in wayfinding within buildings with the addition of entrance tactile maps and audio signals to indicate room numbers and floor locations. Applied to public transportation facilities, the integrated IT system can assist in the selection of buses; provide audible bus stops and indicate bus proximity and locations.

Technology Versus Human Element

While this article has focused on technology and built environment there must also be consideration to the human element. Accessible customer service can be integral to the navigation of a space as well as a service. Staff and public relations personnel must be adequately trained to interact with people with low vision and vision loss. They need to be aware of the barriers to navigation in their facility and how to assist

someone if they would like help. Much too often, most staff are unaware of and incapable of providing appropriate services or information, in particular within a highly automated service industry of today.

Conclusion

Despite the fact that deficiencies still exist in many of today's wayfinding devices, they do begin to provide a level of equality for people with a visual impairment. They are making a difference in activities of daily living such as getting on a bus or getting to the bank and completing a transaction. They are also providing the confidence and self-esteem to individuals to become active parts of their community which benefits everyone.

The way forward for a brighter future must address the development of innovative assistive devices based on new and user-friendly technology, the construction of more universally designed buildings and the production of affordable universally designed common day items; in addition to fostering a population with empathetic human resources, only then will there be a society created for all to live fully with independence and with dignity.

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Keeping Accessible Environments Accessible

Matthew Fleet

Accessibility of the built environment isn't just about 'building' it is also about 'maintaining'. This article is not about building an accessible environment, it is about making sure an environment that is designed based on the principles of Universal design and built to be a fully accessible environment for all users, stays accessible.

These are not issues just for architects or engineers, these are issues for anyone operating and maintaining a building.

Clean Doesn't Have To Mean Shiny

Resist the temptation to polish those dull floors to a glossy sheen. A well intentioned cleaner may be proud of creating shiny clean floors, but they may in fact be turning carefully selected satin finish tiles into a glossy, glare producing barrier for someone with low vision. Highly reflective surfaces such as glossy floors can be uncomfortable, and even dangerous, for anyone -but can be especially difficult for someone with low vision. Encourage maintenance staff to use floor finishes that do not leave glossy surfaces.

Strong Scents Make No Sense:

Similar to glossy finishes, there are also strong fragrances used in maintenance products. A fresh fragrant scent might seem to go hand in hand with a clean environment but can be a barrier, and potential health hazard, for someone with environmental sensitivities. This applies not just to cleaning products, but also to products intended for building users such as air fresheners or soaps in washrooms. Encourage maintenance staff to use scent

neutral cleaning products and the same for anyone that purchases products for other use.

Clear Floor Spaces Are Meant To Be Clear:

Open floor space in vestibules, beside doors, in front of controls and even in bathroom stalls are essential manoeuvring spaces for those using mobility devices. For maintenance staff and others, they are a tempting place to position literature racks, garbage cans, potted plants or store extra furniture. Let clear spaces do their job by keeping them clear and ensure the education about the purpose for these spaces is integrated into your staff training.

Dump The Snow Elsewhere:

Whether it's because they are typically at the end of rows or because they are more spacious, it is all too common for accessible parking spaces to become the dumping areas for snow when parking lots are being cleared. At the very time of year when walking with a cane or pushing a wheelchair is most difficult, these spots nearest the door are suddenly unavailable. Similarly, it is convenient to shovel pathways only for the width of the snow shovel but this unfortunately is not the passable width for someone using a wheelchair. Clear snow from all of the parking spaces and deposit it in an area away from the accessible parking, and keep pathways clear and wide, especially in winter.

Keep Door Openers Opening:

Power door openers are often a symbol of accessibility, and while many persons with disabilities depend on them for access, they are also means of a convenience for others. Door operators usually have main on/off switches on the power unit above the door. This is convenient for owners wanting to shut down at

closing time but also convenient for anyone else to fiddle with. Whether the door is turned off by good intentions or by mischievous hands, it is a good routine to start the day by ensuring that it is turned on. Door openers are only useful when they are turned on. Even if the operator has been turned on, operators are of no use if access to the push button is blocked by garbage cans, waiting room chairs, newspaper boxes or snow banks. If the operator is not working, be sure to have it fixed as soon as possible, some people rely on door openers for access, and for some, a door opener not working is as good as a locked door.

Shop For Accessibility:

Sometimes maintenance might mean replacing old and worn items in the environment. Perhaps furniture needs replacing or office equipment needs updating. Whatever the product is, keep accessibility in mind when shopping for its replacement. An accessible photocopier room is of little use if the new copier has controls that are too high and is not accessible. That accessible waiting room may no longer be accessible if the things like wider chairs for larger people or the chairs with armrests that helped older people stand up are no longer included. Also resist the temptation to procure extra furniture and lose the clear spaces that were important parts of the circulation space – ensure there is always a space or a place for person using a mobility aid.

People Can Be Hazards Too:

Sometimes people themselves can become a physical barrier to accessibility. A well designed approach to a building with a well-placed power operator button on an accessible door is no longer accessible to some, if a queuing line of people is blocking it the access route and ability to get to the button. A market area where

temporary stalls front directly onto pathways and encourage shoppers to stop in the pathway can make it difficult for those using mobility devices, guide dogs or white canes to manoeuvre safely and efficiently around them. Consider traffic flows and congregating areas to ensure new barriers are not created.

Don't Let Visual Noise Get In The Way:

Signage systems designed to make environments more navigable get disorienting, and calm environments get hectic when a multitude of signs and notices get taped to walls. Sometimes less is more. Accessible environments need to have consistent and accessible wayfinding systems; when we start posting additional signs and notices we can muddle or confuse that system. When we bombard visitors with postings the volume becomes confusing and uncomfortable. If it is important to add signage to the existing system or to post important notices, try to keep it to a minimum and consistent with the existing accessible system.

This article was inspired by my personal frequent dismay from encountering barriers that have been created in an environment that was previously accessible. Too often, the work of architects, engineers, designers, consultants and accessibility advocates is lost when new barriers, such as those listed here, are introduced. While this article has been about avoiding the sabotage of existing accessible environments, it is also meant to introduce some ideas that can be done to improve the accessibility of any environment. These are factors that usually didn't cost a penny, but can make or break access to a building.



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Accessible Books: A Vision Moving Forward

Author Vashkar Bhattacharjee

Introduction

The World Health Organization estimates that 4 million people in Bangladesh are visually impaired but it is the lack of accessible school materials that denies them of an inclusive education. The Bangladesh government has recognized this and has recognized the value of promoting inclusive education. This article identifies the barriers that people with visual disabilities face and it outlines the vision of the Bangladesh government to address them.

Problems

Persons with vision impairments and others with print disabilities face discrimination and challenges in obtaining an equitable education when reading materials are inaccessible to them. They can find themselves lagging behind in their studies and struggle with receiving any other information as well. A large number of visually impaired students are now studying at different levels in Bangladesh but their problems are common:

- *Lack of accessible study materials for students with print disability;*
- *The severe lack of adequate/accessible study materials is not promoting the spirit of inclusive education;*
- *Class notes & lectures are never in an accessible format;*
- *Braille books are not readily available;*
- *Students with vision loss are often dependent on someone else who can read out loud for them;*
- *People with disabilities in Bangladesh are predominantly poor and are not able to afford assistive devices or materials to participate in the education system in a fully inclusive*

way. Information rights have not been recognized and adequately met.

This absence of accessible reading materials can result in ignorance and lack of action or can result in sole reliance on others. People should have rights to education and equal access to information regardless of disability; a right confirmed by the U.N. Convention on the Rights of Persons with Disabilities.

Motivation

Despite the barriers just discussed, there are a number of technological advances that can provide accessible study materials. Unfortunately, those with vision disabilities are often unable to utilize these opportunities for many reasons including:

- inadequate capacity among the visually impaired students and the administration***
- lack of financial support***
- lack of skills & technical expertise***
- lack of knowledge about available solutions & resources among the different education levels***

These barriers must be overcome and the motivation can be drawn from the profound impact that technologies such as accessible textbooks, Braille books and full-text full-audio DAISY standard Digital Talking Books can have for students with disabilities.

Way forward

A way forward has been demonstrated by a project implemented in Bangladesh. A joint initiative was undertaken by the YPSA with national and international partners including the Access to Information (a2i) Program at the Prime Minister's Office; the Department of Social Services under the Ministry of Social Welfare; the National Curriculum and Textbook Board (NCTB)

under the Ministry of Education. Technical support was provided by WIPO, Accessible Books Consortium, DAISY consortium and GAATES.

The main objective is to ensure the availability of the Multimedia Textbooks to minimize inequality of information for the print disability, learning disability, visually impaired and information disadvantaged groups of students from grade-I to grade-X. A second objective is to initiate a process of developing and producing textbooks in the accessible format of DAISY standard for the students. This includes the initiative to develop an effective network for disseminating the multimedia DAISY reading materials across the country through community radio, Union Digital Centers, different institutions and JATIYO e- Tathyakosh (National e-Content Repository- <http://www.infokosh.gov.bd/>),

The success of the project has seen all the National Curriculum Textbooks (105) of class-I to class-X converted to multimedia books of DAISY standard. They have also been converted to DAISY full text full audio text books, Digital Braille and accessible e-books from the single DAISY source file. Around 100,000 students with visual disability, print disability and learning disability and information disadvantaged group have been equipped with materials to date. They can now read and listen to their textbooks and be part of an inclusive education system.

The achievement was also recognized in December 2014 with a countrywide textbook distribution festival where the Honourable Prime Minister of People's Republic of Bangladesh, Sheikh Hasina distributed "Daisy Multimedia Books" among visually impaired students of primary schools. The Bangladesh Government distributes free books among the students of primary and secondary schools and madrasas across the country on January 1,

2016 to ensure "Education for all". This year, as part of the program the government took the initiative to provide free specialized books (Digital Talking Books) along with CDs and Braille books to visually impaired students.

Conclusion

The government of Bangladesh recognized the importance of accessible information and communication technologies in the school system. They found cost effective, efficient and universally designed technologies that allowed all children easy access to reading materials. They gave opportunity for students with visual disabilities to more fully participate in the education system and in turn be prepared to be contributing members of the nation's workforce. Bangladesh will look forward to the immense potential of these students with visual impairments. The hope now is that accessible books will reach the higher education level also. There are still barriers for what developing countries like Bangladesh can afford to do but there is belief that the government has a very ambitious plan to scale up the project. This innovative practice can certainly improve the level of competency of the students with visual impairments, remove them from being in the information dark and help them to be a contributing member of their community. It is also a positive example for other countries to embrace and replicate.



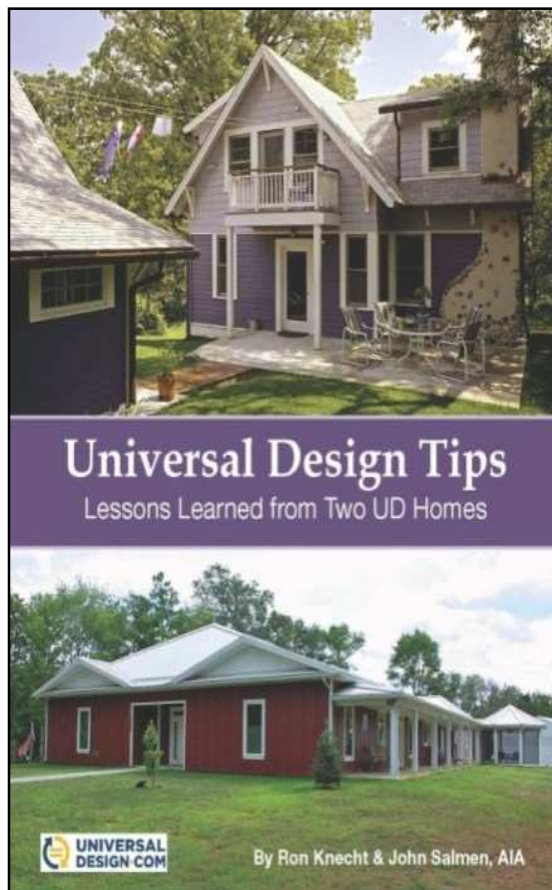
Vashkar Bhattacharjee

Board of Directors, GAATES, Bangladesh



New Books

Universal Design Tips: Lessons Learned from Two UD Homes:



This new electronic book from UniversalDesign.com is filled with tips and ideas that will help guide anyone through the process of designing and constructing their own Universally Designed home. The book was co-authored by John Salmen, AIA, the publisher of *Universal Design News* and founder of UniversalDesign.com, and Ron Knecht, whose durable, energy efficient Universally Designed

house was featured in the **January 2012 issue** of *Universal Design News*.

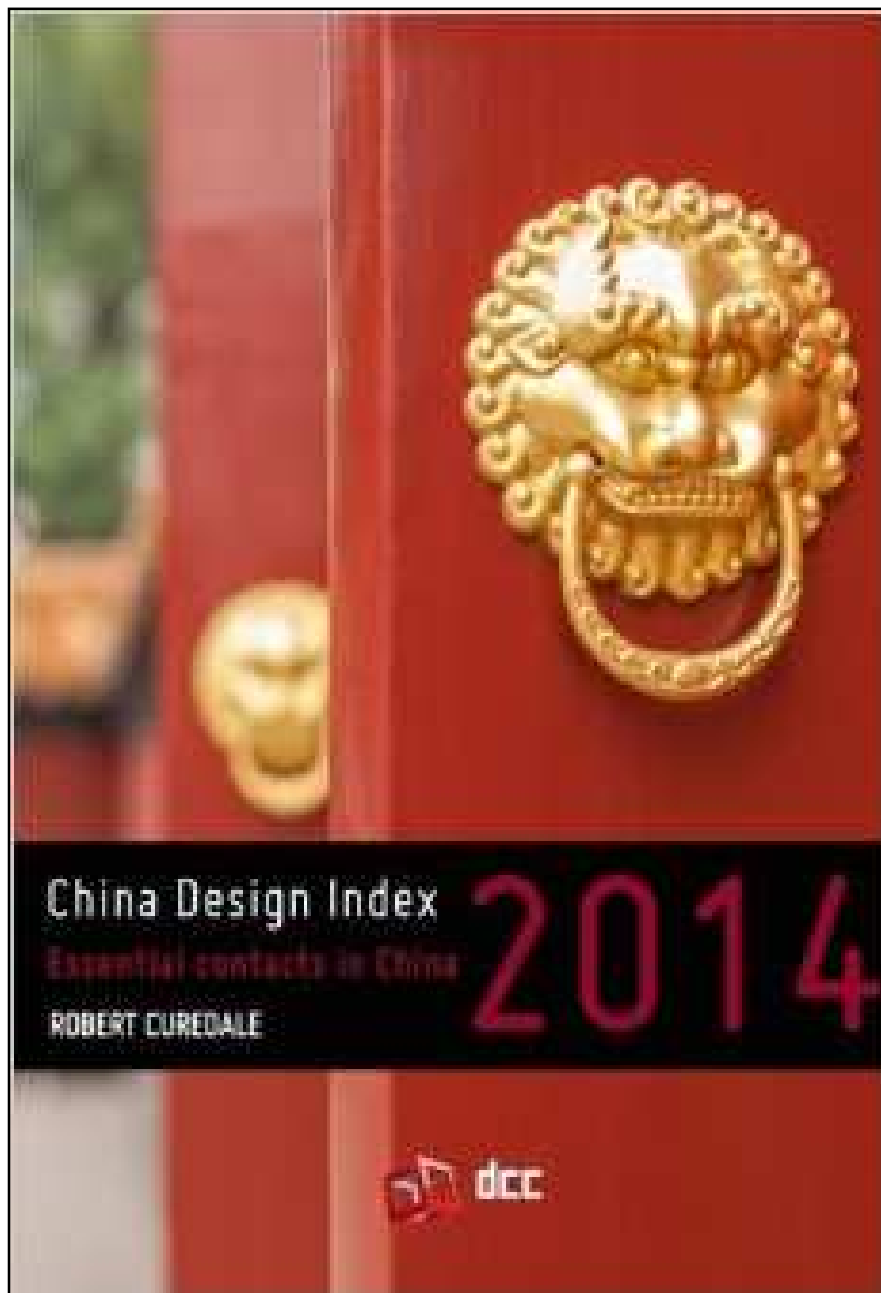
The first section of the book deals with the planning process, providing insight on how to choose a location for the house, consider activities of daily living during planning, best use various types of design professionals, finalize a floor plan and develop a building schedule.

The rest of the book is organized according to different areas or elements of the home (i.e. exterior doors, bathing, and kitchen counters, just to name a few.) Whether designing a whole house or simply remodeling one area, *Universal Design Tips* makes it easy to quickly refer to the relevant section and find valuable tips that ensure success. Each of these sections includes design tips, photos and important lessons that the two authors learned through their personal projects.

John Salmen has been working in the field of accessible architecture and Universal Design for over 30 years, and he put this expertise to good use when remodeling a historic property to create the Universally Designed house he and his wife hope to live in for many years. Salmen's "Home for the Next 50 Years" has been featured in various media outlets: including *The Washington Post*, *Fine Homebuilding*, AARP's television show *Inside E Street* and the book *The Accessible Home: Designing for All Ages and Abilities*. Now, readers will be able to explore Salmen's home in even greater detail and apply his experience to their own Universally Designed home projects.

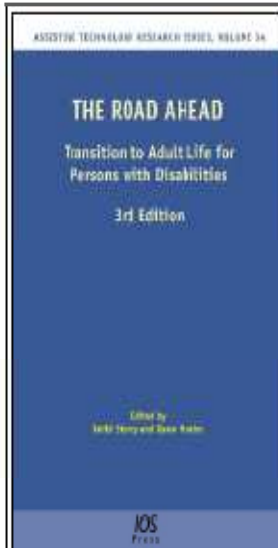
Ron Knecht's experience with Universal Design started after his wife of 46 years became ill with cancer. As her health worsened, Knecht learned first-hand the importance of accessibility for maintaining independence, safety and one's quality of life. Before Knecht's wife passed away, she extracted a promise from him that he would move to a Universally Designed house located closer to their daughter. Knecht was underwhelmed by both the houses that he saw on the market and the UD house plans that he found online; he realized that he would have to plan and build a custom house in order to fulfill his promise.

China Design Index 2014:



China Design Index 2014: The essential directory of contacts for designers Paperback – February 1, 2014 by Robert A. Curedale (Author)

The Road Ahead, Transition to Adult Life for Persons with Disabilities:



The Road Ahead

Transition to Adult Life for Persons with Disabilities

Volume 34 Assistive Technology Research Series
Editors: Storey, K., Hunter, D.
December 2013, 318 pp., hardcover (revised 3rd edition)
ISBN 978-1-61499-312-4 (print)
ISBN 978-1-61499-313-1 (online)
Price: €69 / US\$100 / £59

Successful transition from school to adult life has always been difficult for people with disabilities, especially in the area of employment. The vast majority of people with disabilities are either unemployed or underemployed with low wages and few benefits, and many governments are struggling to find a way of providing employment and benefits to people with disabilities without creating disincentives to work.

This book provides strategies and ideas for improving the lives of people with disabilities, exploring new ways of enabling a successful transition to an integrated adult working life by providing effective instruction and support. Following an introduction which outlines the importance of transition services and meaningful outcomes, topics covered in the remaining chapters include: person centered transition planning; enhancing competence and independence; employment assessment and career development; collaboration between agencies for a seamless transition; independent living and supported living; and community functioning skills.

The book will be of interest to all those who work with transition age students as well as those who work with adults with disabilities and want to enable them to have the best life possible. To paraphrase Helen Keller: "People with disabilities not only need to be given lives, they need to be given lives worth living."

Design for All, Aree DiRistoro:



Luigi Bandini Buti
DESIGN FOR ALL | AREE DI RISTORO | il caso Autogrill |
Maggioli Editore, 2013
<http://shop.wki.it/risultatoricerca.aspx?indizioricerca=luigi+bandini+buti>

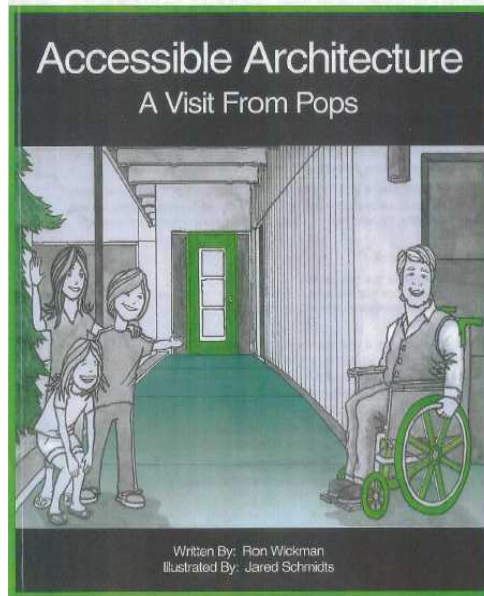
This book has been born following the collaboration with Autogrill that, for its new facilities "Villoresi Est", has developed an innovative, Design for All oriented project. We then realized that the cares foreseen for "all" would not be noted by "the majority".

If you are not on a wheel-chair, or blind, or you are not travelling with a large family or you don't have to look after your old grand-father, you will not be able to appreciate many of the attentions included into the project. It was therefore necessary to make more visible the virtuosity of the planning process and its results, which may not appear obvious to many people.

This publication is not meant to be a mere description, it is rather a critical analysis of the Villoresi Est rest area, included in a context that wants to examine in depth the methods and the means of Design for All.

Its main objective is therefore to use the "Autogrill case" to investigate the necessary steps to develop projects Design for all oriented, hopefully in an authoritative way.

.Accessible Architecture, A Visit from Pops:



Edmonton Architect publishes - Adult Children's Book—Accessible Architecture: A Visit From Pops.

Edmonton Architect Ron Wickman launches his first book titled: *Accessible Architecture: A Visit From Pops* at the City Room in City Hall, Tuesday, March 18 at 6 p.m. Ron, son of the late Percy Wickman, MLA Edmonton-Rutherford 1989-2001, is a story written on the focus of Percy and his 3 grandchildren. Ron is best known for his accessible design. His most recent endeavor published by Gemma B. Publishing draws on this knowledge. Edmonton draughtsman Jared Schmidts illustrates with wit and precision the need for a house to be visitable by everyone.

As a child, Ron Wickman learned firsthand about the need for accessibility. His father became paraplegic after being injured by an industrial accident. Ron wheeled his father into many inaccessible places. A longtime Edmonton City Councillor Percy Wickman advocated for people with disabilities throughout his life.

Ron Wickman studied architecture in Edmonton and in Halifax, Nova Scotia, specializing in barrier-free design, designing houses and public spaces that were both beautiful and accessible.

Accessible Architecture: A Visit From Pops—is an adult children's book, which demonstrates the three principles for ensuring a house can be visited and enjoyed by everyone equally, including those with a disability. Following Wickman's design and renovation also enables homeowners to age in place.

Visitability principles include

- the front entrance must have no steps;
- all main floor doors must be at least 38" wide
- an accessible washroom must be on the entrance floor.

Accessible Architecture: A Visit From Pops, by Ron Wickman, illustrated by Jared Schmidts and edited by Sarah Yates, is published by Gemma B. Publishing, a Winnipeg-based publisher. Gemma B. Publishing creates heroes and heroines living with a disability, in both fiction and non-fiction. The book will be launched at Edmonton City Hall, March 18 at 6 p.m. and available later at Audrey's Books in Edmonton.

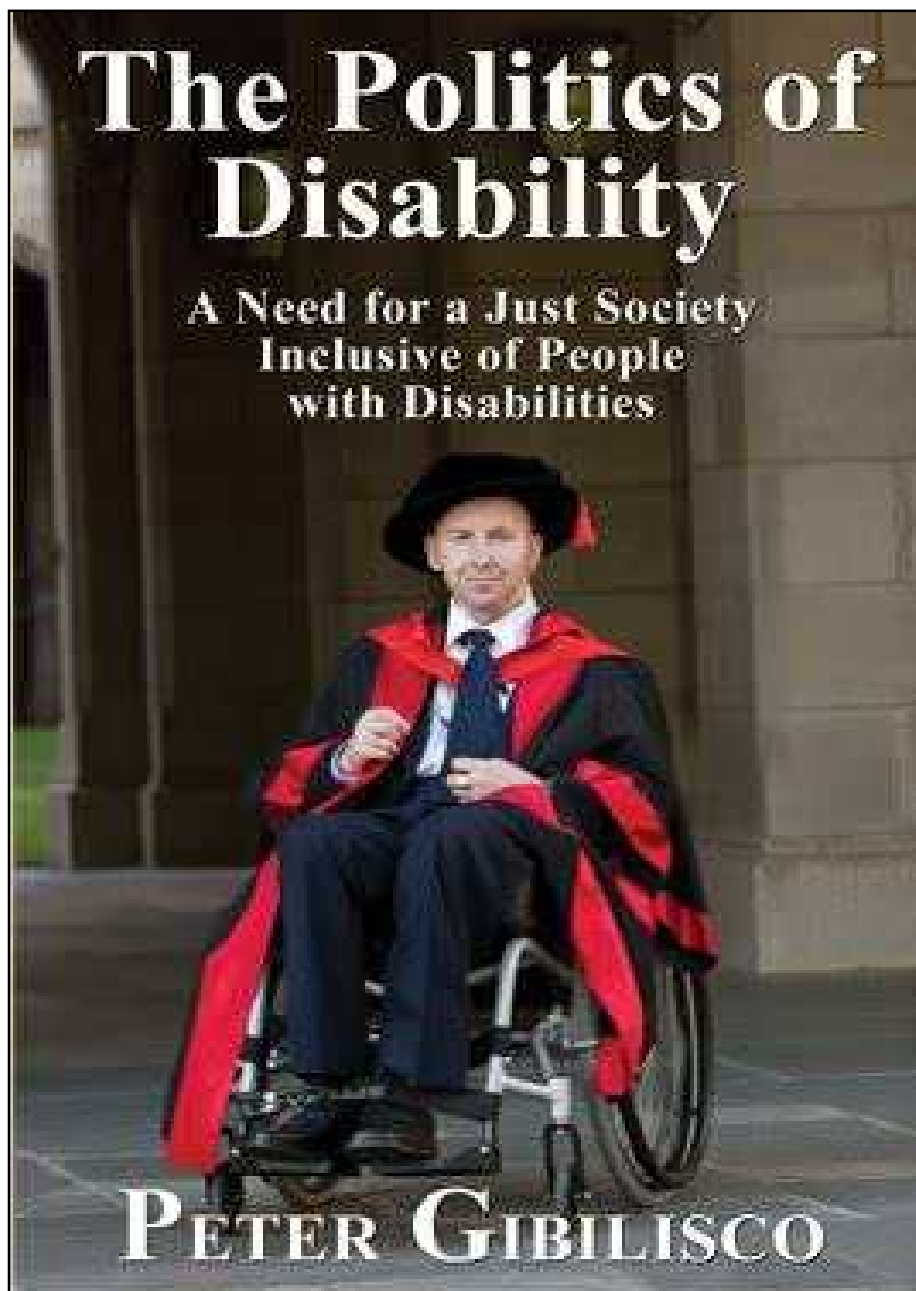
Ron Wickman will be available for interviews after the press conference at City Hall. His lecture at the Buildex Conference, Edmonton Expo Centre, Northlands will be held Wednesday, March 19 at 2:30 p.m.

Accessible Architecture: A Visit From Pops ISBN978-0-991697-0-8 sells for \$20.

- 30 -

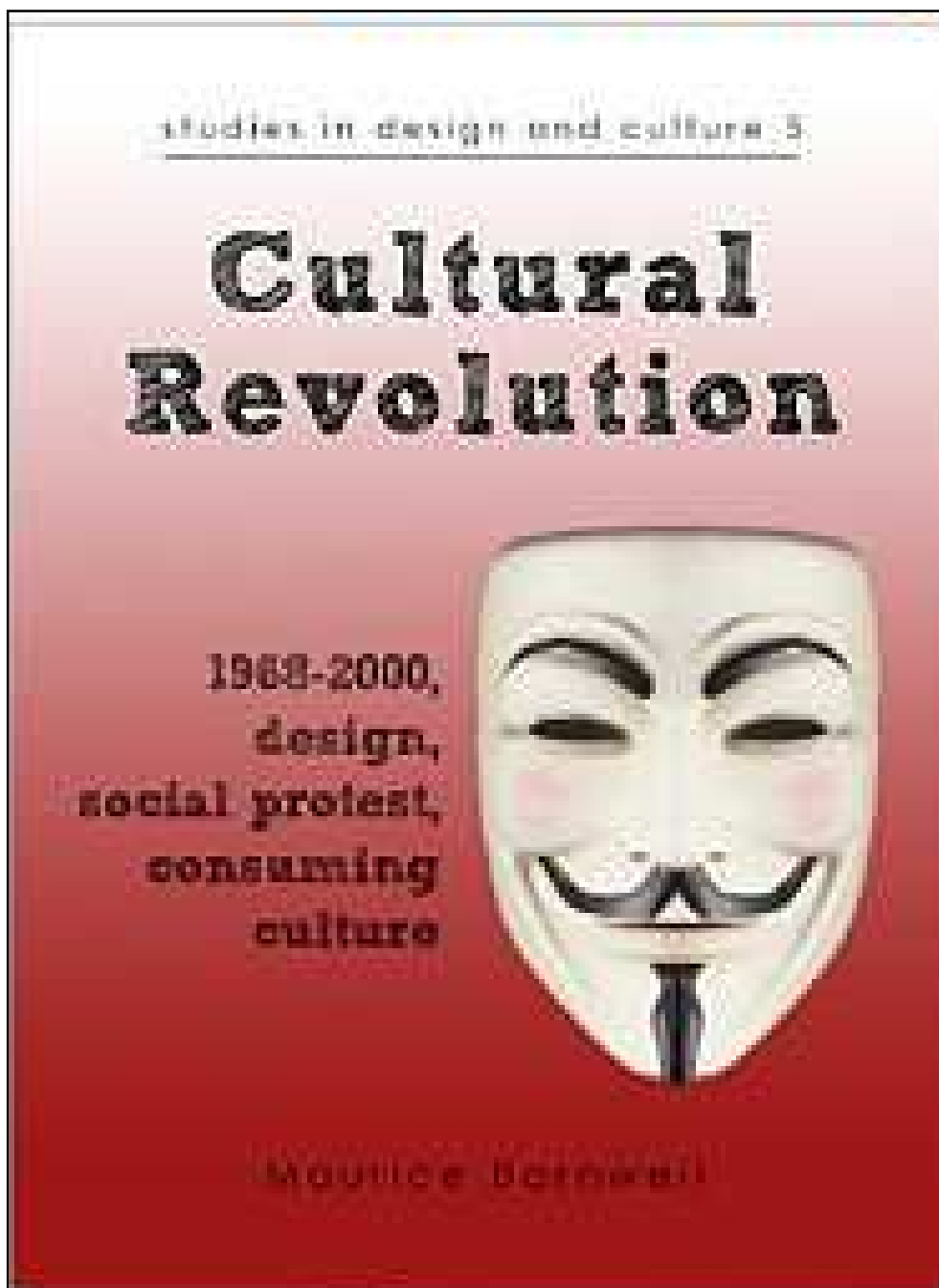
For additional information, contact:
Ron Wickman
Architect
780-430-9835
E-mail: rwickman@shaw.ca

The Politics of Disability by Peter Gibilisco:



This book will retail for a recommended price of \$19.95 USD ISBN 978-1-77143-155-2, with an ebook version also available at a recommended price of \$7.95 USD ISBN 978-1-77143-156-9. You'll be able to buy it from all the usual places - Angus & Robertson, Bookworld, Fishpond, Amazon, Kobo, iBookStore, and Google's Play Store, amongst others.

Cultural Revolution by Maurice Barnwell (Author):



Methods, tools, applications. Volume 1–2 (Steffan, 2012):

Design for All – the project for everyone. Methods, tools, applications. Volume 1- 2 (Steffan, 2012)

The publication highlights the multidisciplinary and cross-disciplinary of the Design for All approach, both in terms of issues addressed and of field of application. The accessibility of places and objects is nowadays a minimum requirement: it is only the starting point to allow their use by the widest range of people possible. Through professional experience and research, the paper tackles problems, methodologies and working tools, benchmarks.

The first volume covers the main areas of research and presents some examples at urban scale; the second volume illustrates examples of architectural design, products, services, university education.

The lack of compliance of the built environment and of the products, with needs that can be very different, causes a state of handicap. The lack of ability is a handicap only if the project has not taken it into account.

With these books we intend to stimulate debate, in-depth research, specialized studies, so that Design for All can be increasingly known and applied in more and more research and professional areas.



Published in Italian in December 2012 by Maggioli Editore (Santarcangelo di Romagna RN, Italy).

http://ordini.maggioli.it/clienti/product_info.php?products_id=8832 Volume 1

http://ordini.maggioli.it/clienti/product_info.php?products_id=8833 Volume 2

The on-line English version is also available since October 2014:

<http://www.maggiolieditore.it/ebook/tecnic/design-for-all-the-project-for-everyone-first-part.html>

<http://www.maggiolieditore.it/ebook/tecnic/design-for-all-the-project-for-everyone-second-part.html>

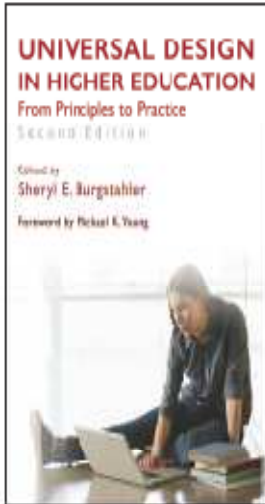
"Ideas, even good ideas, flourish only when practitioners commit to sharing their experiences, perspectives and aspirations. By organizing this publication and convening a distinguished international group of contributors, Editor Isabella Tiziana Steffan helps to establish the current state-of-the-art and affirms the significant potential of Design-for-All. She also delivers fresh inspiration to an expanded audience critically important to engage if Design-for-All/Universal Design is to realize its promise in the coming years.(...)We salute Editor Steffan for her passion, focus and hard work to bring this valuable contribution to fruition." (Valerie Fletcher)

Universal Design in Higher Education:

"Fresh, comprehensive, and engaging, *Universal Design in Higher Education* is expertly written, thoughtfully crafted, and a 'must-add' to your resource collection."

—STEPHAN J SMITH, EXECUTIVE DIRECTOR, ASSOCIATION ON HIGHER EDUCATION AND DISABILITY

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UNIVERSAL DESIGN IN HIGHER EDUCATION

From Principles to Practice, Second Edition
EDITED BY SHERYL E. BURGSTAHLER • FOREWORD BY MICHAEL K. YOUNG

This second edition of the classic *Universal Design in Higher Education* is a comprehensive, up-to-the-minute guide for creating fully accessible college and university programs. The second edition has been thoroughly revised and expanded, and it addresses major recent changes in universities and colleges, the law, and technology.

As larger numbers of people with disabilities attend postsecondary educational institutions, there have been increased efforts to make the full array of classes, services, and programs accessible to all students. This revised edition provides both a full survey of those measures and practical guidance for schools as they work to turn the goal of universal accessibility into a reality. As such, it makes an indispensable contribution to the growing body of literature on special education and universal design. This book will be of particular value to university and college administrators, and to special education researchers, teachers, and activists.

SHERYL E. BURGSTAHLER is an affiliate professor in the College of Education at the University of Washington in Seattle, and founder and director of the university's Disabilities, Opportunities, Internetworking and Technology (DO-IT) and Access Technology Centers.

"Sheryl Burgstahler has assembled a great set of chapters and authors on universal design in higher education. It's a must-have book for all universities, as it covers universal design of instruction, physical spaces, student services, technology, and provides examples of best practices."

—JONATHAN LAZAR, FOUNDER OF COPYWELL AND THE OPEN ACCESSIBILITY CENTER AT THE UNIVERSITY OF CALIFORNIA, AND COAUTHOR OF ENSURING DIGITAL ACCESSIBILITY THROUGH PROCESS AND POLICY

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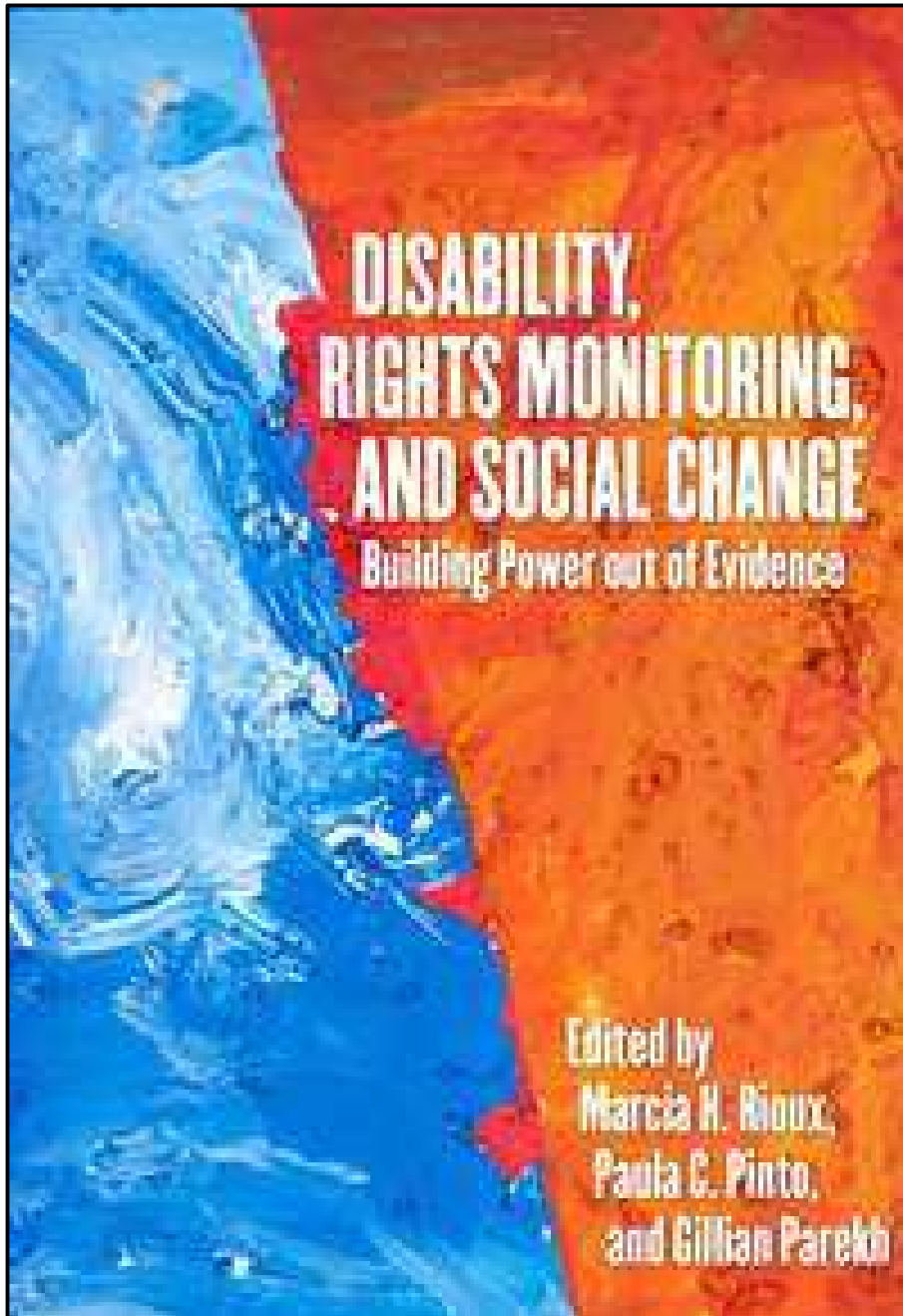
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Product Description

In this book, Elvio Bonollo takes us on a 'learning journey' about design including a scholarly explanation of the characteristics and power of the design process. It provides valuable insights into the attitudes, knowledge and skills that underpin the design discipline at an introductory level of expertise, and has been developed to meet the needs of aspiring designers in many areas including industrial design, design and technology, art and design and architecture. Elvio uses an operational model of the design process - along with related educational strategies, learning outcomes and an ordered set of design briefs - to develop a systematic, problem-based method for learning design from a first principles viewpoint. The beauty of this approach is that it brings structured learning to aspiring designers whilst being mindful of diverse cultures and backgrounds. Each part of this book encourages self-expression, self-confidence and exploration: it is has been carefully designed to take the reader on a highly motivating journey of design thinking and creativity, supported by excellent sample solutions to design problems, lucid discussions and extensive references. These solutions, developed by design students, serve as novel examples of how to solve real problems through innovative design without restraining creative freedom and individual personality. The design learning method and strategies in this book will greatly assist design and technology teachers, students of design, aspiring designers and any individual with an interest in professional design practice.

I cannot recommend this book highly enough, it was a complete lifesaver throughout my undergraduate studies and honours degree and now continues to serve me well as I move into industry practice. The content is easy to understand and follow, providing a practical guide to understanding design principles and every aspect of the design process. It includes great project examples and reflects the wealth of knowledge and experience possessed by this accomplished educator. I have purchased multiple copies of this book for peers and would suggest any student who is studying a design discipline to pick up their own copy as this has quickly become the most useful book in my design collection.

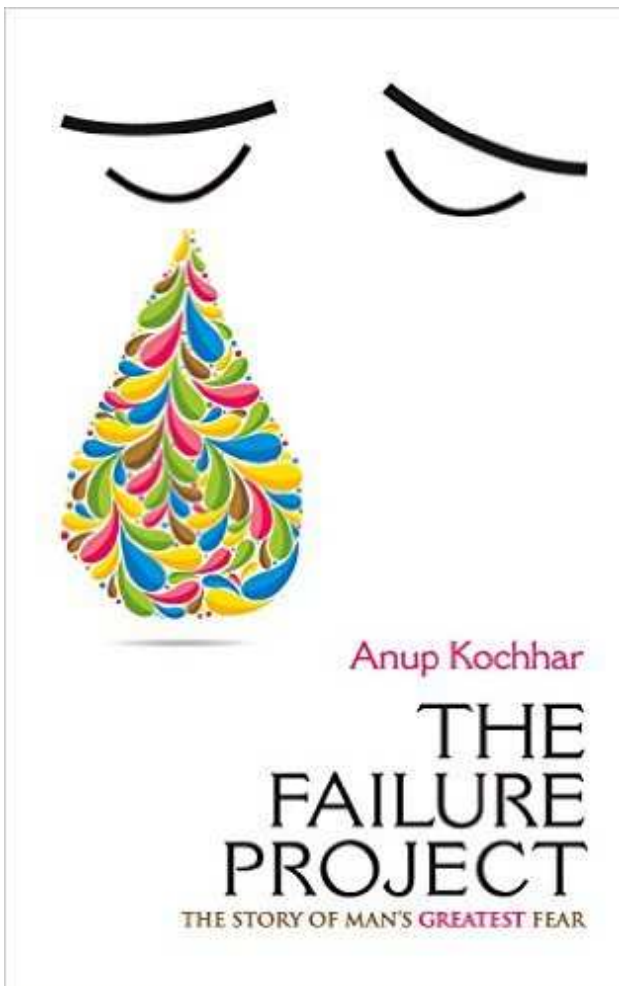
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★★★★★ A 'Must Have'.

By Amazon Customer on 7 April 2016

As a Design Education professional of many years standing, I endorse this book without reservation. It is comprehensive, lucid and above all, useful in a very accessible level at the coalface. Professor Bonollo has an enormous cache of experience as an engineer, designer and design educator and his experience is well demonstrated in this book. A 'must have' for anyone in the business of educating or being educated in the product design arena.

The Failure Project: The Story of Man's Greatest Fear



This amazing, comprehensive and compassionate book helps us understand the anatomy, psychology and management of failure - the greatest, and often the most secret, fear of Man.

Failure destroys lives. It damages confidence and crushes the spirit. Throughout our lives we endeavour to manage our thoughts, actions and results so as not to be branded as failures. Despite our best intentions, life does have a way of throwing curve balls and surprising us. Things do not always go the way we planned or wished for. Failure happens. And it will continue to happen. For most people failure is akin to a dreaded disease that must be prevented at any cost.

Failure is like fire - it has the power to singe or destroy completely. Few of us remember that failure can also be harnessed creatively. All that it requires is a different perspective.

What do we know of failure? More importantly, how much do we know about it? The first step to overcoming our inherent fear of failure is to know the enemy - inside

and out.

The book is now available in paper back and as an e-book from Amazon

http://www.amazon.in/Failure-Project-Story-Mans-Greatest/dp/9352015789/ref=sr_1_1?ie=UTF8&qid=1461578229&sr=8-1&keywords=the+failure+project

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Appeals

My name is Bruno Aguiar, I'm a researcher at Instituto Superior Técnico under supervision of Prof Rosário Macário, and I'm developing an investigation about the impact of mobility and accessibility in the quality of life, social support and health.

Health, quality of life and independence are fundamental values for the life of the individual as well as mobility and accessibility. The integration of good conditions of mobility and accessibility are crucial for the human being, because it will provide easy and convenient access to desired services as well as social integration.

The survey presented below is part of a research on transportation and quality of life. This study aims to have better knowledge about the impact of the transport on people's quality of life.

It should be noted that your participation is completely voluntary and you can quit at any time or refuse to participate.

The data you provide to us will be treated as fully confidential and will be in safe place where only those responsible for the research may access.

In order to make this investigation possible, I would like to kindly ask for your collaboration to fill out an anonymous online survey that can be accessed by clicking the following link:

English version:

<http://goo.gl/forms/u2Th7McqpI>

Portuguese version:

<http://goo.gl/forms/4bnrNokjHf>

Thank you for your kind cooperation.

Bruno Aguiar



News

1.

Connecting People with Disabilities to their World Through Technology

AT&T is dedicated to connecting people, regardless of technology experience or capability, with their world. That's why we created Digital You, a resource for parents, seniors, job seekers, and people with disabilities to help them navigate technology with confidence.



In order to further meet the needs of our customers with disabilities, AT&T's Corporate Accessibility Technology Office and

the Wireless Rehabilitation Engineering Research Center developed Wireless Independence Now (WIN) Workshops to teach people with disabilities how to use accessibility features installed on their phones and tablets.

AT&T's Michigan Avenue Brand Store held a WIN Workshop last month at the Chicago Lighthouse for the Blind. This event was organized and lead by 14 AT&T employees who trained a group of 25 participants with vision loss on the accessibility features built-in to smartphones and tablets. This event was not only a great opportunity to help our customers, but also to understand the issues and concerns they face in an increasingly digital world.

In June, we are holding additional WIN Workshops at the Chicago Lighthouse for the Blind and at the Chicago Abilities Expo. Register to attend! Not in Chicago? Check out the resources available online at Digital You.

By Kendra Ragsdale, Manager of Compliance and Outreach for the Corporate Accessibility Technology Office for AT&T

2.

National IT contest for youth with disabilities



This year the Global IT Challenge (GITC) for Youth with Disabilities will be held during 21st - 25th November, 2016 in Yagzhou, Jiangsu, China. The event is meant for four categories of

disabilities - visual impairment, hearing impairment, physical impairment (locomotor) and intellectual/development disorder for people within 13-19 years. One youth with disability from each of the above categories will be nominated to participate in the GITC 2016 in China. The expenditure towards air ticket and accommodation will be borne by the organizer.

To be eligible, you must be within the age group of 13-19 years, must be able to work with Internet Explorer web browser, MS Office and Scratch Programmes, and have good communication skills in English. College students with disabilities are not allowed to participate even if they're within the age group.

On receiving applications, a National IT competition will be held to select the suitable nominee. The venue and date of the competition will be intimated to eligible applicants separately. For participating in the competition, applicants will have to bear the expenditure for travel. Accommodations, along with one escort, will be arranged.

You can send your application in prescribed format to The Director, Department of Empowerment of Persons with Disabilities, Room No 518, Paryavaran Bhawan, CGO Complex, New Delhi, or email to kvs.rao13@nic.in latest by 30th may 2016.

For details, log on to <http://www.disabilityaffairs.gov.in/content/whatsnews.php>

3.

GAATES at the Forefront: Ensuring an Accessible Dubai for 2020

The Global Alliance on Accessible Technologies and Environments (GAATES), a Canada organization has been selected to undertake

an ambitious new project to ensure Dubai's accessibility for persons with disabilities and older persons.

Senior officials of the Emirate of Dubai are committed to making buildings, facilities, roads and the transport infrastructure fully accessible for people with disabilities, especially by 2020, the year of Expo 2020. GAATES has been selected as the winners of an international competition to develop the Emirate's Universal Accessibility Strategy and Action Plan, a comprehensive strategy encompassing the city's built environment and mobility domains.

GAATES, an international not for profit organization has assembled an international team of experts to assist the Emirate of Dubai to create a fully inclusive and accessible society, free of barriers to persons with a range of disabilities.

The project will focus on two key areas: accessibility of the physical built environment, as well as mobility and transportation. GAATES will work with the Emirate to draft laws, standards and best practices that collectively support the achievement of universal accessibility in Dubai. The new legislation will be in compliance with the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), that the Emirate ratified in 2010. There is strong political support by the Emirate of Dubai, managing organizations; the Community Development Authority (CDA) and the Roads and Transportation Authority (RTA), and from the disability community itself.

GAATES and its project partners have previous experience working in the Arab region, which has provided the team with a full understanding of the cultural nuances and specific geographical and climatic challenges in the Gulf. This unique level of experience enables the team to address challenges while successfully adding the disability perspective that fully respects the Arab world traditions.

This project will result in an accessible Dubai for all. Expo 2020 Connecting Minds, Creating the Future is dedicated to sub-themes Opportunity, Mobility and Sustainability and expects over 25 million visitors, many of whom will be persons with disabilities and older persons.

(Source GAATES)



Programme and Events



Photo: Delfino Sisto

Legnani. Graphic Design: Groupa Ee

FARAWAY, SO CLOSE

25th Biennial of Design
Ljubljana, Slovenia
25. 5.–29. 10. 2017

The 25th edition of the Biennial of Design in Ljubljana is set to strengthen its role as an interdisciplinary collaborative platform where design is employed as a catalyst for change.

BIO 25, under the title *Faraway, So Close*, will be curated by **Angela Rui**, a Milan- and Rotterdam-based design critic and curator, and **Maja Vardjan**, curator of Museum of Architecture and Design (MAO).

In line with their focus on the humanistic side and expression of design, they will use the Biennial **to decode through design the effects** of environmental changes, asset migration, and reactions to the systemic crises.

In the face of the total failure of the theory of Positivism, we are now forced to **confront the crucial and still largely hidden meaning** of the consequences of “post-modernization”, for which the city seems to have lost its authority as the territory where we look to find the source of quality existence.

Small changes are already taking place and gaining ground, and new inputs are slowly modifying our urban and rural environments. New frictions emerge out of the co-habitation of remote meanings and contemporary habits, as we look for new territories to signify, places to re-inhabit, ancient relations to re-enact, basic coexistences to re-imagine. **Can this friction between distant conditions produce new scenarios for a different present time?**

Along with the main subject-themes of the biennial, BIO 25 will de-centralize and will be interpreted as **a shift towards new territories** to be seduced by research and discourse, as well as by the idea of an event with which to produce knowledge. In the age of super information consumed in real time, the challenge of a biennial becomes increasingly closer to real conditions of everyday systems; **to provoke and challenge the paradigms** related to design and architecture through their pragmatic

application, acting as a “permanent work in progress”.

Slovenia, in accordance with its geographical conditions, will perform as a paradigm to stimulate, discuss and test the status of this global shift.

SAVE THE DATE FOR THE 25TH BIENNIAL OF DESIGN

Open Call 12 May - 5 July 2016
Kick-off event 15 September 2016
Process Autumn 2016 – Spring 2017
Exhibition 25 May – 29 October 2017

connects us all.

Whether it’s simply getting from home to work or using products shipped over distances near and far, in every region of the world transportation impacts our daily lives.

At first glance, transportation may simply appear to be about the movement of people and goods. But looking deeper, it’s also closely linked to equality, access to healthy food and good schools, and wildlife impacts, for example.

As the mobility demands of people and freight have grown, so too has the need for products, systems, and services that will make the transportation sector more life-friendly, for both people and the planet.

Registration is now open

Learn biomimicry and how to apply it while competing for cash [prizes](#) with students from around the world.

[Register](#) your team for immediate access to the [biomimicry design resources](#) and start developing your design solution today!

The graphic is a promotional poster for an international conference. At the top center is the IEREK logo, which consists of a stylized head profile with a gear inside, followed by the text 'IEREK' and 'INTEGRATION & RESEARCH IN ENGINEERING & DESIGN'. Below the logo is a stylized map of Italy, divided into horizontal color bands (red, orange, teal, grey, blue). Each band contains an icon representing a mode of transport: a red truck, a yellow car, a teal bus, a grey train, and a blue airplane. To the right of the map, the text reads 'International Conference on Urban Transport Strategies for Sustainable Development'. At the bottom right, there are logos for IEREK and CRC PRESS (Taylor & Francis Group). At the bottom left, there is a location pin icon with the word 'Italy' below it. At the bottom center, there is a clock icon with the dates '14 December / 16 December 2016' below it.

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6 de Maio - quarta - 10 horas
Fundação Portuguesa das Comunicações em Lisboa

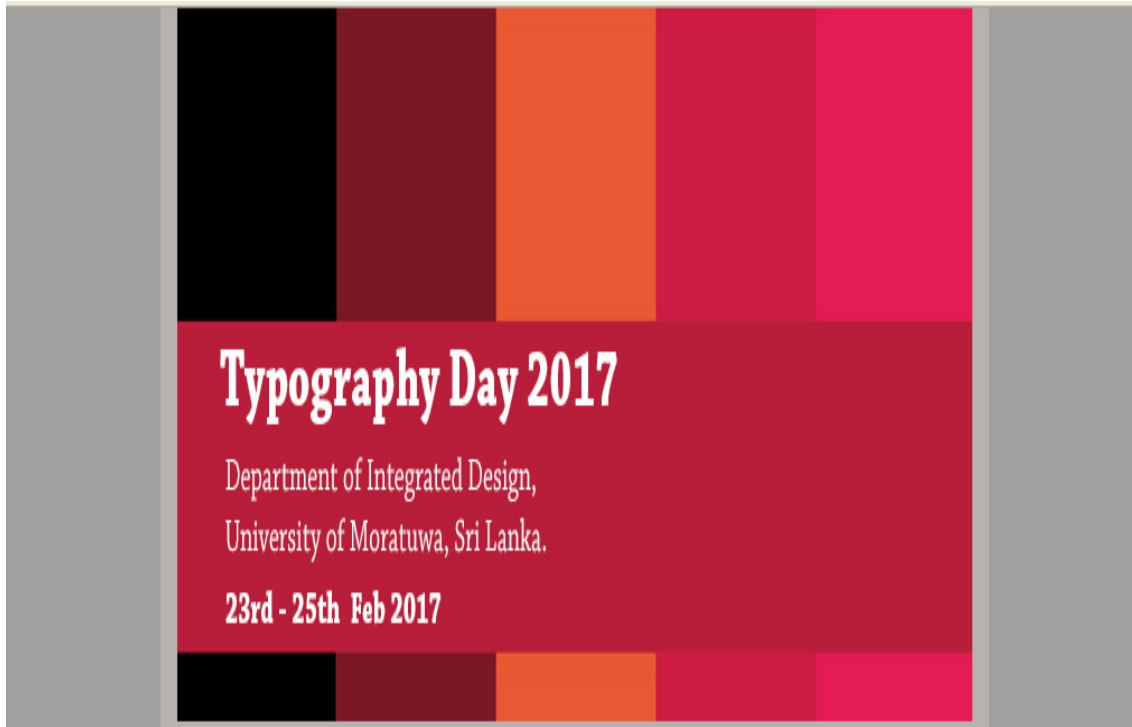
Carlos Sargedas, diretor do Finisterra Arrábida Film Art & Tourism Festival, a Fundação Portuguesa das Comunicações, a Câmara Municipal de Sesimbra e Arrábida Film Commission tem o prazer de o convidar para estar presente na Sessão inaugural da 4ª edição do Festival

organização

FUNDAÇÃO PORTUGUESA DAS COMUNICAÇÕES
ARRÁBIDA FILM COMMISSION
Câmara Municipal de Sesimbra

14th Participatory Design Conference
15 - 19 August, 2016
Aarhus, Denmark

The image shows a black silhouette of a city skyline against a white background. On the right side, there is a tall, thin tower and a shorter building with a vibrant rainbow-colored top. The text is positioned to the left of these structures.





The poster features a yellow and purple color scheme. At the top left is the 'INCLUSIVE IMAGES' logo, which is a circular emblem with a person in a wheelchair. To the right of the logo is a photograph of a woman in a wheelchair petting a white dog. The main title 'DISABILITY INCLUSIVE PHOTO CONTEST' is written in large, bold, red and purple letters. Below the title, it is noted that the contest is sponsored by New Mobility Magazine and PhotoAbility.net Stock Images. The text describes the contest's goal to change public perceptions of disability and lists six categories for entries. A purple box at the bottom contains the contest rules, including a \$100 monthly prize and a \$500 grand prize, along with the New Mobility logo.

**Real People,
Real Lives,
Real Progress**

DISABILITY INCLUSIVE PHOTO CONTEST

Sponsored by New Mobility Magazine
and PhotoAbility.net Stock Images

We are looking to break the mold and discover the best inclusive photos that will change the way the public, advertisers, magazine editors and business owners see disability. Your images can help eliminate social, structural and professional barriers!

Images should depict real people with disabilities of all ages in the following categories:

1. Lifestyle activities (dinner with friends, gardening, working, parenting, or enjoying a hobby)
2. Travel
3. Creative (unusual places, stylized, creative use of wheelchair parts, reflections, shadows, etc.)
4. Sports
5. Business/education
6. Portraits

The contest will run for 4 months, from September 1 to December 31, 2015. We'll announce monthly winners online and award the Grand Prize in the February 2016 issue of New Mobility.

- Monthly winners will each receive a \$100 cash prize
- Finalists and winners will be published on PhotoAbility.net (you'll receive royalties for images sold)
- Finalists and winners will be featured in a special gallery on PhotoAbility.net
- Winning images will be published in New Mobility
- Grand Prize winner will receive a \$500 cash prize and a write-up in New Mobility that includes the Grand Prize image

Photos must be taken with a camera that is at least 8 megapixels and may include iPhones and other mobile. All people featured in the images must be willing participants in the competition and sign a model release. You may enter as many photos as you wish. See all terms and conditions and register for contest and upload images at photoability.net/disability-inclusive-photo-contest.html





DESIGN EXPERIENCE

DESIGN EXPERIENCE is an initiative conceived by designers, made possible through designers and directed to designers.

We organize a **one-week intense seminar in Barcelona** where we explore the main concepts of Office Management, Project Management, Teamwork, Customer and Space Psychology, Creative Process, Sustainable and Ethic Design.

Important Barcelona designers will open the doors of their offices for us, will show us their construction sites and will tell us about the way they work.

We organize visits and round trips in the most important factories, showrooms, retails, places and sites in the area of Barcelona.

We discuss in a design environment about the most advanced topic about the design process



**International Labour Organisation (ILO) – Ministry of Tourism – Red Sea
Governorate – Egyptian Hotel Association**

Red Sea Accessible Tourism Competition 2016
“Tourism for All”



India

FOCUS

Typographic Culture

TYPE OF CAMP

Cultural Immersion Learning

GROUP SIZE

12

PRICE

SPECIFIC DATES

January 2017

LOCATION

Chennai and Delhi

Registration starts on

September 1, 2016 @ 12:00 AM



Pacific Rim International Conference on Disability and Diversity

The Pacific Rim International Conference, considered one of the most 'diverse gatherings' in the world, encourages and respects voices from "diverse" perspective across numerous areas, including: voices from persons representing all disability areas; experiences of family members and supporters across all disability and diversity areas; responsiveness to diverse cultural and language differences; evidence of researchers and academics studying diversity and disability; stories of persons providing powerful lessons; examples of program providers, and; action plans to meet human and social needs in a globalized world.



Joseph Binder Award 2016



ETH zürich

Cyathlon 2016 Homepage

Cyathlon Symposium, October 6, 2016

14TH PARTICIPATORY
DESIGN CONFERENCE

15-19 AUGUST 2016 | AARHUS, DENMARK



The 13th International Conference on Cooperative Design, Visualization and Engineering Oct. 24-27, 2016, Sydney

Email: cdve2016@cdve.org

Web: CDVE2016: The 13th International Conference on Cooperative Design, Visualization and Engineering



International
CONFERENCE ON DESIGN

CODE
2016

International Conference on 3D Printing and Rapid Manufacturing
at the School of Fashion and Design, GD Goenka University, Sohna, Gurgaon, Haryana,

17- 18December2016

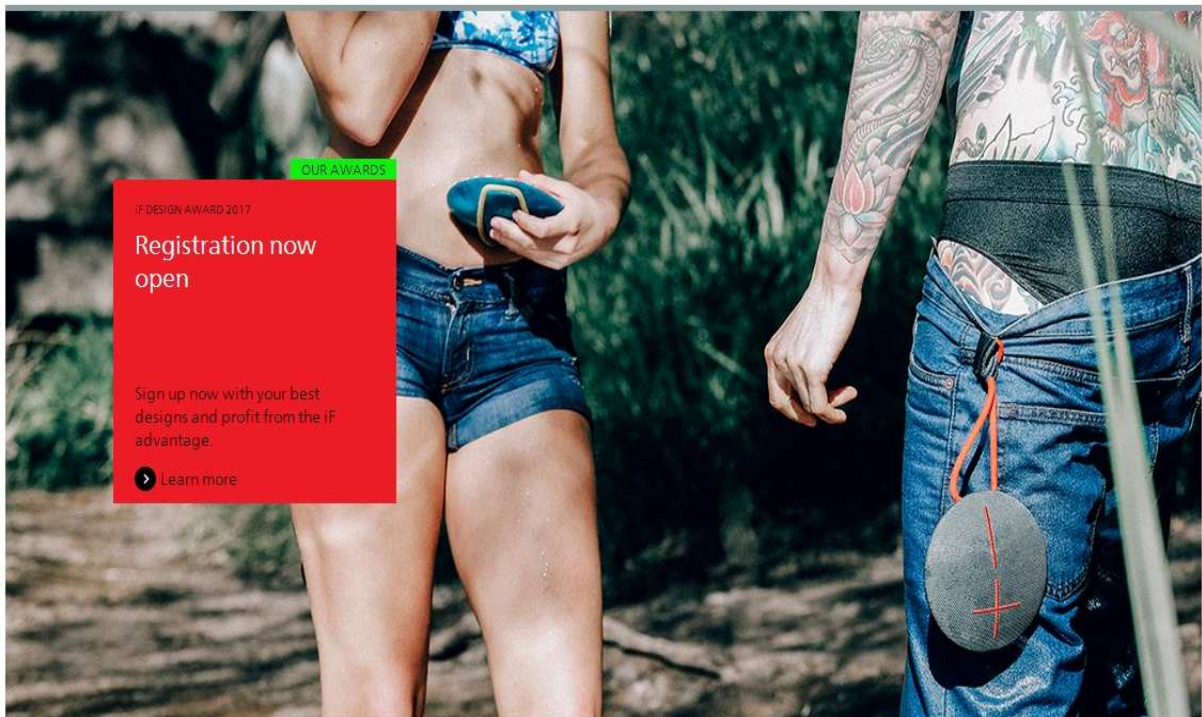
<http://www.designconference.in/>

THE NORWEGIAN CENTRE
FOR DESIGN AND ARCHITECTURE

Innovation for all

Innovation for all 2016

- Conference and workshops in Inclusive Design





CII
Confederation of Indian Industry

INDIA DESIGN EXCELLENCE AWARDS 2016

Endorsed by
ISCI
India Design Council

THE ULTIMATE ACCOLADE IN DESIGN

Inviting applications for
CII Design Excellence Awards 2016

32 AWARDS
4 Category Winners
28 Sub Category Winners

MAIN CATEGORIES
Visual Communication
Industrial Design
Interaction Design
Mobility Design

Application accepted from 29 April to 30 September 2016

For more information visit www.ciidesign.in or
Contact Ms. Pooja Sanchala T.: +91 124 4592960 Ext.: 442 E.: pooja.sanchala@cii.in

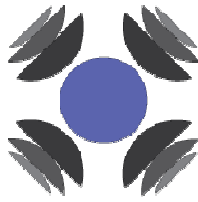


Urban Transport strategies for Sustainable development

14-16 December 2016
Italy



IEREIK
RESEARCH & KNOWLEDGE EMERGENCY



**3 Day Workshop:
'Exposure to Product Design and Innovation'**

25 - 27 August 2016 at IDC, IIT Bombay

<http://www.idc.iitb.ac.in/events/expo-pd-in-2016.html>



TypographyDay 2017 Focus on 'Typography and Diversity'

23- 25 February 2016

by [Department of Integrated Design, University of Moratuwa](#), Sri Lanka at

Colombo, Sri Lanka Call for Abstract for Papers (deadline 31 August 2016)

Call for Poster Design (deadline 31 October 2015) <http://www.typoday.in>

The 3rd Edition of Alpavirama Asian Short and Documentary Film Festival (<http://www.nid.edu/alpavirama/index.html>), organised by the Film & Video department of the National Institute of Design is going to be held between 4-8 October, 2016 at its Paldi, Ahmedabad campus.

Entries are invited from students/amateurs/professionals below 30 years of age for the SOUTH ASIAN COMPETITION section of Alpavirama 2016. Short fiction and documentary films, not-less-than 5 minutes and not-more-than 30 minutes long are eligible to participate. The film(s) should have been produced on or after 1st August, 2014 and should have been directed by a citizen of any of the following countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka. Animation films are not eligible.

The last date for receiving the completed entry form along with the preview material is 1st July, 2016.

Principal Faculty & HOD, Film & Video, NID
Festival Director: Alpavirama 2016



Job Openings

1. Job Opening

Come Join Team Lollypop Delhi! We invite UX Designers to come meet us next week. Call us or mail us - saloni@lollypop.biz/ 9611064774

2. Job Opening

Turian Labs is a young firm working on Research & Innovation Strategy at Pune. We help organisations in User Research (UX) & Insights & crafting Design Thinking driven Business Strategy. Why are currently retained by one of the top-most global technology brand for User-Research on their upcoming market offerings.

We are currently looking to fill three positions for this purpose. Two positions for fresh graduates (any design stream) to join us as Design Researchers.

One position for Research Program Manager: People with prior experience in managing research projects must apply. We are NOT looking at visual-design skills, but design sensibilities and ability to analyse and express. More details on JD can be sent individually. For more information on Turian Labs, Google us.

Job requires extensive traveling.

Interested candidates must write to me directly with a short write-up about themselves (SoP) and with a detailed resume. Send the requisites to manoj@turianlabs.com

3. Job Opening

Designation-Product Designer

Educational- M.Des/B.Des-Product/Industrial/Furniture Design from reputed Design Institutes in India.

Experience-0-2 Yrs.

Joining- Immediate

Location-Pune.

Candidate's Profile-

'Supreme Design Center' is looking for young, enthusiastic, energetic & creative mind to join the SDC team. This profile needs knowledge of Design research, very good hand sketching skills in communicating the design ideas, good prototyping skills in materials like wood, paper, thermocoal etc.

The candidate must have very good 3D modeling and rendering skills in Rhino, keyshot respectively.

The candidate will work in plastic molded products majorly into Furniture and Bath Fittings.

Interested candidates should send their CV along with a Portfolio on vishal_jagtap@supreme.co.in

4. Job Opening

We are (1- 6 months looking for interns) for product design projects. Projects belong to healthcare, lifestyle, consumer goods categories. Paid internship, location - Mumbai. Interested designers, get in touch via inbox or at design@sahasventure.com for further details. Independent designers are also free to contact if interested in collaboration.

5. Job Opening

Kerala State Institute of Design (KSID), is a design institute under Department of labour and Skills, Government of Kerala, established in 2008 at Kollam. Kerala State Institute of Design (KSID) was established for the purpose of creating a vibrant design community in Kerala through synergistic partnership between artisan community, professional designers and general public. The institute was later merged with Kerala Academy for Skills Excellence (KASE) on 1 April 2014. KASE is the apex agency for all skill development activities in the state of Kerala.

The Institutional Objectives of Kerala State Institute of Design are Education, Training, Consultancy Services, Research, Documentation & Publication, Collaboration and Design Awareness. For detailed information, please visit www.ksid.ac.in

KSID currently has openings for Assistant Faculty (Product Design, 3-5 year exp)-1 no. and Technical Assistant (Metal & Plastic, 3-5 year exp)-1 no. Please visit <http://www.ksid.ac.in/news/careers.html> for detailed job description and application process. Last date of application 13 June 2016.

Please share this info in your circles.

6. Job opening.

Digital agency based in Mumbai looking for Junior and Mid level UX/IA with 2 – 5 years of experience.

Junior level – 2 – 3 years of experience

Responsibilities:

- **Deliverables include discovery findings, research findings, personas, task lists, workflows, wireframes, prototype and more.**
- **Work closely with strategists, visual designers and developers.**
- **Participate in new business pitches.**
- **Staying up-to-date of industry best practices for UX design and processes.**

Junior level – 4 - 5 years of experience

Responsibilities:

- **Create project deliverables that clearly and well communicate the UX strategy and the reasoning behind it.**
- **Deliverables include discovery findings, research findings, personas, task lists, workflows, wireframes, prototype and more.**
- **Create user experiences that can be mapped directly to the business and user requirements of the project as well as clearly communicate the UX strategy.**
- **Work closely with strategists, visual designers and developers.**
- **Participate in new business pitches and extend existing client relationships.**
- **Work with client services and the Director of UX and Strategy on project scopes, with specific responsibility for creating the UX process work plan against client needs**
- **Staying up-to-date of industry best practices for UX design and processes.**

Tools:

- **Visio**
- **Axure RP**
- **Invision App**
- **Photoshop**

Please send me your CV with portfolio to rajeshsawant.7@gmail.com



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