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Access and Accessibility

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George Bernard Shaw...
The reasonable man adapts himself to the world, the unreasonable man persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man.

Apollodorus Diodorus Siculus... on Procrustes'
There, he had an iron bed in which he invited every passer-by to spend the night, and where he set to work on them with his smith's hammer, to stretch them to fit. In later tellings, if the guest proved too tall, Procrustes would amputate the excess length.

Introduction and Scope

The issue of access and accessibility have become central to our understanding of disability and rehabilitation. A reading of the literature in these areas as recently as the 1970s and 1980s would have presented a very different picture of the 'problems' of disablement and the shape rehabilitation had to take in response to this problem. Disabled people's lives were often presented entirely by professional viewpoints (Brechin et al. 1980) and on the small number of occasions when disabled people were afforded the opportunity to discuss their lives they were often presented as isolated examples of people struggling with their 'conditions', struggling with their daily lives. At this point, many disabled people with more obvious needs were segregated and thus lived in what might be described as 'parallel universes' (Charlton 1998, Morris 1993). To talk of access to mainstream society, its opportunities, goods, and services made little sense for those whose rhythms of life and living options were largely mapped out by institutional dynamics and state regulations. These afforded disabled people few rights or opportunities. Indeed the UK writer Selwyn Goldsmith captures well the sentiments as to how limited access was only 30 years ago and how little optimism there was at that time:

> Buildings always have been, and always will be, geared to suit two-legged able bodied people and not people propped on sticks or rolling about in chairs on wheels (Goldsmith cited in Barnes et al, 1999)

Whilst Goldsmith may have been proven to have been too pessimistic, access and accessibility are notions that are integrally linked to the rise of human and civil rights discourses and with the development of anti-discrimination laws and mainstreaming policies. Arguably access issues would not likely have emerged in a systematic way without major changes in the way in which disability and access were understood. These policy and practice changes did not of course emerge overnight. Changing sensibilities as to the treatment and construction of social differences were evident in the civil rights struggles of the 1960s and 1970s as Diane Driedger points out:

> Many disabled people could not participate fully in society because theycould not enter most buildings. There were stairs or narrow doorways where wheelchair users could not enter. If mobility impaired people could

not enter a building they could not go to university, hold down a job or find a place to live outside an institution. Disabled people, realising these things, ceased blaming themselves for their limitations... (Driedger 1989:2)

Although disability has been dubbed the 'last civil rights movement', there is evidence that in beginning later this impetus has allowed a fuller range of access insights. These insights go beyond formal anti-discrimination legislation to include a range of access laws, standards and guidance relating to buildings, telecommunications, media access, web accessibility, vehicular access and parking, curricular access in education and specialist support in the workplace. Access standards are now features of daily life in most 'developed' western and South East Asian societies, whilst countries in the 'majority' or developing world and many of those countries in the former soviet republics are engaging in a more evolutionary way with issues of access for disabled people (Coleridge 2006). Even where access remains very difficult for disabled people, in many Latin American and the poorer African and Middle Eastern countries, many have signed up to the UN Convention on the Rights of Disabled People as it relates to environmental access. To date, 140 countries have signed the Convention, whilst 80 have ratified all its clauses. Access is therefore clearly on the agenda globally (WHO, 2010). Article 9 of the UN Convention on the Human Rights of Disabled People lays out the role of signatory states:

> To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas.
>
> These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia:
>
> a) Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces;
>
> b) Information, communications and other services, including electronic services and emergency services.
>
> (United Nations 2006)

To highlight the now global issue of disability rights in May 2009, the UN's Department of Economic and Social Affairs participated in a strategy session on the role of parliamentarians in addressing the rights of persons with disabilities, organized by the cross-national UN grouping 'Parliamentarians for Global Action'. Other participants included parliamentarians from Nigeria, Pakistan, Sierra Leone and Sweden, who discussed issues related to the implementation of the Convention through domestic legislation and national strategies. However, there are very real challenges of making access possible for disabled people in many global contexts. In the majority world the main issues are access to good preventive and restorative health care, poor public health standards and often very limited mobility equipment and wheelchair services. This reality for many disabled people with limited

economic resources ensures that health problems or impairment (for example physical limitation) translate into significant social disadvantage due to poor environmental, economic and cultural access (Coleridge 2006). These forms of access are often best understood in terms of a 'hierarchy of needs' where access to environments, for example using appropriate mobility aids and well designed accessible buildings are a prerequisite of access to paid employment, advanced healthcare and cultural belonging. Clearly without an inclusive physical environment, higher order social opportunities are out of reach of many disabled people. In the 'developed' world, economic surplus and the established role of state intervention between the market and the disabled individual have ensured that at least basic environmental access provision is in place.

The use of the term 'access' and 'accessibility' whilst widespread in specific policy terms, is in other contexts substituted by the more specific terms of equal opportunities, civil rights and anti-discrimination, all of which are arguably preconditions of access. Whilst in a legal context, terms such as 'reasonable adjustments' and 'reasonable accommodations' often relate directly to issues of access to environments, goods and services, employment support and so on. The term access is most prominently used however when discussing physical environments and buildings. Terms such as 'access all areas', accessible products, and 'disabled access' all feature most strongly in such physical environments. In this sense therefore most academic, policy and practice attention attaches to environmental access. It is important to remember however the point made earlier that physical access is pointless unless our educational, cultural, civic and employment domains are also accessible in the broadest sense. A key policy challenge across the developed world is the assumption that technically accessible environments which are 'standards compliant' can run themselves, especially in an era of budgetary restraints. For example many newly constructed metro/subway stations are unstaffed, which for disabled people using them for the first time may prove difficult. So in its fullest sense, access is a much broader social inclusion and socio-economic issue that goes 'beyond ramps' and takes account of the important 'activation' of well designed social spaces with enabling human agency (Russell 1998).

Why reconceptualise access?

The two world wars, the Korean and Vietnamese wars each played their part in making a range of countries aware of the rights of disabled people and in time these insights attached to both ex-military war-injured to include disabled civilians. The most important development to widen the notion of access rights for all disabled people occurred in the USA of the 1960s. Civil rights activity prompted the nascent disabled peoples' movement to embark upon a significant reevaluation of the nature of disability and the disability problem (Charlton, 1998; Stone, 1985). The civil rights movement across western countries helped ensure new ways of thinking around disability were translated from campaigning aims to everyday life. The social model of disability (UPIAS 1976) was offered up as a new and empowering alternative to previous deficit based models of disability which tended to focus unduly on the tragedy or personal cost of disability; ideas that are often characterised as forming a medical model of disability. To this point, theoretical and professional concerns hinged around questions of how disabled could be rehabilitated to more closely conform to social norms or at best how society could meet disabled people 'half way' towards *their* predicament. However new social movements such as the disabled peoples' movement and enlightened professionals ensured that a social model of disability shifted attention more fully to the barriers that people with impairments faced. This approach did not argue that impairment was insignificant, quite the opposite; however it did focus on the barriers to disabled peoples social, spatial and economic inclusion. In going beyond deficits, the social model and a barriers approach

(Roulstone, 1998) emphasised the key factors that limited disabled people to mainstream opportunities that non-disabled people took for granted. Access was perhaps chief amongst these barriers, indeed a key prompt for the Berkeley 'sit ins' of the 1960s was disabled students' concern that they could not access all areas of the University of California campus. Thus began a movement for change, one where environmental planning and building was increasingly mandated to include people with mobility, sensory, intellectual impairments. Ramps were the first wave of concern, but in time signage, assistive sound systems and alternatives to established media were also seen as key issues in environmental design (Charlton, 1998). Notions of accessibility change over time, as new technologies have become pervasive in civic, educational and employment contexts access takes on new meanings. What remains the same, despite these technological changes, is an emphasis on:

1. Barrier reduction to ensure disabled peoples' mainstreamed lives
2. Inclusive environments that are fit for a diverse range of personal needs
3. An understanding of the configuration of barriers-that is an holistic understanding of all environmental barriers-for example it is no use making a main entrance accessible if all other areas within a building remain out of bounds
4. Having disabled people at the centre of designing new or retro-fitted buildings and an acknowledgement that disabled people often have the best idea of their access needs
5. That access adjustments often need not and do not cost large sums-key opposition to anti-discrimination legislation has been the fear of the costs of 'reasonable adjustments/accommodations'. The evidence suggests most changes are low-cost.

We can now begin to look in more detail at different facets of environmental access. For this article communication, the built environment and web accessibility are explored as perhaps the most significant environmental barriers.

Access and Communication

Communication has been an important facet of social life back into pre-history. The increasing complexity of forms of social communication makes for both greater choices, but also provides scope for winners and losers in technological terms. The rise of telecommunications offered the promise of increasingly diverse forms of rapid communication over long distances-for example telephony, faxes and latterly texting. Texting is a good example of the serendipitous (unplanned) benefit of a new form of communication. Originally developed for military use, texting rapidly became a feature of everyday life and spanning the generations. Some D/deaf people have found mobile texting a very enabling form of communicating as it moves the plethora of everyday chatting and messaging to text rather than the spoken word. For those D/deaf people without a mobile phone text phones, typetalk and minicom systems have been in place for some time in western societies, but they were fixed and rather clunky technologies compared to mobile phones. Of course, new technologies do not drive social behaviour, indeed the downside of mobile phones and our dependence on telephony more generally is the widespread assumption that most people own a mobile phone and can use it aurally/vocally. The mobile phone provides access, but also takes it away where it sets precedents for predominant forms of communication (Shipley and Gill 2000).

There have been halting but ultimately significant developments in technology access and inclusion laws in a number of countries. For the purposes of this work I will concentrate on the USA, Australia and the UK as they have well documented histories that the reader can follow up. In the United States, alongside the development of provisions in the American's

with Disabilities Act for legal redress, specific legislative provision has been made in the 1996 Telecommunications Act, section 225 of which made provision for telephony to be accessible for disabled people. Somewhat confusingly the Act's drafters refused to acknowledge disability as one of the 7 universal design principles at the heart of the Act as laid out in section 254. However this should not detract from the work undertaken by the US Federal Communications Commission (FCC) in pushing forward access issues in the field of telecommunications (and web accessibility) (See Goggin and Newell 2003). In Australia, a mix of case and statute law have helped cement access provisions into telecommunications policy, with, for example, the passing of the Telecommunications Act 1997, which although not fundamentally rooted in accessibility issues is ensuring greater access to telecommunications for disabled people. In the UK a more voluntaristic approach has been adopted which reflects the growth of market principles in the UK. Access standards are encouraged by the licensing body OFTEL, whilst disability discrimination cases brought under the goods and services part of the UK Disability Discrimination Act (1995) aim to encourage more responsive design. It is doubtful whether a case law approach and voluntarism will suffice in providing more accessible telephony for most disabled people. It is worth pointing out that in all 3 country contexts welfare agencies play an important role in facilitating the best available technologies for disabled people deemed eligible for support.

Access and the Built Environment

The built environmental has to be the keystone in our understanding of access issues for disabled people in contemporary society. Buildings denote our fundamental rights to opportunities (schools and college), rights (civic, political entitlements), enjoyment and self realisation (stadia, auditoria), shelter, protection and a place to build our emotional worlds (housing). No other single context provides greater potential for access inclusion or exclusion. The reality of course is that buildings, especially non-domestic premises have been constructed with a much greater range of objectives-functionality for the majority, aesthetic appearance, to inspire respect, fear and awe. The issue of cost and cost saving is a key consideration to take account of, particularly in the 20th century architectural landscape. However the modernist assumption that buildings were fixed entities for which humans served a purpose (Imrie, 1996) has been challenged through notions of more flexible enabling environments best captured in the notion of 'universal design' (Mace, in Coleman et al, 2006). Universal design then embodies a viewpoint that environments should be as accessible and yet flexible as possible-across space, time and generation-that products and buildings should be accessible to all regardless of their abilities or limitations. Mace noted that features that benefit disabled people often benefit the wider population. The notions of 'Design For All' and 'Inclusive Design' contain similar philosophies bit have been more widely adopted in a European or Australasian context (Newell and Gregor 2000). Early examples of universal design principles in use were evident in the West Coast USA (California), Germany, France and the Netherlands, but is becoming increasingly widespread. It is into this context that disability access policy and legislation have been introduced. Many historic buildings constructed for aesthetic reasons or in a spirit of civic ebullience at times of great historic moment may well represent very poor access options for disabled people. For example, the historic listing or scheduling of many historic buildings across the western world presents real challenges in squaring the circle of preserving our national heritages whilst affording disabled people access to as much of this space as the listing/scheduling regulations will allow. There have been some creative approaches taken in this regards as a visit to London's National Gallery, Washington's Smithsonian Museums, Berlin's Reichstag or Sydney's Town Hall and Customs House would attest. Significant challenges remain as even a cursory glance at the main street of many historic cities will testify.

Systematic evaluations and policy responses to access issues for disabled people took place in the United States. Well before the Berkeley Sit-ins, 1958 witnessed a major conference of the US President's Commission on the Employment of the Handicapped and amongst the wider attendees was the American National Standards Institute (ANSI). Although a non-public body ANSI was instrumental in development of voluntary standards of building design entitled 'Making Buildings Accessible to and Useable by the Physically Handicapped' (1961). Although the first comprehensive guide to minimum buildings standards, the voluntary nature of the standards made only a limited impact in the absence of legal enforcement and a disability lobby in a position to activate the standards. Many buildings owners and employers were in reality unaware of the existence of the standards, whilst the National Commission on the Architectural Barriers report of 1968 made clear the weakness of the standards. However the standards provided a valuable starting point for the more conscientious building designers and developers interested in making their environments better for disabled people. The Architectural Barriers Act of 1968 made clear the federal mandate that contractors who designed, built, altered or leased buildings based on federal funds would be required to comply with newly established minimum accessibility standards. Whilst not effective in a real sense until the late 1970s, the Act provided a design template from which political rights could activate such standards. The US Rehabilitation Act of 1973 was the factor that helped activate the specifics of previous standards. Section 504 of the Act provided a definition of disability and outlawed discrimination by organisations in receipt of federal funding. Section 504 and its notion of program accessibility allowed flexible interpretations of buildings access, for example, based on environmental redesign/upgrade or via relocation of an otherwise inaccessible organisational service or function. The birth of the Architectural and Transportation Barriers Compliance Board witnessed a new minimum design code (later the 1982 Uniform Federal Accessibility Standards). Together these design standards coupled with the cultural and political impetus embodied in the disabled peoples' movement and the individual legal rights enshrined in the 1990 Americans with Disabilities Act (ADA), provided an powerful matrix of support for increasingly accessible environments. This did not equal 'access all areas' for all disabled people, but the lesson was now being learnt that legal, civil, attitudinal and environmental forces have to be at work for us to talk meaningfully of accessible environments. The ADA alone has proven powerful in educating service providers on the importance of accessibility and reasonable accommodations. Data from the Department of Justice and Equal Employment Opportunities Commission points to a number of important settlements within only 2 years of the Acts implementation related to complaints of poor buildings access (West 1996). In the field of transportation, the US Department of Transportation regulations of 1991 make clear the duties of public transport operators under Title ii of the ADA 1 1990. Here, the more individualised facets of discrimination in other parts of the ADA are eschewed in favour of legally based planning approaches rather than simply relying upon individual means of redress. This has clear environmental benefits in avoiding access problems occurring in the first instance by planned accessible transport systems. This approach is mirrored in the UK and Australian DDA and ADA respectively (Lawson 2008).

Inclusive buildings design alone was never going to be enough to drive forward a wholesale improvement in buildings access (Imrie, 1996). This required a much greater statutory drive towards accessibility secured through new policy and legislation. In the UK, the growing recognition that more disabled people were living their lives in the mainstream led to the Chronically Sick and Disabled Persons Act of 1970. The key features of the Act that impinged on environments was the development of the orange (now blue) badge scheme that

afforded disabled people parking concessions that allowed them to park for extended periods in locations where non-disabled parking was prohibited. In many local authority contexts such parking was also free. The Act also introduced accessibility standards for a number of public buildings including libraries, museums and public conveniences, schools and university buildings. The main drawback was the voluntary nature of the Act's provisions with its statement that access provision had to be made 'so far as it in the circumstances practical and reasonable'. Research suggested that this voluntary approach was not working, whilst the exact access requirements were not laid out in the Act. The then government decided to respond in the development of an additional section of the statutory building regulations known as Part M (Department of the Environment, 1990). These regulations also took in access in shops, offices clubs and hotels, although the exact requirement varied by building this went some way towards making access a public issue and wider benefit beyond a small range of buildings. The Disability Discrimination Acts of 1995 and 2005 has aided further the push to accessible environments through reasonable adjustments provisions, individual redress for environmental discrimination and in the 2005 Act by the placing of a public sector duty on authorities receiving public funds to undertake impact assessments of its operations (including its building estate) on disabled people (Lawson, 2008).

One area that has received less attention is that of access standards and availability in domestic premises (homes). As the then UK Derbyshire Coalition of Disabled People (DCDP) pointed out in the 1980s: "Every individual has the right to live in an ordinary house in an ordinary street" (DCDP 1986).

Ronald Mace's notion of universal design attached to similar principles over the life cycle:

> The universal design concept increases the supply of usable housing by including universal features in as many houses as possible. (See http://www.design.ncsu.edu/cud/about_us/usronmace.htm)

The large-scale deinstitutionalisation of disabled people has led to policy and planning assumptions that living disabled peoples' living options will mirror those of non-disabled people. The reality is far from this assumption. The sale of many of the most accessible houses under a neo-liberal push to privatisation and a reduced role of the state has left an accessible housing stock well below the estimated numbers who would benefit from such provision (Imrie 1996). Despite the two British Disability Discrimination Acts, domestic access is proving a much greater challenge than high street environments. The lack of firm measures to mandate numbers of access standard housing in the UK leaves the provision of accessible housing largely at the door of social (not for profit) providers. These are often in the poorer neighbourhoods in the UK and often have very poor social infrastructures more generally. In general the UK government has relied more fully on retrospective access measures and makes available Disabled Facilities Grants for this purpose. However critiques point to a very severe means (financial) test for support which leaves disable people on small-middle incomes in the least well supported position. This approach does not overcome the issue of getting accessible housing or potentially accessible housing in the first place. However some authorities have made us of the devolved approach to housing provision (most housing planning is the responsibility of local jurisdictions). The document Housing Choices for Disabled Londoners makes clear the twin commitments to building more Lifetime Homes (homes that can be easy adapted to provide accessibility through the lifecycle) and to develop an Accessible Housing Register. The latter policy aims to overcome one major barrier to accessible housing-and help disabled people better identify where accessible housing is

situated. The legislative shaping of accessible housing is more centrally determined under federal law in the United States. The Fair Housing Amendments Act (1988), a precursor to the Americans with Disabilities Act, broadened the protections of Title VIII of the 1968 Civil Rights Act to extend protection to disabled adults and families with disabled children (West, 1996). Both public and private housing developments (with four or more multi-family houses) have to adhere to the Acts access provisions. The Act both mandates access by design and also outlaws differential treatment in the letting or selling of domestic properties. Importantly, landlords cannot debar a disabled person from making access better through retro-adjustments where the disabled person meets the costs of those access improvements and makes good any changes on the end of a property lease agreement. A disabled person could begin to expect to see accessible private housing available, itself an important step forwards. However case law still provides examples of a mismatch between disabled peoples' housing expectations in the mainstream and state/federal laws which although supportive of more housing options do not mandate a given minimum proportion of houses that meet a certain access standard in an integrated setting (See Williams V Secretary of the Executive Offices of Human Services cited in West, 1996).

For disabled and frail older adults with very obvious needs, environmental control systems are provided by health and social care authorities (often jointly funded). A key example is the concept of the 'Smart Home' which affords disabled adults remote control of, for example, doors, windows, curtains, heating, lighting (Roulstone 2007). The cost of hardwiring a Smart House from scratch is high. The more affordable option is to retrofit a home with specific Environmental Control System (ECS) functions to allow, for example, remote door and curtain opening, tasks that require significant 'gross' motor movements. One low-cost option which makes control of electronic items easier is a 'Global' handset controller for electronic goods which uses a unified handset to control several devices in one (television, stereo). These devices are cheap and available from high street electrical retailers. Complex ECS systems are largely provided to people with significant and/or complex impairments, often from pooled health and social care budgets. The most advanced, although very expensive, Smart technologies can be installed in everyday products, for example instrumented toilets that can measure heart rate and body temperature. Devices to enhance safety these devices include 'off the peg' rechargeable mobile or wireless portable telephones which may help reduce isolation and provide flexible access to emergency services. Community or 'Social Alarms' are the latest application of telephony to home-based safety. It is estimated that there are 1.3 million social alarms installed in the UK (Fisk, 2003 in McCreadie and Tinker, 2005). These systems can be telephone or pager based and can be worn as a pendant device for use in health emergencies, most typically falls in the home. Video or audio door access technology is one of the commonest technologies provided to enable older and disabled people to scrutinise visitors before they let them inside their homes. The research evidence suggests that the following are key considerations in understanding, procuring and monitoring the value of assistive devices: avoiding a 'panacea' approach to assistive devices, particularly digital technologies not always assuming that complex technologies are the best solution to environmental adjustments needing to understand assistive device use in a wider social context avoiding a medical model of disability that understands the function of assistive devices to be correcting the 'problem' of the individual predicting whether a device will be accepted and used. All these devices in their own way help disabled people to better access features of their living space, but also to have greater access beyond their own homes.

Access to Cyberspace and Website Accessibility

It is important for analyses of accessibility to take account of the changing ways in which environments are being defined and lived out. Roulstone writing back in 1998 made clear the potential for environmental or more properly spatial redefinition made available by the new technologies. The rapid shift in technological developments has moved these debates on where websites become the first recourse for many disabled people as opposed to a form of access reserved for privileged minority. Websites, chat rooms, e-bulletins, blogs and social networking sites all provide new ways of interacting that do not rely on the spatial politics of life in the 'high street' (Roulstone and Barnes, 2007). The issue of accessibility of web design has not surprisingly sparked most interest as the worldwide web is both ubiquitous and yet at our finger tips. It provides an unprecedented and often immediate access to a range of services, information, cultural exchanges, identity reaffirmations and social transactions, access to these are now seen as a basic right of citizens in many advanced society context as the pioneer of the web made clear in 1997:

> As we move towards a highly connected world, it is critical that the web
> be used by anyone regardless of individual capabilities and disabilities...
> The W3C (web standard) is committed to removing accessibility barriers
> for all people-including the deaf, blind physically challenged, and
> cognitive or visually impaired.... (Berners-Lee, 1997)

Warnings have to be sounded however. The notion that the web and similar cyberspaces is inherently enabling for disabled people is not borne out by some evidence (Goggin and Newell, 2003). The cost of technologies, the development of non-linear and visually dominant windows environments have been inadvertently exclusionary. These problems have been addressed by e-inclusion programmes as the world. However, when it comes to the web, the very spirit of plurality or anything goes at times runs counter to principles of equal or reasonably adjusted access for disabled people. The development of the WAI worldwide web accessibility initiative and the floating of the worldwide web consortium W3C has helped moved these debates forward. Counter arguments have been put however, Dennis Hayes, himself visually impaired and then chair of the US Internet Foundation put the view to a US House of Representatives sub-committee investigating web accessibility that disabilities (impairments) are so diverse it would be impossible to develop a 'one-size-fits-all' approach. This laissez faire approach held sway and to date no class-action type approach has been used to apply the Americans with Disabilities Act to web design standards. The belief in the strong voluntary guidance embodied in W3C has been seen as the best way to move forward in web accessibility in squaring ambition with pragmatism (Goggin and Newell, 2003). However one UK study highlighted the major access problems such a trade off produces noting that 80% of the websites it surveyed were not accessible to disabled people:

> "The web has been around for 10 years, yet within this short space of time
> it has managed to throw up the same hurdles to access and participation by
> disabled people as the physical world." (Disability Rights Commission,
> 2004)

In the USA the *United States Department of Justice Policy Ruling, 9/9/96: ADA Accessibility Requirements Apply to Internet Web Pages* established the need for state, local government and business providers to communicate effectively with all potential service users. This appears a strong ruling but is unclear what standards are being applied as minimum criteria

and for which forms of alternative access media. Suspicions might attach to the symbolic as opposed to the substantive value of the ruling. http://www.usdoj.gov/crt/foia/tal712.txt

Similar evidence of voluntarism is evident in the Australian context. Despite web accessibility receiving explicit coverage in the Australian Disability Discrimination Act, the current uncertainly as to whether the latest generation of web access (WCAG 02) can be delivered in Australia is currently being debated at the highest levels. Web accessibility it is made clear is important where it is 'reasonable' to afford access to disabled people and where such provision will not result in 'undue hardship' for the service provider/authority (Australian Human Rights Commission, 2009). What is clear in all of the above contexts is the importance of adhering to universal design principles of ensuring that accessibility is central to the wider design process for websites as much as it is for physical environments and that accessibility is not a consideration left to the end of a design process. The recent UN Global Initiative for Inclusive ICTs (G3ict) should move debates on further in signatory countries. The initiative is an advocacy approach of the United Nations Global Alliance for ICT and Development, works to promote information and communications technology solutions that best enable disabled people in signatory countries.

Conclusions

Access remains central to the human rights of disabled people. The last 30 years has witnessed major steps forward in the provision and our understanding of accessibility issues. Developments in policy, design, human rights legislation, the disabled peoples' movement and individual expectations have all helped drive the question of access forward. There is still some distance to travel in affording more complete and universal access solutions. But arguably the momentum is too great to stop the shift to more accessible environments.

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Some useful web-based resources

- http://www.disability.gov/ (Key United States website with many accessibility links)
- http://trace.wisc.edu/world/web/ (US website design aid)
- http://www.design.ncsu.edu/cud/about_us/usronmace.htm (US Centre for Universal Design)
- http://www.direct.gov.uk/en/DisabledPeople/Everydaylifeandaccess/Everydayaccess/index.htm (key UK government website with many links to everyday access concerns and information)
- http://www.disabledgo.com/ (UK charity which responds to access issues)
- http://www.directenquiries.com/   (National access register UK)
- http://www.disability.wa.gov.au/aud.html (Australian government access web pages)
- http://www.hreoc.gov.au/disability_rights/buildings/access_to_premises.html (Australian Human Rights Commission website which contains may references to access)