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Title: **Communicating Universal Design Across Virtual and Built Environments**

It's a real pleasure to be here this morning to talk about this topic. I'm particularly interested I suppose in just accenting the topic of communication and universal design. My background, particularly before I went to academia, was working with consumer groups in the early 90s in what was then the area called the telephone, so we used to work on the telephone and advocacy about telephone and we did a fair bit of work on the pay phone actually, pay phones look nice and you use them for Wi‑Fi now. And that was when I started working with disability advocates and groups and technology companies around design and human rights and how we get to have environments that actually recognise the diversity of who we are and that actually support our lives in various ways. So that's just a little bit about my background.

I think the threshold issue here is that in old and new forms of communications people are fundamentally excluded from some of these and this is a real problem. How do we engage people around that, how do we enlarge the conversation? Communication is key. So if people are excluded from actual forms of communication, that's not a good thing. So there's a double kind of message around communication.

I think one of the key things about how the future is imagined is that the internet was different, cyberspace was different, that's kind of like a bit of a 90s way of thinking about things. Now most of us are probably transmitting data all the time with our devices.

Increasingly classrooms are very much a mix of the virtual and the physical. Sometimes this kind of makes you wonder about how universal design is done when at particularl universities people are investing in e‑learning and setting up e‑learning spaces where you can bring your own device, but you can't if you're a wheelchair user or want to get a stroller in, you can't get them in the door. I have an example, just an image here of a terrific MOOC, so an online course freely available called Disability and a Good Life, a fantastic resource that makes this point in trying to reimagine learning in this kind of setting.

So mobility particularly and I was really reminded of this with Simon Darcy's presentation yesterday talking about universal mobilities. This mobility theme I think is extremely interesting and I think thinking through some of the diversity of experiences in our lives particularly around disabilities and the diverse range of disabilities and impairments, mobility is a crucial topic and it helps us bring together discussions of communications that sometimes focus on devices. I'm particularly obsessed with mobile phones and things like that or face‑to‑face communications, but not looking at the relationship increasingly now between if you're going to call a cab and you need to use Uber or some other device, these things are coming together and often the blockages are across systems of mobility and systems of communication and I think this emphasis on universal mobilities is a really interesting and important one. It goes into communication.

So there are some challenges in universal design at a kind of broad sense that we have the digital technology embedded in everyday life and in our environment. We've got this combination of the physical and the virtual, but it's bringing many technology systems together, but I always see technology as socio technical, to use a technical term, but really to go hand in hand with technology very much goes hand in hand with the ideas we have about that. You only have to look at the history of the telephone, it moves out of business into a huge domestic technology.

We've got these different systems coming together. You think of the hype around driverless cars, you've got communication, transport coming together. They've been separated for a century or so. The longest communication going back millennia they've been quite close together. You think of the Roman period and roads, the importance of the roads, you think of the indigenous cultures in Australia and those lines, the tracks, the paths that people took as well as the cultural sort of figuration of that, it's always been important.

The challenge is we've got these different technological systems that are coming together and they've got quite different concepts, quite different social practices, things that people associate with them. I wrote some things with Christopher Newell around the 2000 Sydney Olympics, and there's a whole set of complex things around the way in which there's been important advances around sport and disability, yet on the other hand there's stereotypes around disability that cluster around sport and celebrity.

But leaving those aside, the interesting thing now is that sport is massive in terms of media and communications. Paralympics is tiny compared to the Olympics, but it's still pretty big. There's a link with Olympics and disability and web accessibility and it goes back to the Sydney Olympics. I have a screen shot here of the Sydney Olympics and of course it's the famous Maguire case, a case against the Sydney Organising Committee in 2000. It makes really interesting reading to go back and have a look at this. I'm paraphrasing here, but this case was one of the biggest in the history of this country ‑ they were not taking the measures around accessibility that they should. The Human Rights Commission found the Sydney Olympic Organising Committee had engaged in unlawful conduct under the Disability Discrimination Act by not providing for the complainant and they directed the Sydney Organising Committee to do something about it.

They didn't actually, they dragged their heels as we know, but they eventually got there. But this was a real landmark in accessibility. But if we fast forward now and think of web accessibility, it's certainly a work in progress. Many of us work in organisations or in our own practice try to do web accessibility, but we haven't got a great sense of what the national scorecard is. It was in the national transitional strategy that's transitioned into the digital transformations office, but it's a lot of ‑ still a lot to go.

Really early on there was a sense that internet was for everyone and then it had a really specific set of guidelines developed about how you could make web pages and make them accessible, there's tricks to that. I've done a web accessibility course. I was totally crap at it. It's a bit trickier than it can look, although it can be easier than it looks as well.

The fact we're having trouble making progress really raises some questions for me about how we pull together the other parts of the puzzle around technology, how we deal with the web on mobile devices, how we deal with procurement of IT systems where we're now starting to get some buy‑in from Federal Government, from state Government, from large organisations, but it's taken a fair while to do.

I just wanted to draw attention to the notion of digital by default, the sense in which governments are delivering services electronically. In many ways it's a quite useful idea. But the digital by default framing is I think a real problem for many of us and I imagine for those service providers or consumer organisations, for many people who are sitting in particular areas and you're not comfortable with computers, you perhaps didn't have the exposure in your work life, you're dealing with cognitive impairment ‑ you know, a whole bunch of different issues ‑ you're expected to engage with government, to get your welfare or social support benefits via digital. It's not rocket science, but it's pretty complex to address. Yet having done a bit of an analysis on this recently in terms of the gender aspect was a colleague Fiona Martin, broadly at a framing level, I know work is going on, there's real concerns. For those who are working on the ground with people, there's real issues here.

So I think one of the kind of seeds of this is about how we think through some of the ways in which particularly around communications the communication technology takes shape. We have this incredible opportunity, that universal design has been recognised, nominated in an international treaty, in the convention on the rights of persons with disabilities. So that's 10 years ago, we're celebrating in New York in June celebrating that.

And there are a lot of provisions in that convention that touch on aspects particularly of communication, of information technology, of the cultural dimensions around communication. Think for instance of the stipulations on sign language in that particular international treaty.

I think this provides us with one framework to try to deal with this longstanding issue that many people with disabilities have been excluded from communications in different ways. We've been fighting recent battles around audio description of television and not getting particular traction of this. But I think one of the reasons that this has occurred is that the media use of people with disabilities, has not been widely recognised or celebrated and I think this is one of the issues about the complexity of the universalised and the universalising aspiration.

On the one hand it's important to work with ourselves as particular people, as particular group in particular places, parts of particular communities, and to do that as equally as possible and try to design particular products and services or policies or environments that really meet our needs, but on the other hand what the universal part of it really captures is the sense in which we don't want to work through that time, time and time again, how do we say this needs to be universal, this needs to be in the standard, or you need to think about how to design this for as many people as possible. This is complex. I think around communication one of the issues is that our ideas about communication have been quite restricted, so we haven't really recognised the range of styles, the range of ways, the range of languages and the range of media that people use to communicate.

So I just wanted to give a little brief kind of case study about this. I've just got a slide here: There's a feedback loop between the universal and the specific and particular, what's the interaction about this, and without mapping the categories on to each other, with a lot of digital technology we actually have got a bit of feedback between what's the global provision of these technologies, particularly a lot of technology not being made in Australia, made in other countries but coming to Australia and that we're adapting, so what are these interrelationships. Interesting too when you've still got things like regional standards setting bodies in a lot of technology areas.

So I've got an image here from the 1930s of a blind man reading a Braille book to just point to this long history of formats and technology, people with disability. Fast forward here to the 70s to the Kurzweil machine, the reading machine, which is in this picture comes from a news report is a big kind of box, like a huge printer that people use to try to convert text into formats that could actually be understood by people who are blind.

In the 1990s ‑ I've got screen shots here from an article in 2006 which has the moment when they miniaturised this Kurzweil reading machine. There's a picture here of a young blind man who has a device like a big mobile phone and an older woman who's also using that kind of device. This was really interesting because there is a long history of technology that feeds into universal design and I think it's the history of how users interacted with technology companies and design. So this is a partnership ‑ and I think you see a lot of this particularly around disability ‑ of groups of people with disability developing expertise, working with scientists, technologies and companies to develop devices.

So this was a device the national federation of blind developed. It turns out at the moment 2006 ‑ this was the moment Smartphones took off, so I'd be interested to see what happened to this kind of technology. It's this Smartphone moment I wanted to allude to in the next image I have in my slide, which is a news report "How the blind are reinventing the iPhone", one of the technology stories about disability. This is extremely interesting: the iPhone gets launched in 2007, but the story is that the accessible operating system that we now take for granted in the iPhone and the iPads wasn't immediately available. It actually took about three years, until 2009 or so, and a bit of a battle, a legal battle, for Apple to kind of get the skates on.

Since then the iPhone has been celebrated actually as a case of universal design and I think with Mac, one of the things people would like was accessibility had been built into an operating system early on, so it's an interesting case, but it's interesting to remember that the history of technology and a lot of the stakes when we think about technology now on the one hand we strive for it in universal design, on the other hand, when you actually design things, you're often excluding people and how do we deal with that, how do we deal with that openly. That's really complex when companies are trying to make a profit, launch the thing. It's a really complex kind of dynamic.

And then one of the interesting things now is the ability to have synthesised voice that comes through the Kurtzweil machine in the big version as well as the miniaturised machine, becomes standard across mobile phone. Now many of us use Siri - an aspect of communication that we previously didn't associate with that kind of technology. So there's a sense in which we could say ‑ in a simplistic way ‑ disability helped us reimagine the mobile phone. It turns out of course that Siri won't listen to millions of people with disabilities.

Mmany people with speech and vocal problems will be excluded from connected Smartphones with voice‑activated security systems, light switches and thermostats. So when you build these technologies in as universalising like Siri has become, you can then bring yourself different problems as well.

So I want to summarise the latter part of the presentation to say that part of what's going on here around design is this dance between the universal in particular. We think people with disability are a very diverse group and disability interacts with many factors as we know ‑ income, age, geography, colonisation ‑ and there's the incidence of impairment that grows in older age, as we know. So understanding of disabilities is relational. This is one of the things I find hard to communicate, but is crucially important about trying to push back against the minimum compliance approach because I think there's different responses and I'm sure you will know more about universal design than I will, but the sense in which people go oh, universal design, that's great, let's try to design for everyone, then they read off the lines in the Australian Standard on how you design houses or something and you're thinking ‑ in particularly universities department they put as usual the toilets up flights of stairs. This kind of relational idea is crucial.

The international agency or organisation charged by the UN in driving disability accessibility released a really interesting statement about accessibility and smart cities in June called "Smart cities and digital inclusion". One of the interesting things is Microsoft's chief accessibility officer announcing the company's support and sponsorship of the initiative "Technology empowers persons with disabilities to achieve more in the places where they live" ‑ we've heard various statements like that, very important. One of the things I suppose about smart cities is that we see in this statement a really important initiative. One of the concerns I have is that a range of perspectives are not being brought to bear around cities, but particularly the way it's constructed as smart cities.

So if we look at the Australian Government's smart city paper, the work may be going on elsewhere, but there's no mention of disability, accessibility or universal design or equity, except in the sense of capital equity, in that smart cities document ‑ a serious missed opportunity.

Whereas you think a lot of the areas that we are interested in around universal design actually help us reimagine things, they help us reimagine media and communication. It seems to me that "are our cities enabling rather than disabling" is a big question, but we haven't got cut‑through on the question say from a disability perspective, but perhaps from the perspective of an older person, people from different cultural backgrounds, to say do we have the right to the city, what does the right to the city look like around accessibility and design and around social justice.

So theorists have talked about ‑ this is particularly Rob Imrie, a British geographer who works on space and universal design, the need to repoliticise the body as part of the development of what citizenship is or ought to be in ways whereby impairment becomes regarded as the normalcy of everyday life.

A lot is up for grabs, a lot is rethought, a lot of fundamental things around communication are rethought, not just in relation to how we understood communication but they're very much involved across systems of mobility, across how we support and how we imagine our lives and social futures, but we have a deep cultural barrier around a disabling society that when we imagine our worlds, digital and otherwise, we still have really limited ideas. And then we have these ideas of normalcy that shape our ideas about technology and I think we operate with stereotypes as we know of ability, age and culture.

When we design differently, particularly with disability as Jos Boys, a British theorist, has taught us, this is a slow process and it really involves thinking, trying to understand what are people's lives, what do they do, what do we do with technology, what do we want to do and typically when we design spaces or social media platforms this is the problem; so to think about neuro diversity, to think about language, to think about sensory, to think about income, to think about power relations are all crucial to this.

Design is still grappling with the actual complex diversity of our life worlds, if we could figure out the ways to activate that and how to communicate through that more broadly that would be a fabulous thing. Thanks very much. (Applause).

NEW SPEAKER: We have about five minutes for questions. If I could ask you if you feel comfortable in so doing to when you ask your question say who you are and where you're from. Any hands?

JANE: My name is Jane. I'm an access consultant. I am just wondering, Gerard, if in your crystal ball gazing where you see the future of technology taking over completely from more passive or low‑tech issues. My particular concern is that we still don't have great internet connection all over this city. I particularly have issues at my own home being able to get a mobile phone signal. If my mobile phone goes flat, we're sort of looking towards all this digital technology. At what point will we perhaps still need to maintain some low‑tech technological thing‑a‑me‑jiggies.

PROF. GERARD GOGGIN: Thanks very much, Jane, for a great question. You raise the crucial issues, and the recent debacle of doing the census, shows us the problem here. So the black spots program for mobile phones has been running I think since Senator Alston set it up in the mid-90s, so a long time, yet in capital cities we still don't have access. Affordability affected many of us has not got traction when the then Labor Government introduced the NBN, - they were resistant to having affordability seriously on the agenda. So affordability has languished as an issue around communications. You talk to people on the ground and they're saying "well, the stuff doesn't work, if you live in a rural area or particularly a regional and remote area, the systems aren't accessible for you, it's not going to work".

RICHARD HAWKINS: You mentioned standards on a number of occasions. You put a lot of effort into getting a new standard, adopting a standard and by the time you get to that point we've all moved on and that's probably happening at an increasing rate. Do we need something different from standards, maybe aspirations or some sort of forward‑looking document that is maybe the direction that we want people to head, as opposed to the bar that we just want people to crawl over?

PROF. GERARD GOGGIN: Thanks, Richard, that's a great question. I'm aware that your own organisation is doing interesting work around technology and consultation as well which I think is really worth looking out for. I think it's a recurrent question. I think there's a sense in which you do want to be careful about how you mandate things, but I think to start with, there's under mandating on the obvious things. I think in terms of setting an environment, there's a long‑accepted idea that we create markets, for instance. One of the issues about Uber is to what extent do you let it kind of go, to what extent do you put competition policy in place, do you create markets? I think we do create markets and we do have an international treaty around disability, so we do need to have legislation in place at the top level. If you look at the history of this, in the DDA, in the Disability Discrimination Act, they gave pay phones an exemption for goodness sake for a number of years. There's a problem.

So I think we do need that legislation, we do need strong frameworks around procurement. So I think there's big‑order things we need to sort through.

Then around standards, I think they can be useful and some of the ways they can be useful is more because they help you prefigure issues. If you're negotiating around standards, they do take a lot of work, having been involved in standards formulation myself, and by the time you've done it ‑ we did one on the standard between TTYs, tele type writers and ASCII computers, by the time we'd done it the internet had taken off. On the other hand, you work through things.

There's still an important role for standards, still an important role for guidelines. The other bit is perhaps innovation. That's been kind of trendy and also a national policy concern and one of the critiques of national innovation policy is it's shallow. When you think of disability and innovation policy it's a bit non‑existent because ironically there's a lot of good practice around disability innovation technology and good practice in big corporations. Some of it is in north America, they don't head quarter it in Australia anymore, because you try to figure out where does Google drive its innovation around Google glasses, it's not clear, there's not a big outfit in Pyrmont. There are complex questions. You could put universal design much more in the ecosystem. If you're going to take up the spirit of perhaps what you're gesturing towards to say let's not be too prescriptive because things move fast, you then think what supports do you need? You need to resource people so they can keep pace with the technology in an expert way. You need to fund the innovation in a more distributed way. So I hope that responds. It's a great and important question.