

Plugging in Indigenous knowledge: connections and innovations

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Abstract

Indigenous participation in the early growth of the World Wide Web was vigorous and successful. This was mainly due to the emergence of the Web as a new medium where conventional media forces were not able to control participation at the same time as Indigenous people were willing and able to get involved. In addition, properties of the new medium - hypertext, multimedia, and collaborativity - were ones which tended to encourage Indigenous participation. While non-indigenous people also created sites about Indigenous issues, their standard was generally good and the proportion of sites run by Indigenous bodies remained high. Some of Australia's earliest Web sites were Indigenous, expressing a diverse range of styles and purposes. Since then, the number of Indigenous sites has increased, predictions of appropriation and misrepresentation have been unrealised, and Indigenous publishing has become an important part of the Web landscape.

Keywords: World Wide Web, Indigenous, media, hypertext, history, literacy

This paper is about Indigenous participation in the early growth – from 1994 to 1997 – of the World Wide Web ('the Web'). Underlying the discussion is an assumption that the World Wide Web is a form of media in the process of taking its place alongside newspapers, books, magazines, radio, cinema, and television. The discussion considers roles played by both non-Indigenous and Indigenous organisations and individuals. Non-Indigenous peoples are the largest audience for Web publishing; they also participate as information providers on Indigenous subjects (examples include academic and collecting institutions, activists, and 'new age' devotees).

One catalyst for Indigenous participation in the Web lies in the nature of the medium itself. The growth of the Web as mass media is rapidly challenging standard notions of literacy on three fronts: the relation between text, graphic and sound; the relation between producers and receivers; and the role of intertextuality, the interrelatedness of information-bearing objects. Indigenous participation is also supported by cultural perspectives of the role of networks and communication. These perspectives have long been mobilised toward media participation and innovation, for example through local Indigenous radio stations, and television networks and satellite video conferencing in northern Australia.

Overall the picture is very encouraging. Never before have Indigenous Australians been able to participate so vigorously in a form of 'mainstream' media. We do need to ask

questions, however, such as how much the situation is due to timing: has the Web arrived at a time when Indigenous peoples have a degree of access to the medium through shared, existing resources (typically, a computer in a local Land Council Office, school, or community organisation)? We need to find out more about levels of Indigenous access in different settings, and examine the government's plans to provide more services on-line. Does the emergence of a new form of media merely provide a discontinuity that highlights a lack of Indigenous inclusion in the other media?

The conventional media

Indigenous Australians have long been under-represented in the conventional media (Windschuttle 1984; Yunupingu 1996). When "the European media" have presented Indigenous issues, they "have done a poor job and have in many cases perpetuated racist and erroneous stereotypes" (Rose 1996:xx). Despite various disturbances of this media landscape, such as the growth of Indigenous-run media, and strong recommendations about Indigenous representation in the Findings of the Royal Commission into Aboriginal Deaths in Custody, the situation has remained unchanged. Or perhaps it has become worse, now catering to "the most punitive, red-necked and reactionary views available" (Hartley and McKee 1996:10). Recent reporting of Indigenous matters has been as prolific as it has been negative (Havnen 1996). Such negativity confirms a view that *Aboriginal* viewpoints do not have a place: only when Aboriginal issues appear in relation to an 'other', and problematised, can they become media content. The inadequacy of mainstream handling of Indigenous viewpoints, values and participation may be due to combinations of racism (Yunupingu 1996:28), self-serving populism, or simply a laziness described by the late Rob Riley (1996:21).

In fact, advances on Indigenous representation have largely been those resulting from the growth of Indigenous media. This paper does not attempt to examine the many Indigenous Australians newspapers, radio and television stations (for a recent survey see Hartley and McKee 1996). The growth in Indigenous media has been accompanied by challenges to existing structures of ownership, control, and distribution patterns. Michaels (1986), and Batty have documented local examples of the strength of Indigenous determination for control and innovation, using western media technologies for "... their own cultural purposes which were very different from Western mass media practices" (Batty 1993:114).

It should come as no surprise, then, that the emergence of a *new form of media* whose commercial, distribution, and aesthetic parameters are still up for grabs may offer a field for re-negotiation of Indigenous representation¹. The World Wide Web, of course, even transcends the ‘mainstream’: it is literally global.

New network, newer media

The Internet is a connection infrastructure, like a road network. Built upon it are various information transport systems, including one called ‘*http*’ which supports World Wide Web document transfer. Like the road transport system, the Internet provides point-to-point connection (email) while also supporting mass transport where many can share the same experience simultaneously (the Web). In this sense the Web is a kind of broadcasting: it allows sharing and accumulation of cultural ‘capital’ and cultural ‘memory’. Since 1994 in Australia this broadcasting system has grown phenomenally. It has become an infant medium.

In fact, *http* has changed society’s understanding of computing, by transforming the nature of computer networks from one between *computers* to one of relationships between *documents*. And properties of documents are in turn being transformed, as discussed further below. Because documents are about authors, audiences, relationships, and power, computers are now, finally, about people. Although the talking robots promised by science fiction in the 1970s and by Artificial Intelligence in the 1980s failed to materialise, millions of people have turned their computers into communication sets and supplied the intelligence themselves. The Web grew so quickly that millions had used it before anyone actually thought of advertising it (Anon. 1997a:156). Its uptake rate has been unprecedented: while it took seventy-five years for the number of telephone users to reach fifty million, “it has taken 10 years to do the same” on the Internet (Riley 1997).

As an evolving medium, the Web is not fundamentally different from the others: its properties are crystallising from a mix of cultural preferences, physical constraints, and other historical and accidental factors. And like other media, once its formats have become

¹ This paper is presented in a form largely unmodified from its original presentation in 1997 at the Fulbright Symposium in order to preserve a snapshot of a rapidly evolving situation. Some points made here can now be seen differently. For example, although in 1997 a commercial presence on the Web was negligible; this is no longer true (although it is still by far the minor focus of Web content). Similarly, in 1997 there was not a single professional news journalist employed for Internet news-gathering. In 2000, virtually every major broadcaster now offers parallel (or replicated) services on the Web in *some* areas, such as news. Patterns of distribution and presentation formats on the Web have now settled considerably.

conventional, those contributing factors will be reinterpreted as 'natural'. Just as no-one is interested in the workings, specifications or brand of their television, or cares about how its signals are distributed, the Internet will not be mature (or successful) until it disappears from general comment.

Right now, the Web is still 'soft'; its shape has not settled. That is why many Indigenous and non-Indigenous peoples have been working to promote expectations of Indigenous participation and content so that these values become *built in* to the medium. The final shape of the Web will reflect the values and materials of those who have participated in its growth.

A new literacy

Today's *electric texts* (to use McLuhan's term) range from telephone conversations to interactive multimedia. Many of these 'texts' are like ephemeral, oral interactions that takes place in social situations, rather than traditional written materials (Snyder 1996). Emerging understandings of Web literacy asks yyy whether this convergence between new and old results from a neutralisation of the oral/written distinction or from something deeper: a challenge to historical relationships between texts, literacy, hierarchy and power.

The Web is placing pressure on 'traditional' notion of literacy in three ways. None of them are revolutionary: they are simply about changing the balance between components. But their combined effects will be enormous because they all press in the direction of the popularisation and diversification of publishing.

The first pressure is the Web's changed weighting of text, pictures, and sound. Text alone no longer takes an overwhelming role in carrying meaning. This pressure may increase as people come to expect more kinds of information that simply *cannot* be delivered in text. Images, Umberto Eco has claimed, are the literature of the layman. A re-configuration of publishing that makes it easy to include images, that makes the use of these images 'respectable', and, more importantly, fosters an appreciation for visual communication, has important implications for Indigenous publishing and literacy. Indeed, Yolngu have likened books to paintings, and regard ceremony as "an authorless text in which participants and observers can read their ancestral history with its patterns of relationships and events coming to life ... it is a text which invites a variety of possible readings ..." (Christie 1995:79).

The second pressure on literacy is a changing balance between the participants in the publishing process. The Web has the potential to support all of us publishing to each other rather than a few privileged groups publishing to the rest of us. Before now, there has been an enormous asymmetry between producers and consumers of published material: élites with ‘authority’ write products which are consumed by the masses, who, if they write at all, write lists for themselves and private letters to each other. The Web, based on interactive hypertext, starts to dissolve the distinction between readers and writers. Readers make their own choices as they navigate to different parts of documents or other documents altogether (Snyder 1996:61). More than that: Web users increasingly want to be involved in publishing, whether making simple ‘home pages’, or participating in mailing lists or news groups. Another aspect of this relationship between participants is social and localised, especially for many Indigenous peoples. Individuals often collaborate around the computer to both produce and consume information. This trend may partly result from expectations grown out of young persons’ participation in computer games: whatever its causes, the ‘new’ literacy seems less individualistic than the old.

The final pressure could be called the ‘democratisation of intertextuality’. To explain this it is necessary to take a brief tour through some key events in the development of literacy. The earliest written texts were impressed into soft clay; once inscribed, they were literally set in stone. Later, the combination of ink with parchment or paper allowed people to intervene in previously inscribed texts by writing in the margins of manuscripts. This kind of activity among scholars of the Middle East and Europe led eventually to the gathering of notes into alphabetised lists that are the ancestors of today’s dictionaries and other reference texts (McArthur 1986:76). Such kinds of texts about texts play a special role in the evolution of literacy. And it has been in the scholarly circles where they were produced that we find a strong emphasis on *hypertextual* devices that connect texts together, such as indices, tables of contents, cross-references, and footnotes.

Hypertext, then, was invented long before computers and their networks. And now, by mobilising computers for communication, the Web has exposed the scholars’ literary devices to mass participation. It is helping to destroy the myth that meaning is really contained *in* texts, by highlighting the interdependence of documents and showing that meaning arises from the relationships between texts and from our interactions with them.

Jaron Lanire, who coined the term ‘virtual reality’, described the Web browser as “the car of media, while television is the railroad, which attracted the masses but was owned by

the baron” (Anon. 1997a:158). By driving this media vehicle, Web users can express themselves by navigating where they want; they can even add to the road map.

Eric Wilmott (1995) made a distinction between functional or practical literacy – which, he claimed, many Indigenous peoples achieve – and cultural literacy, involving a deeper understanding of the history of literacy and the relationship between written texts. The latter is less often achieved by Indigenous people. These things, however, are exactly what the Web reveals through its links and interrelated content. The ‘democratisation of hypertext’ presents the potential for a massive redistribution of cultural value toward young Indigenous peoples today. As an example, consider an event reported from Maningrida by Margaret Carew (personal communication 1997). When community members at Maningrida were browsing the Web and came across one of the North American ‘Wannabe’ sites (cf. Zimmerman *et al.* 2000) that showed dangerous examples of didjeridu, their response was not to pull the plug on the machine, but instead to fire up their email and write a letter of complaint.

The claim that “... many Aboriginal people are suspicious of the written word” (Clunies-Ross 1983:16) may now be revised. It may be contained to only Indigenous alienation from writing as a system of one-directional communication that makes knowledge cold and unchangeable. Opening up the heart of literacy by making hypertext accessible to all through the Web ameliorates this alienation.

Social and cultural considerations

There is evidence that the roles accorded to communication media by many Indigenous communities, flowing from their social and historical circumstances, may equip communities with advantages in exploiting the Internet. During the colonisation of Australia, Indigenous communication systems were radically disrupted through the fragmentation and displacement of groups. Landscapes were changed, languages destroyed, and families dispersed. Since then, Indigenous peoples have given high priority to enhancing their social networks with technologies for ‘keeping in touch’, from CB radio (Jeanie Bell personal communication), to video conferencing (Toyne 1994) and mobile telephones (Rose 1996:xix).

In many Indigenous communities, communicating knowledge orally is an important part of establishing and maintaining status. As Galarrwuy Yunupingu (1996:25) put it, the media process is “... an old custom to Aboriginal people”. Michaels (1985:528) described

“traditional” Aboriginal communities as “abuzz with information”. In fact, the electronic media “are much closer to the oral nature of traditional Aboriginal communication than printed-word newspapers, magazines, or books” (Rose 1996:xx). Burarra people in northern Arnhem Land have described the configuration of the Internet - a network of networks - as corresponding with their own system of kinship (Margaret Carew personal communication)

Communication systems are most effectively used in combination so that their properties are complementary in serving human needs. While computer ownership in Indigenous families is lower than the average, access to *Web information* and *media* is not necessarily reduced. In most of outback New South Wales, for example, Land Council and other Indigenous organisation offices nearly always have suitable computers, many already connected to the Internet.

While these community-based computer resources are sometimes humble, they are generally adequate for connection to the Web, not only because network speed, rather than equipment level, is the limiting factor to performance, but also because of their favourable locations. Typically, they are located at the physical centre of a local social network that can provide the remaining links to the rest of the community. Systems have been set up, for example, where email can be received at the local Land Council office, then faxed to recipients who do not have computer access. In this way, Indigenous Australians can participate in the new media, even with minimal resources, through the strategic location of relevant resources within an existing social network, one that is complementary with that network. Indigenous Australians are also finding that email is a valuable tool. Less intimidating than the telephone because it does not intrude until answered, email communication also is associated with ‘social leveling’. Unlike many other forms of communication, it tends to de-emphasise authors’ status, age, gender, education, class and culture.²

It is too early to interpret these examples of Aboriginal involvement in the Internet as ‘adaptation’ of a medium in order to produce culturally authentic forms, in the sense of Michaels (1986), who described “the Aboriginal invention of television”. Because the Web medium has not *yet* been invented, there is no necessity to propose an explanation for

² German email users, for example, have begun dropping their language’s distinction between formal and informal versions of *you* (lost in English long ago) due to “a breakdown of a certain kind of hierarchical thinking” (Korb 1997:C13).

success other than a convergence of Indigenous values with the properties of the emerging medium.

Indigenous Web sites

In this section we briefly survey several Web sites that were early conveyors of Indigenous content. Innovation is evident in all: the clarity of vision behind the Bawinanga site (discussed at the Fulbright Symposium by Peter Danaja, Margaret Carew and Robert Handelsmann³, all of whom were involved with producing the site); the Gundungurra site's re-appropriation of colonial records; and the Northern Land Council's Aboriginal historical perspectives. Tandanya and ATSIC have different publishing models, outsourcing much of their site production. Yothu Yindi's site has a sophisticated cross-media approach, while the Ngarrindjeri Family page is an example of social and commercial representation that is difficult to classify in media terms. Note that these sites have been chosen to indicate the breadth of early Indigenous uptake of Web publishing, and do not represent the number or range of sites published⁴.

<http://www.yothuyindi.com> (established 1995) The Yothu Yindi site includes one of the earliest uses of streaming audio and the very first Web broadcast of an Australian language (Gumatj, a Yolngu language). While the mainstream media have nearly always treated the success of Mandawuy Yunupingu and Yothu Yindi as "the exception to the rule" and yet another opportunity to rehash clichés about ancient cultures and modern media (Shoemaker 1994:25), Mandawuy (1997) himself has his own agenda for the Internet, seeing it as a way to reach out to the world "... and still retain our culture".

<http://www.ciolek.com/WWWVL-Aboriginal.html> (established 1994) The *World Wide Web Virtual Library for Aboriginal Studies* was initially hosted by the Coombs Computing Unit of The Australian National University, and is now published by www.ciolek.com. This non-Indigenous, academic site aims to list all Australian Indigenous-related Web sites⁵. Figures collated from this site over eighteen months during 1996-7 provide an indication of the number and origin of Indigenous-related Web sites: the number of such

³ Danaja, Carew and Handelsmann 1997

⁴ In early 1997, the major web catalogue <http://www.ciolek.com/WWWVL-Aboriginal.html> listed over sixty Indigenous-related Web sites. By mid-2000, the KoorieNet register lists approximately three hundred Indigenous-related Web sites. This may be an underestimation, since the Australian Aboriginal Languages Virtual Library (<http://www.dnathan.com/VL/>) lists over 130 Web resources for languages alone.

sites nearly doubled to sixty. Among these, those sites hosted by Indigenous-run organisations has risen from approximately twenty-five to nearly forty percent.

<http://www.bu.aust.com/~maningrida/> (established 1995)⁶ The Bawinanga Association at Maningrida in northern Arnhem Land runs its own Web site devoted mainly to local arts and crafts. While ‘mainstream’ Web publishers were starting to talk about marketing on the Web (and in 1997 had made little impact), Bawinanga was already successfully selling its art and crafts internationally through this site, by-passing the dealers who had formerly handled the sales. They were successful because they understood the global niche market for their artefacts, the Web’s ability to reach that market, and the importance of offering previews of the products.

<http://lisp.com.au/gundungurra/> (established 1995: N⁷) Gundungurra Tribal Council Aboriginal Corporation. With a beautiful site showing their region, the Gundungurra Corporation also presented local history ‘the way they see it’. The site included a wordlist of their language, notable for being an early example of reversing roles in publishing Indigenous languages. Typically, non-Indigenous linguists acquire information from Indigenous informants and publish the results in scholarly books. In this case, however, the Gundungurra site published data transcribed from colonial sources, thereby re-appropriating the intellectual property that was culturally their own.

<http://coombs.anu.edu.au/WWWVLPages/AborigPages/LANG/GAMDICT/GAMDICT.HTM> (established 1995/1996) The *Kamilaroi/Gamilaraay Web Dictionary* was the first dictionary of an Aboriginal language on the Web; it was also the first true Web dictionary of any language. Created in consultation with many Kamilaroi, the dictionary has an educational focus, and has been popular with school students, both Aboriginal and non-Aboriginal, in the Kamilaroi region. Teachers have reported that the Web dictionary is more accessible to the Aboriginal students than its paper predecessor, and that Web delivery has conferred considerable status on the language amongst local students.

⁵ It is now complemented by sites such as the KoorieNet register (www.koorie.usyd.edu.au/register.html), and the VicNet database (<http://cf.vicnet.net.au/aboriginal/>).

⁶ The original address of the site as described was <http://www.peg.apc.org/~bawinanga/welcome.html>. The new Bawinanga site is considerably changed from the earlier one.

⁷ The N symbol indicates that this page or site is no longer running. Following the demise of these pages, the descriptions here may be all the more historically relevant.

<http://www.senet.com.au/~missy/mlinks.html> (established 1996: N) *Michelle's Ngarrindjeri Home Page* was a personal page with links to family, (net-) friends, and her favourite software companies. The site projected Michelle's Aboriginality:

My mother Chris Cole is Aboriginal and father Ted Cole is non-Aboriginal. I term myself as an Aboriginal. Aged 25ys and live in Adelaide, South Australia, Australia. I originally come from Broken Hill, New South Wales, Australia. I am putting this information onto the net so that Aboriginal people around the world gather information and learn.

The site content covered a range of topics from Michelle's family's favourite TV programs to her partner's computer business and the Ngarrindjeri language, in a range of presentation formats. It cannot be simply categorised as an Indigenous page: it is *Michelle's* page.

Other forms of Internet participation

Seminars and workshops, including "Internet and the Aboriginal community in Victoria" held in 1996 discussed "... publishing on the world wide web as a way of sharing Aboriginal culture with others ... preserving Aboriginal culture ... and using its powerful communications ability to keep in touch with each other".

The use of email and mailing lists by Indigenous organisations and individuals grew enormously from 1997. At AIATSIS, for example, email queries are now regularly received from Indigenous individuals and organisations about research grants, language information and family history. ATSIC has reported that sixteen of the twenty-four Representative Bodies for Native Title claimants have been using email for a considerable time. There are many Indigenous participants in the prominent Indigenous-related Internet mailing lists (including ATSILIRN, VicNet, and Aboriginal-Studies-L). In April 1997, networked lobbying via these lists was instrumental in convincing the Woolworths supermarket in Derby to accede to local Aboriginal requests for the restriction of alcohol sales.

It seems that Indigenous Australians may expect more of the Internet and the Web than other services. For example, an Aboriginal teacher at the Toomelah school in northern New South Wales has explained that the school's Internet connection was slow because the telephone cable out from Boggabilla was too small to handle the number of telephones at Toomelah settlement. However, as recently as 1987, *water* was only available to be collected in buckets for fifteen minutes each day, and the fact that "... no

roadworks had ever been undertaken” and that there were no bridges over two frequently flooded creeks meant that Toomelah was often physically cut off (Human Rights Australia 1988:19, 25).

Intellectual property

There are fortunately, very few instances of misrepresentation, appropriation or exploitation of Indigenous knowledge. Examples in the north American context are described in by xxxx Zimmerman *et al* (this conference), and one Indigenous Australian response was described above⁸. Although care needs to be taken for the safety of cultural and intellectual property held and distributed digitally, electronic media actually offer Indigenous Australians new opportunities to *produce* intellectual property.

Classically (but stereotypically, since there have been many successful Indigenous Australian writers – Rose 1996), Indigenous peoples have regarded social interaction as the medium for production and exchange of intellectual property. European peoples, on the other hand, have discounted the value of face-to-face interaction, and focussed on material form as both proof and carrier of intellectual property.

Indigenous Web publishing therefore offers significant opportunity for the creation of materials that establish and assert intellectual property rights. Precedents exist in video production: working with Ernabella Video and Television (EVTV) video productions that document Tjukurrpa (creation stories and performances), Neil Turner (quoted by Batty 1993:112; my emphasis) found that:

... the custodians have found video a particularly apt tool for recording the unique and integral combination of story, song, dance and visual arts and landscape through which the Tjukurrpa is expressed *as it can be entirely directed, produced and distributed by themselves, without the expertise of literate white anthropologists*

Other examples include videos on health matters produced by Aboriginal groups (Brady 1993), and videos made at Yuendumu (Michaels 1986).

Indigenous Web publishing: the meme

By recycling and reinterpreting their own products, the mass media create reality from stories. The more ephemeral of these constructed realities, the so-called “memes” (Rushkoff 1994), are a kind of cultural barometer, zeitgeist, ‘hook’, or ‘beat-up’,

⁸ And in 2000, the proportion of “inappropriate” sites is considerably lower than it was in 1997.

depending on the treatment they receive. The mainstream media has paid considerable and unprecedented attention to the 'Aboriginal Internet' story; in some cases this has been driven by a perceived juxtaposition of 'ancient' and 'modern' cultures, but perhaps more generally as a counterpoint to their paucity of Aboriginal perspectives and positive stories on Indigenous issues. In any case, articles about Aboriginal Web participation have been positive, and have helped develop Indigenous and non-Indigenous expectations that the Web is a place where Indigenous knowledge and participation is a part of the landscape.

In *Postcards from the Net: An Australian's guide to the wired world*, Casimir (1996) began a chapter on "Aboriginal sites" with an interview with Trevor Maranda "... of the Burra Burra clan of the Gundungurra" who put together the Gundungurra website (above). More than merely showing where Indigenous information was available, the chapter provided *another* forum for description and categorisation in Maranda's own terms. It also distinguished which sites had information published by Indigenous Australians and organisations (Casimir 1996:121-126).

One of the early Australian Internet magazines, *netDirectory*, provides listings and reviews of a range of Web sites across the world. Each issue is divided into sections - Australiana, Politics, Games, Kids, etc. The Australiana section of the Spring 1996 issue provided a snapshot of the ecology of Web publishing: an eclectic collection of sites including Action for Aboriginal Rights, AIATSIS, The Australian Ballet, the Australian Government Homepage, The Great Aussie Beer Page, The Sydney Olympics, Tandanya National Aboriginal Cultural Institute, and Yothu Yindi. Of a total of forty Web sites listed, eight were Indigenous-related and, of those eight, more than half were Indigenous-run. And the magazine's form of presentation told an even more interesting story: the most prominent photographs in the Australiana section were all Indigenous sites.

Later, in April 1997, another Internet magazine, *internet.au*, featured a prominent and well-researched article, "Electronic songlines", that covered Indigenous and Institutional sites with considerable cultural sensitivity. The magazine sourced original artwork for the article from Aboriginal artist Lewis Burns, after discovering the artist's Web site, and this article became Burns' first commission via the Internet.

Indigenous players in the media have also expressed early interest in the Internet. The *Koori Mail*, for example, was on-line with a flyer site within a week of that of the major daily, *The Canberra Times*, in 1996. Both the *Koori Mail* and SBS TV *ICAM* ran stories about the launch of the Kamilaroi/Gamilaraay Web Dictionary in Moree (above). And

Yothu Yindi appears to be the first commercial band in the world to release a song about the Internet, appropriately titled “Superhighway”.

Second thoughts

Not everyone shares the optimism expressed here. Aspinall and Hobson, for example, argued at the Fulbright Symposium that Indigenous participation in online services “... is currently very limited” and that “... the rate of individual computer ownership is extremely low” (Aspinall and Hobson 1997). Indeed, if home/private access to the Internet becomes necessary in order to receive basic services, and Indigenous organisations and social networks are not able to bridge between the Internet and the family/individual, the equity of delivery will certainly need addressing.

If the mass media succeed in making the Web another passive ‘infotainment’ channel by converging it with television⁹, then the diversity of participation and the potential of the new literacies will be lost as big players raise production values so high that audience expectations are transformed and smaller publishers are squeezed out.

Some authors have identified the Web as a new platform for colonialism. Kinney (1996) described it as “online monoculture”, an example of rampant social engineering. Others, such as Sardar (1996:18ff) have identified compelling historical parallels:

While man’s burden shifts from its moral obligations to civilise, democratise, urbanise and colonise non-Western cultures, to the colonisation of cyberspace.

In this view, the ‘pioneers’ of cyberspace are like the colonisers of Africa, North America and Australia:

The frontier is the agency through which power élites get everyone to do their work while thinking they are acting on their own volition. Cyberspace frontier is no different. It has already been controlled; the populace is now being motivated to explore and settle in the new frontier

- in other words, to trash the Indigenous cultures that may lie in their path (Sardar 1996:16, 18).

Fortunately, Sardar’s analysis cannot be entirely correct. Firstly, we have seen evidence not only of Indigenous Internet participation but also of the ground shifting away from Western and monopolistic structures that colonialism is built to serve. Secondly, he placed ‘exploration’ and ‘frontier’ solely within the Western, capitalist, colonial enterprise:

⁹ In other words, using the Internet as a delivery method rather than a platform for new media.

what happens when the explorers are Indigenous and the ground they walk on is a new, arbitrary, socially constructed one and not someone else's ancestral birthplace and hunting ground? Thirdly, some of Sardar's demographic observations were too pessimistic: women, for example, are not excluded, cyberspace is not solely inhabited by "... a particular type of white, middle-class male (1996:25), and new forms of Third World discourses have not been unwelcome (cf. 1996:20). While the computer *industry* has been dominated by males, in 1997 the Web population was approximately thirty percent female (Hilvert 1997:34) and, even in 1995, a survey reported that eleven percent of American Internet users were "people of color" (Anon. 1997b:67).

Conclusion

The Web is positively transforming representations of Indigenous Australians. The growth of Indigenous participation on the Web means that all Australians have more exposure to the views and values of Indigenous peoples (cf. Gale 1993). Nearly half of the Indigenous-related sites are delivered by Indigenous Australian individuals and organisations. Comparing this proportion with the proportion of Indigenous input to the shelves of local libraries, or the conventional mass media, shows that the Web is supporting an unprecedented relation between Indigenous voices and the general Australian public. And then there is the flip side: the newness of Web content has *filtered out* most of the old colonial and stereotyped information that still fills our libraries.

The current decade has seen communications infrastructure across Australia develop rapidly, a large number of services delivered 'on-line', and many resources become digital and virtual (this means that, for example, living near a library provides less advantage in accessing its resources). As the delivery platform for the convergence of rural and city access levels, the Web provides the potential for the greatest redistribution ever seen of information services to rural and remote Indigenous communities populations. xxxx

Nearly twenty years ago, a church minister at Ernabella in South Australia grumbled to me that despite years of Christianisation, Pitjantjatjara continued to burn the belongings of those who had passed away in the *Kunmanara* tradition¹⁰. Today, however, following the community's involvement with media, in particular through Ernabella Video and Television, the tradition is being modified towards acceptance that individuals who have died may be viewed on the screen (Greg Wilson personal communication). Could it be

¹⁰ One should avoid mention of, or seeing representations of, recently deceased people.

that community-based media participation has achieved what decades of Christianity could not? And could it be that the Web has achieved more for Indigenous representation than a Royal Commission and nation-rattling Land Rights judgments?

Whatever the future course of events, it appears that that the World Wide Web is not only 'plugging in' Indigenous knowledge, it is also turning it on.

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