

ENROLLING MOBILES AT KOWANYAMA: UPPING THE ANT IN A REMOTE ABORIGINAL COMMUNITY

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Abstract

Actor Network Theory is used in this paper as an approach to analyzing and interpreting mobile technology adoption in a very remote Aboriginal community in Cape York, Australia. Following the actors and insisting on the principles of generalized symmetry and impartiality towards all actors, the narrative centres on an event in the Wet season when the mobile network 'fell over' and all communication by mobile phone and mobile broadband ceased for a time. This extreme weather event acted as a catalyst for residents, business people and service providers to talk about mobile technology in their community and how it impacts on their lives. By setting aside arbitrary distinctions between groups of people in this community, the researchers rejected simplistic notions of cultural difference, and, instead, recognized place and cultural practices associated with place as determinants of mobile phone behaviour.

1 Introduction

Indigenous Australians living in remote areas have been rapid adopters of mobile technology. In contrast to the continuing low levels of home ownership of fixed-line phones and computers, as well as low levels of home Internet access, 3G (third-generation, Internet-enabled) mobile phones have increasingly become the standard device for Indigenous communications and Internet access (Joint Select Committee on Cyber-Safety for Indigenous Australians, 2013). A 2007 study of mobile phone use in Central Australia and studies across three remote communities in the first year of the installation of 3G mobile networks in Cape York in 2008 showed much higher levels of personal adoption of mobile technologies than for any previous information and communications technology (ICT) (Brady, Dyson and Asela, 2008; Brady and Dyson, 2009; Dyson and Brady, 2009; Tangentyere Council and Central Land Council, 2007). There is no evidence that the adoption of mobile phones is abating, and this is confirmed by remote-area studies undertaken since (Auld, Snyder and Henderson, 2012; Kral, 2010), in addition to an urban study conducted in Melbourne (Edmonds et al., 2012).

Some attempt has been made to explain this ready acceptance of mobile technology, particularly mobile phones. Generally, there is an acknowledgement that there is a cultural fit between Indigenous culture and mobile technology as opposed to other Information and Communication Technology (ICT). For example, the exclusive sale of prepaid mobile phone services in remote communities has allowed Indigenous people on low incomes to manage the usage costs of their phones, despite cultural expectations of resource sharing (Brady and Dyson, 2009; RTIRC, 2008). The affordance of mobile phones for photography, video and sound recording/playing has promoted a shift from institutional control over content to the active initiation of multimedia authoring by Indigenous people (Kral, 2010) and Indigenous

choice of content for viewing (Auld, Snyder and Henderson, 2012). Mobile phones have been interpreted as resources which reflect the place they are located, the cultural context and the social practices of the community that use them (Auld, Snyder and Henderson, 2012). For example, mobile phones have been shown to fit with Indigenous cultural strengths in orality and further the use of local language through both calling and texting (Brady, Dyson and Asela, 2008).

In order to explore these issues further, the authors of this paper decided to follow a different approach since not one explanation appeared to offer a complete answer, probably because the situation is a complex one. Firstly, we looked at a *whole* community, including the use of mobile technology by both the Indigenous people and the mainly non-Indigenous business people and service providers who supply the community with products and government or other services. The technology that was studied included both mobile phone use and mobile broadband, a technology that has not previously been studied in Indigenous communities in Australia. Secondly, we adopted Actor Network Theory (ANT) as a way of offering a clear and unbiased view, unobstructed by preconceptions of what Indigenous culture might or might not be. In this respect, Underwood (2008) notes the similarity between ANT and grounded theory: ‘the important thing is to follow where the situation leads us, across boundaries, across ontological categories and across levels, rather than try to fit the data to some pre-conceived framework.’ However, ANT parts company with grounded theory in that it seeks to understand a particular situation rather than to build a general theory. It is often seen as a theory of last resort and so seems appropriate for studying a situation ‘on the edge’, distant from the great urban centres where mobile and other technologies are so often taken for granted.

The situation that is the subject of this study occurred in Kowanyama, an Aboriginal community located in the delta area of the Mitchell River in the vast savannah lands of western Cape York in the Far North of Australia. The case study will focus on a particular event, the breakdown of the mobile network in the middle of the Wet season when nine days of torrential rain (1.5 metres in total) fell on Kowanyama in the wake of Tropical Cyclone Fletcher. Coinciding with the weather event was a government call for submissions by communities, such as Kowanyama, to apply for funding for better mobile coverage. This meant that the researchers happened to be on the ground collecting community views for the submission at the time of the deluge. The weather event, and associated network breakdown, formed a focal point for residents of Kowanyama to talk about mobile technology in their community and thus worked as a catalyst for understanding at the time of the data collection for the submission. Through following this situation we hope to be able to derive some insights into the role culture plays, or does not play, in determining the adoption of mobile technology.

The paper begins with a brief outline of some of the key concepts of ANT, followed by a discussion of two papers that have applied ANT to the issue of Indigenous adoption and use of ICT. The situation in Kowanyama is then interpreted in the narrative structure typical of ANT, and finally the role of culture and place is considered.

2 Actor Network Theory

ANT was developed in the 1980s as a way of interpreting scientific and technological events and moving beyond the limitations of sociological approaches current up to that time. It is usually concerned with explaining a particular, local situation and thus often adopts a case study method (Underwood, 2014).

One of ANT’s key platforms is the rejection of any distinctions between the natural and social worlds, that is, between things and people. Such *a priori* categorizations would involve

the imposition of a pre-established view which would inevitably colour the analysis and prevent the researcher from seeing the situation for what it is. ANT shares with social constructivism a sociotechnical view of technology, but eschews any idea of technologies as constructed, or of humans as constructors. Instead, the principle of generalized symmetry is invoked, whereby the human and material aspects of the problem are reported in the same terms, without bias or judgement (Callon, 1986). Both constitute actors in the story and both are seen as mediators ‘that transmit effects on their own terms’ rather than being ‘passive links in causal chains’ (Underwood, 2008, p. 1). Not only do technologies perform tasks that otherwise humans would have to do, but they also constrain human action because of the characteristics of their design and their capabilities (Latour, 1992).

Within a given situation, the actors assemble to form a network. This constitutes a ‘loose, dynamic, always tentative collaboration’ (Underwood, 2008, p. 1). It is a hybrid collective of human and non-human actors who are modified and evolve as a result of their associations with others in the network. All actors perform or enact the joint reality of their shared situation in the network. A catchcry of ANT is to ‘follow the actors’, as they evolve within the network ‘through translation, through internalising scripts from other actors and through attempting to conscript others in turn’ (Underwood, 2014). Translation is a term referring to the process by which actors ‘become’ through their interactions with other actors. Callon (1986) defines four ‘moments’ in the process of translation as: 1) Problematization, in which a situation is first defined; 2) *Intéressement*, in which the relationships between actors and their roles in the network start to be defined and other competing associations are cut; 3) Enrolment of actors, in which alliances are consolidated; and 4) Mobilization of allies to accept a given solution. Sometimes, in situations of failure, there is another moment: 5) Dissidence, whereby the network falls apart. An important concept in the process of translation is the ‘obligatory passage point’, without which enrolment of the actors in the network fails.

2.1 The Application of Actor Network Theory to Indigenous Adoption of ICT

There appear to be few examples of ANT in research of Indigenous informatics, despite the suitability of the approach to interdisciplinary fields. Two papers include one dealing with the enrolment of mobile phones and the Internet by the iTadian people living in a remote mountainous region of the Philippines (Orticio, 2011), and the other is a study of Internet banking by the Yolnu in the isolated Aboriginal town of Ramingining in Arnhem Land in Australia’s Northern Territory (Nicholls, 2013). Both studies are typical of ANT in having a strong focus on the local, confined as they are to one place and one cultural group. However, both also connect to localities beyond the cultural heartland: in the case of the iTadian, to families working in the big cities and abroad; while in the case of the Yolnu, to bank officials located on the other side of the Australian continent.

Technology is an important actor in both these cases. For the iTadian people, the Internet and mobile phones allow communication with those absent, a ‘portable extension of affective human relationships’ (Orticio, 2011, p. 1). Even after death, the words of a departed spouse are stored as text messages on the phone, a permanent testament to love and intimacy. The technology thus enrolls itself into existing networks of personal relationships. However, the technology does not work alone but as part of a complex hybrid and heterogeneous collective consisting of many actors, for example, the small shops in a neighbouring service town which supply Internet access for the majority who have no breadwinner living abroad to provide the cost of a computer and Internet connection at home; the mobile network which allows mobile phone communication and Internet access via mobile broadband; the system of support for poorer relatives who cannot afford the technology at all but must rely on relatives

to relay messages; and the continuing dependence for communication on the network of buses and small stores acting as couriers and post offices to relay mail to other parts of the country.

Both articles follow the actors as they and their networks are translated over time. The process of translation of the technology is obvious in the iTadian study as long-distance communication channels shift from total dependence on the mails, to satellite-based Internet access at a local college, to home Internet access and mobile phones for the few, to finally a situation where an estimated nine out of ten adults and young people own mobile phones (Orticio, 2011). In the Australian study, the banks' translation of the concept of Yolnu identity into a number is more insidious, and their enrolment of the Yolnu people into this performance since the banks are obligatory passage points for managing money (Nicholls, 2013). The banks go further in translating Yolnu individuals into whole series of numbers needed to establish identity in order to open or access bank accounts, while on the other hand the Yolnu translate the bank's number-based security into ways they can manage, through writing it down on paper, sharing security codes with trusted family members, or through family impersonating them on the phone when speaking to bank officials.

The role of culture in these two case studies raises many questions. The importance of the kinship system for the iTadian led to the enrolment of mobile technology and the Internet to support continued communication when economic circumstance forced family members to travel afar in search of work (Orticio, 2011). However, infringements of cultural practices regarding respect for the sanctity of the dead by inappropriate posting of photographs of the deceased on the Internet continued, despite protests from elders. For the Yolnu, the bank's security systems were translated into practices that fitted with Yolnu ways: 'The understandings ... behind concepts such as personal ownership, material value, the power of secrecy, were all destabilized in these stories. ... In Ramingining it is possible to pass passwords around, to be different people over the phone' (Nicholls, 2013, pp. 54-55).

3 Following the Actors at Kowanyama

This narrative of mobile adoption centres around the cyclonic weather event which happened at Kowanyama in February 2014, but also draws on threads from previous case studies which the authors have conducted in other remote townships in Cape York and the Torres Strait: Wujal Wujal, Lockhart River and the island of Dauan (Brady and Dyson, 2009; Brady and Dyson, 2010; Brady, Dyson and Asela, 2008; Dyson and Brady, 2009; Dyson and Brady, 2013). It is hoped that the latter will provide insights over time into the translation of the network of mobile technology and the Indigenous people who use it in a way that the one incident might not. In addition, one of the researchers was resident in Kowanyama at the time, and this facilitated a more longitudinal point of view.

The information which provides the basis for the narrative came from interviews and conversations with a cross-section of Aboriginal residents; the mainly non-Aboriginal managers of all six business operating in Kowanyama (food outlets and one accommodation centre); and Aboriginal and non-Aboriginal managers and staff of twelve of the main service providers in the town. Interviews were unstructured, with questions adapted to the role of the interviewee and the direction they wished to follow. Responses were handwritten at the time of interview and entered on a computer that day. Being a small community, it was possible to clarify any issues with the original interviewees if necessary at a later time. Permission to conduct the research was granted by the Mayor and Councillors of Kowanyama Aboriginal Shire Council. Interviewees were asked if they wished to participate and, if they refused, their wishes were respected.

3.1 Defining the Actors

The starting point for an ANT study will naturally begin, like any performance, with the selection of actors. In a set situation there are inevitably many to choose from. Kowanyama Aboriginal Shire is an obvious beginning point, given the close link between culture and place as well as the aim of this paper to arrive at some understanding of the influence of culture on mobile technology adoption in this remote community. The shire consists of the town of Kowanyama; the Homelands where traditional owners camp, fish and hunt in the Dry season; and the four designated camping and fishing spots (Topsy, Shelfo, Bull Crossing and Wonya Creek) frequented by locals as well as by recreational fishermen and women who visit the area in the Dry (June to October). With its unsealed, 4WD-only roads cut off for about six months of the year by monsoonal flooding, no access to shipping, and only four scheduled flights in per week, it represents one of the most isolated communities in Australia. The nearest towns are the Aboriginal township of Pormpuraaw 120 km to the north, Normanton 361 km to the south, and Cairns 602 km to the south-east via Chillagoe. Kowanyama is one of the largest communities in Cape York, with an estimated population of 1,200 (KALNRMO, n.d.). Despite being well catered for by a number of service providers and shops, Kowanyama, like many remote Aboriginal communities, suffers from marked socio-economic disadvantage and high unemployment since there is no industry as such and few permanent jobs. Kowanyama has many attributes which impact on its role in this narrative, including isolation, the dead flatness of the town and shire, monsoonal weather patterns and the unique culture of its Aboriginal community.

In defining the human actors, Nicholls' (2013) advice to set aside distinctions such as black and white is a good one since ANT rejects all assumed dichotomies. Instead, the human actors are defined by their access to technology as evidenced during the research. Thus there are:

- Kowanyama residents who, apart from TV and radio, depend almost solely on their mobile phones for ICT. The residents include most of the Aboriginal community, but also comprise people from outside Kowanyama, such as the new, mainly non-Aboriginal 'schoolies' (school teachers), who were dependent on their mobile phones for communication at the time of the event;
- Small service providers with 'fly in, fly out' staff (or in the Dry, 'drive in, drive out' staff), who rely on mobile phones and laptops running off mobile broadband for their work, and sometimes satellite or radio phones to cover them on the road;
- Businesses and larger service providers with access to landlines, computers, mobile phones, and mobile broadband, in addition, sometimes to servers, ordering and reservation software, fax machines, satellite phones, CB (Citizen Band) radio phones, etc.

Another group that has been largely omitted are the contractors, who drive in from the large towns to undertake repair, maintenance, building or trades work in the Dry, but who could not be interviewed since this study was undertaken during the Wet. Presumably they also depend mainly on mobile phones while they are in Kowanyama, and some might have CB radio phones for communication on the road.

Opening the 'black box' of mobile technology releases three actors, all of which in different ways enrol, or are enrolled by, Kowanyama and the three human actors defined above:

- The mobile network consists of a repeater station in town (its aerials beaming out over Kowanyama from the town's highest structure, the not very high Water Tower), which connects to a mobile tower located 8 km from Kowanyama on a sand 'ridge' (not very high either, but it provides dry ground all year round), in turn linked to

Australia and the world by a chain of microwave towers that stretch across Cape York. This mobile network constitutes the obligatory passage point, without which no communication can be entered into via mobile phones and without which access to the Internet via mobile broadband is impossible. Thus, without the mobile network the actor-network under study would cease to be.

- Mobile phones have changed over the years, but those sold in Kowanyama consist universally of pre-paid phones. Pre-paid provides the primary cost-management strategy for people who have a low and irregular income, and who often choose to share their phones with other family members, who themselves may not be able to pay for usage (Brady and Dyson, 2009).
- Mobile broadband is a more recent actor, providing those with computers or laptops access to the Internet via a dongle or wireless modem.

Another actor in this narrative comprises the instruments of Government, particularly Federal and State telecommunications policy for remote Indigenous communities and the funding to enact it. The national telecommunications carrier Telstra, who rolls out and maintains these networks, can be considered part of this alliance. Telstra built the mobile phone infrastructure and flies in technicians from the large Cape York town of Weipa to service the mobile network when it fails and to perform regular maintenance.

In a small community where everybody knows everybody, one more actor to be considered is the local communication channel. This has two arms: the Post Office noticeboard and the rumour-mongering ‘grapevine’, which were enrolled to provide information to the community (and the researchers) about the weather event.

3.2 Moments of Translation: Enrolling the Actors in the Network

Having defined the actors, it is time to examine how they came to join a network. To do this Callon’s (1986) moments of translation described earlier will be loosely employed as a tool, in particular, problematization, *intéressement* and enrolment.

Kowanyama has enjoyed land lines since 1989, and a CDMA (voice and text-message) mobile phone service from 2003 to the end of 2007 (Pearce 2003). The ongoing problematization of providing improved telecommunications to remote Indigenous communities (and the difficulty of doing this) can be seen clearly in several Federal Government reports (ACMA, 2008, p. 5):

Indigenous Australians living in remote communities face distinct challenges in accessing and using basic telecommunications services. Vast geographic distances, small and remote populations, the cost of deploying telecommunications infrastructure and harsh environmental conditions present difficulties for the provision of telecommunications services to these communities. These difficulties are compounded by the socioeconomic disadvantages faced by many individuals within remote Indigenous communities.

After defining the problem, this report differs from its predecessors in trying to insert mobile services as a possible solution in lieu of the Government’s schemes and subsidies for fixed-line phones and computers, that had failed in the past to interest Indigenous people (ACMA, 2008, p. 31):

Mobile network infrastructure may offer a means of multiple service provision in remote Indigenous communities. ... [An] example is the provision of 3G network coverage

by Telstra in regional and remote Australia, which presents the opportunity for some Indigenous communities to adopt mobile broadband services.

In Callon's (1986) terminology, the report may be seen as a device of *intéressement*, trying to enlist the other actors in the mobile solution. The report was published in 2008, the same year that the old CDMA service was replaced and Telstra rolled out its 3G mobile network to all major communities throughout Cape York, commissioned to do so by the Queensland Government (Brady and Dyson, 2009). Thus both Federal and State governments have been allies in this process of trying to interest remote Indigenous communities in mobile technology.

The speed of enrolment of Kowanyama residents in mobile technology was impossible to gauge in our study since mobile phone use had become normalized to the extent that no-one could remember when the 3G network even went in. Evidence from other studies, however, shows that Indigenous people were at first slow to adopt: only a handful of technology leaders seemed to buy CDMA phones (Brady and Dyson, 2009). Most waited until the 3G service was in place, when enrolment was rapid: it was not only communication that interested Indigenous people: it was the combination of voice, SMS, Internet access and the many multimedia and entertainment features of 3G phones (Brady and Dyson, 2009; Dyson and Brady, 2009). Within a year of the implementation of the 3G service, more than half of the Indigenous people interviewed in two communities similar to Kowanyama owned a mobile phone (Dyson and Brady, 2013), while another study found that access to mobile phones was practically ubiquitous when both ownership and sharing of phones were taken into account (Auld, Snyder and Henderson, 2012).

The adoption of mobile phones by Kowanyama residents is currently extremely high. The Post Office reported that it sells 40-50 mobile phones per month, while the Kowanyama Store sells 3-4 phones per day. One manager described the dependence of Kowanyama residents on their mobiles in the absence of landlines phones and home computers, and stated that, 'They're vital. ... Their only form of communication to the outside world is their mobile.' Some elderly and middle-aged people do not have phones, but may receive important messages via a relative who owns a mobile and acts as a contact point. Likewise, young children often do not own phones, but instead might be allowed to play with their parents' phone. When children reach high school age and attend boarding school, 85-95% of them have mobile phones as an essential means of keeping in contact with their parents and family while they are away from country.

A translation, or displacement, is visible over time in the style of mobile phones used by Kowanyama residents. The most common 3G phone in 2008 was a small-screen model (Brady and Dyson, 2009), while now only very few of these are sold in Kowanyama. Instead, 'flip' phones (once a luxury) have become the standard phone, and touchscreen phones (previously unheard of) are the most popular with young people. Both flip phones and the simplest touchscreen phones now sell for \$79 (including \$10 starter credit), compared to \$110 for the small screen phones six years ago. No doubt the drop in price and the increased availability of, and demand for, fashionable and more usable models has contributed to the consolidation of the relationship between these two actors – Kowanyama residents and mobile phones.

In addition to helping parents support their children through the six years of boarding school, it is obvious that residents put their mobile phones to excellent use and many spoke passionately about the importance of mobile phones in their lives. When residents marry into other communities or move away for work, or outsiders move to Kowanyama for work, phones help maintain contact, especially by means of text messages and Facebook. One mother noted that her daughter lives in Weipa where her husband is now working at the

mines and telephones her every week: 'I miss her. She is my only daughter.' In this community of high unemployment and welfare dependency, automatic reminders of appointments and job vacancy alerts sent to job seekers and welfare recipients are extremely useful. As the service provider who assists residents to find work stated, 'Mobiles are definitely important. When the reception goes down, our whole world crumbles.' Elderly people and others needing treatment receive important messages by mobile phone from the Clinic regarding appointments, and some doctors have started texting patients to make appointments. As the daughter of a diabetic patient noted, 'it is a real issue that they are contactable.' Residents use their mobiles to receive and pay bills and undertake their banking. For example, one young woman had bought a car and found it convenient to phone through her fortnightly payments on the loan. In an isolated community, residents enjoy using their mobiles for listening to music, downloading game apps, taking photographs or 'for everything!', as one woman noted. This, no doubt, contributes greatly to individual well-being in a community with limited entertainment options.

Enrolment of the small service providers is also obvious in Kowanyama. The 'fly in, fly outs' are, like the residents, completely dependent on the mobile network when they visit the community, usually for one week at a time. The main difference is that they use mobile phones for communication, such as phone calls, combined with mobile broadband to do other aspects of their jobs. The mobile broadband effectively means that these visiting service providers do not need to have a permanent office but can instead operate out of a 'mobile office', based on their mobile phone, laptop and wireless dongle or modem. The convenience of doing this obviously outweighs the disincentive of a network with insufficient bandwidth for business use and that slows work down considerably. For example, one of the small service providers noted that, despite using an online system which had been designed specifically for remote area conditions, 'it takes 2 hours to lodge results, a job that should take 20 minutes'. This same service provider stated that she often works back to 10 o'clock at night to finish work which would normally have been completed at 5 pm, all because of the slow speed: 'It's been five minutes from one click to another.' This would lead to increased costs of operation.

In contrast to the residents and small service providers, the businesses and large service providers use a much wider variety of ICT, which varies with the size of their organization and their information and communication needs. Mobile phones and mobile broadband have been enrolled into their business use to varying degrees. Some small shops and cafés are still dependent on dial-up connections because they find the mobile broadband too slow, and some still have unnetworked cash registers and so they can only make cash sales. One even uses a fax machine in preference to mobile broadband to place purchase orders, an old technology, but very reliable. Another shop depends completely on mobile broadband for all stock orders, EFTPOS and email communication: this embracing of mobile technology has come at a cost, however, since when the network slows, particularly at peak usage times such as lunchtime and weekends when everyone is texting and using Facebook, it might take two hours to place 10-15 items in the ordering system. The largest enterprises which are part of a national- or state-wide system are immune from most of these problems as they are more likely to have dedicated technicians, ADSL connections, their own servers or enterprise intranets.

One of the most notable features of all the businesses and large service providers is the deployment of workarounds and the building in of redundancy to account for the inevitable times in the Wet when systems fail. This shows a systems maturity which would have been unheard of even a few years ago. This is particularly the case for those businesses providing food and other vital services to the community. Obviously this level of redundancy comes at a price in having to purchase and maintain more technology.

3.3 The Event

To describe the cyclonic weather event itself, the local communication channels are invoked, firstly the Post Office noticeboard displaying a bulletin from the Mayor on Monday, the ninth day of rain:

Notice from Kowanyama Aboriginal Shire Council

10 am February 10th

Airport remains closed due to drainage issues and high level of Magnificent Creek will slow the airport floodway draining away.

Pormpuraaw Airstrip may be open to RFDS [Royal Flying Doctor Service] flights and helicopters.

Telstra – Mobile communications are out and Telstra is investigating options to get a repair team into the area.

Pormpuraaw has no communication except satellite phone. They are trying to get Internet restored today.

Postal – delay will be experienced due to Airport Closure.

Unsealed roads in Kowanyama Shire including Shelfo, Landing and Topsy are closed to all traffic.

At the same time as this official notice was on view in Kowanyama detailing that the town and shire were cut off from the rest of the world – even the TV and radio were not working – a rumour was circulating in the Post Office queue and elsewhere. This stated that the reason for the mobile network failure was that, after nine days of constant rain, the solar batteries which provide power to the mobile tower had become depleted due to lack of sunshine. Proof of this assertion was that on Tuesday, when the sun came out again, the mobile network was working again. This was also said to be the day when the repair team made their visit. The notice and the rumour were ways in which different actors in the network tried to make sense of the event.

Putting aside the competing claims of the sun and the Telstra technicians for restoring mobile communication, the mobile network failure had a major effect on many residents of Kowanyama, as evidenced by stories that they related to the researchers. Firstly, mobile phones are used in emergencies, most likely to occur in the Wet when network failures also happen. When the mobile network fell over, one resident was anxious about reporting electrical faults and overflowing sewerage at her home but couldn't with her mobile not working. Moreover, this happened on the weekend when the Council Office was closed and so she could not report the faults in person: 'It was quite serious.'

The weather event coincided with the beginning of the school year. At this time two-thirds of the children of high-school age were already at boarding school. Parents were unable to let their children know that everything was all right in Kowanyama when the news down south was full of reports of the torrential rain, making the children worried about their families. The beginning of the school year is always the most intense: the first settling-in period is crucial for students if they are to enjoy academic success: 'It's absolutely vital for kids well being. The kids get distressed if they can't contact parents. Parents get distressed if they can't contact their kids.' Moreover, there was still a plane load of children who were due to fly down on the Monday the bulletin was placed on the Post Office noticeboard: Transition Support Services had to ring the boarding schools to say that the students would not be coming. Eventually a satellite phone was located to make this call.

Similarly, all the new schoolies, who had recently arrived in Kowanyama to begin teaching at the local school, were cut off from their families down south, as they, too, were

dependent on their mobiles. Their families were worried because they had heard about the cyclone buzzing around but no-one could get through.

The small service providers were impacted by the event in a different way: they stopped flying. With cancelled planes and the airport closure, they stayed put in Cairns or wherever they were based until the sun came out and the water drained from the airstrip. None of their clients in Kowanyama would have expected to see them.

The businesses had yet another experience. None of them fell over this Wet season. Their redundant systems stood them in good stead. One of the shopkeepers described how he moved all his mobile broadband systems to dial-up when the mobile network ceased working. However, this was extremely time-consuming and laborious, taking about 1½ hours to move to dial-up and another 1½ hours to move back to mobile broadband when the network was restored. In addition, transaction speeds slowed considerably and levels of customer service declined, but at least he could continue to operate and his customers could continue to make purchases if they were patient.

Another small shopkeeper described the impact of a cyclone two years before when both landlines and the mobile network went down. His cash register, which operates solely off the landline, was not working and so customers could only purchase goods for cash, which many of them did not have. It was Christmas and New Year and they were very upset when they could not buy food.

Other stories emerged, stimulated by the event, stories relating to lack of coverage beyond the town of Kowanyama, where the mobile footprint has never reached, lack of coverage which impacts in the Dry when the roads re-open. The experience of coverage by residents, managers and staff was very variable, depending on the exact location, the model of phone, the weather at the time, and if they were talking or texting. Most agreed that coverage probably extends 8-10 km from the Water Tower, up to 17 km sometimes for text messages. Coverage was a major issue: as one manager stated, who has been a resident in Kowanyama for several decades, 'It's a safety issue. This is an unforgiving area.'

The inadequacy of network coverage impacts on the majority of people in Kowanyama, whatever their role, since fishing and camping are favourite pastimes in the Dry season: 'The signal does need boosting. ... If there is an accident, a child breaks a leg, or someone gets bitten by a taipan, you need to be able to make a phone call.' In addition, there is an influx of fishing tourists at this time of year, who represent a significant source of income for the community through the issue of camping permits. A culturally significant aspect of Aboriginal life in Kowanyama are the 18 Homelands, which are visited in the Dry by the traditional owners. They are very important to Aboriginal people, who are active fishers and hunters: 'We do go out a lot. If we get stranded we can't contact the community.' Lack of mobile coverage has raised major concerns amongst interviewees about personal safety in the event of breakdowns, accidents and illness in these areas.

Furthermore, the limited mobile footprint impacts on mobile reception along the major roads in and out of Kowanyama. With family members living in other towns and residents needing to shop or transact business in the cities, trips by car along the unsealed roads to Cairns, Normanton and Pormpuraaw are common in the Dry. As one resident noted, 'There is a real issue with mobile phone coverage when travelling by car. For example, it is 500 km to Chillagoe and no coverage until you get there.' These roads are also much travelled by service providers, contractors and tourists. Each road has its challenges but none are good. Breakdowns are particularly common and people get stuck between creeks when waters rise suddenly after torrential rain. One resident told of how her vehicle got bogged in Scrutton Creek at the beginning of the Wet: the only option for her and her husband was to climb onto the roof of the vehicle and wait for help. They clung there for 4½ hours, getting terribly sunburnt, until close to dusk, the water almost to the roof, afraid to move because a large

crocodile was known to live in that stretch of the creek. Eventually, a helicopter from a nearby cattle station came to their rescue.

4 Mobile Technology and Kowanyama: Reflections on Culture and Place

It is very easy to fall into cultural stereotypes when considering technology adoption. We can see this in comments in the literature on how mobile phone use by Aboriginal adolescents is ‘consistent with their collective culture (e.g., communicate with family and friends)’ (Johnson, 2013, p. 1). During the event at Kowanyama, many residents wanted to communicate using their mobiles, but couldn’t. There were the mostly Aboriginal parents and children away at boarding school, and the mostly non-Aboriginal schoolies, some separated probably for the first time from *their* parents. All felt distress. Similarly, major concerns about safety on the roads to Cairns, Normanton and Pormpuraaw surfaced in conversation with many residents, regardless of their cultural background, with many stories such as the person who broke a limb, an elderly contractor who rolled his vehicle, a local manager who was found wandering dazed in the wrong direction after rolling his vehicle 20 km out of Kowanyama, and the contractors who bled to death by the roadside, unable to get help. Likewise, the lack of mobile coverage at the local fishing and camping spots was a real worry, and not confined to a single group. In instructing us to set aside arbitrary preconceptions, ANT allows us to recognize, in this story, all humans as part of a collective culture, all as social beings with a primal need to communicate.

Perhaps of more use in interpreting the situation at Kowanyama is to talk of place, and cultural practices associated or determined by place. Place is a contested concept, and even more so when talking about mobile technologies. However, in the far isolated corners of the country, concepts of place and mobile become distanced from the definitions that hold at the centre, and, while the words may be the same, they develop ‘local’ understandings. Mobile usually implies being free of place – ‘anywhere, anytime’ – yet here mobile means ‘works within a few kilometres radius of town’. Thus mobile use at Kowanyama is very much tied to place. Location, also, is not sufficient to capture the significance of place for the Aboriginal people who are living in Kowanyama, a remote township created on or adjacent to their traditional lands.

We recognise that justice cannot be done to it in this paper, so a limited version of place will be used. Gibson, Lukermann and Brennan-Horley (2012, p. 5) describe place as ‘a process involving complex integrations of nature and culture that have developed and continue to develop in particular locations and which connect flows of people and goods to other places’. Place and culture are inextricably intertwined in Aboriginal communities, given Aboriginal occupation of their land *ab origine*, from the beginning: place represented traditionally in language, story, performance and art. But place is also reflected in the cultural practice of non-Aboriginal residents and visitors to the region, as they camp and fish, spending their weekends and holidays in ways often difficult to distinguish from their Aboriginal counterparts, in identical locations – Topsy and Shelfo, if not South Mitchell, which is off-limits for all but traditional owners.

For *this* story, place is a lead actor: Kowanyama, the very beautiful ‘place of many waters’, for a time became a place of *too* many waters as rain and flood interacted with the sun (or lack thereof), the soil turning to bog, the impassable roads, overflowing sewerage, failed communications and infrastructure, the people, the memories of previous floods, the business, health and educational interests, all coming together to make this a significant event. A place that was safe and connected lost its connections to roads, power, satellite and mobiles, and the radio took on an aberrant life of its own as the township teetered on the brink of a natural ‘disaster’.

In remote areas like Kowanyama mobile is not an extension of person as in well serviced urban areas. It is much more contingent, an odd, unreliable prosthetic that works partially or fully, depending on where people are, not on when they need it. In a perverse way it works best when at home, within walking distance of services and surrounded by family, and worst when out hunting, camping or travelling, far away from services they might require, for example, in case of accident. The need for mobile technology changes depending on location: social, business and service facilitator when in community, a desirable safety net when travelling (but rarely, since mobile coverage usually does not allow), and an umbilical cord when away visiting other communities, towns and the city. In a strange way, technology is still reinforcing missionary times where people were gathered together from across the region and it was dangerous to leave. While focusing on the event, it is necessary to acknowledge that there is a particularly strong association with place, and that mobile technologies are, if anything, reinforcing connection with place, as Kowanyama is the one place they actually work until the traveller arrives in the city and connects again, back to country.

5 Conclusions

ANT, with its insistence on impartiality towards all actors, has allowed us to reflect on mobile technology adoption in a remote Aboriginal community, setting aside preconceptions and boundaries, of human and non-human, of culture and race. Defining the human actors dispassionately according to their use of mobile technology, it can be seen that all relied on their mobiles. They were united in recognizing that mobile technology fulfilled a fundamental human need for communication in a way that computers and fixed-line phones and wired Internet connections had never done. As Brady and Dyson (2010, p. 79) concluded, ‘there is a huge motivation for owning mobile devices *whoever you are*, whatever your cultural background.’ However, place interacted in perverse ways with this need, preventing communication when most desirable, when cars broke down in crocodile-infested creeks, or camping accidents occurred, or parents needed to contact their children away at boarding school.

Translation of the network was evident over time as the community enrolled as users of increasingly sophisticated mobile phones, and mobile broadband became a preferred work tool of Internet connectivity for many. This adoption of mobile technology is all the more remarkable, given the low incomes of many of the residents, the limited mobile footprint, and the poor performance of mobile broadband for the small service providers and some businesses which depend on it. In a time of deluge and water that would not obey the drains and channels established for its reception, mobile technology became inaccessible and unhelpful. Yet, the community at Kowanyama remained faithful to it: the sun came out, the network bounced back, and residents and businesses returned to a life with mobiles, provided they did not venture too far beyond the town.

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