A multi-sited ethnography of the decolonization of mobile media among Guaraní

PhD Dissertation
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Abstract

Numerous studies show that Information and Communication Technologies (ICTs) like radio, television and web services have been valuable tools for indigenous leaders and organizations to obtain self-representation and advance political agendas. Meanwhile, ICT-related research with indigenous community members is often rooted in a deficit perspective and has interest in overcoming barriers to ICT access and use. This dissertation takes a different approach. I explore the politics of everyday communication among members of Guaraní communities in Argentina and Bolivia. My focus is mobile media, or the many modes of communication made available on mobile phones. Not only is mobile telephony the most prevalent ICT in the communities of this research but also it presents its own set of challenges for self-determination, which is a central aim of political movements among Guaraní and other indigenous groups in the region. Whereas rights to television and radio frequencies have enabled indigenous groups to control content production and dissemination, the process of obtaining ownership over mobile media is more complex as platforms and contents are attached to multinational corporations.

This dissertation takes as its focus the many factors—the policies, institutional arrangements, discursive structures, technical interfaces and digital abilities—that interrelate to shape individuals' senses of agency over mobile media. I adopt a critical, multi-sited approach that combines community-based collaborative research with

political economy analysis. Research is conducted across four scales: political mobilizations to decolonize communication; the sociocultural orientation of the mobile app industries in Argentina and Bolivia; basic mobile phone use in a group of rural Guaraní communities in Tarija department, Bolivia; and, mobile Internet use in an urban Guaraní community in Greater Buenos Aires, Argentina. While multi-sited ethnography is not new to indigenous media research, this research design is novel for juxtaposing research with indigenous community members and mobile app developers.

Findings challenged some basic assumptions that continue to permeate ICT-related studies and interventions in indigenous contexts. While ICTs are often promoted as cultural safeguarding tools, the propagation of traditional culture and language contents was considered a source of marginalization among some community informants. Moreover, many informants did not consider mobile mediated communication a true form of communication. Where concerns over the local relevance of ICTs have centered on the nature of media contents, the main site of cultural negotiation in this research was the ways that ICTs restructure interpersonal communication, an area that has been largely overlooked in indigenous media research. I describe how informants contested the use of mobile phones in certain contexts to recreate what they considered locally valued forms of communicating in an intimate, face-to-face manner. While basic mobile phone users in the Bolivian research context characterized their contestations of mobile media proactively, mobile Internet services in the Argentinean research context generated uneasiness and negativity. Findings pointed to the role of the readily available mobile applications in creating imaginaries about the Internet that demotivated informants from gaining effective mobile media skills. Meanwhile my research on app development showed how the

neoliberal structure of app distribution oriented the attention of app developers away from in-country users.

Results in this dissertation call for a change in thinking to the techno-optimism inherent in digital inclusion speak. I argue digital inclusion is not about increasing or enhancing ICT use but about civic abilities to influence the ways societies and localities become mediatized. My analysis outlines how digital inclusion involves the creation of spaces both in ICT governance and away from ICT service providers' restrictions. Strategies like lobbying and commercial partnerships allowed some informants in this research to influence service provision, while the lack of relevant media literacies and the cultural orientation of the readily available services complicated informants' abilities to transform and creatively use mobile media. While the implications such factors have within aims to decolonize mobile media are particular to the research contexts, this dissertation forges connections between some key issues that can influence levels of agency over mobile media services.

Keywords: indigenous media; mobile media; digital inclusion; decolonization of communication; interpersonal communication; mobile application development; community-based collaborative research; political economy of mobile media; multi-sited ethnography.

Una etnografia multilocal de la descolonització dels mitjans mòbils entre els i les guaraní

Sarah Wagner

Resum

Nombrosos estudis mostren que les tecnologies de la informació i la comunicació (TIC) -ràdio, TV, serveis d'Internet- han estat eines valuoses per a què dirigents i organitzacions indígenes s'auto-representar-se i promoguin les seves agendes polítiques. Així mateix, la recerca sobre TIC amb comunitats indígenes sol interessar-se per superar les barreres d'accés i ús digital des de la perspectiva del dèficit. Aquesta tesi té un enfocament diferent. Explora les polítiques de comunicació quotidiana en algunes comunitats guaranís d'Argentina i Bolívia. Em centro en els mitjans de comunicació mòbil, o la diversitat de formes de comunicació que facilita el telèfon mòbil. La telefonia mòbil no és només la tecnologia de comunicació més popular en els contextos que analitzo sinó que presenta reptes particulars en relació a l'autodeterminació, un objectiu central dels moviments polítics guaranís. I si bé l'obtenció de freqüències de TV i ràdio ha permès que els grups indígenes de la regió controlin la producció i difusió de continguts, el control sobre els mitjans mòbils esdevé un procés més complex atesa la vinculació de les multinacionals amb les plataformes i els seus continguts.

Aquesta tesi se centra en els diversos factors −polítiques públiques, institucions, discursos, interfícies tècniques i competències digitals− que interactuen i condicionen la percepció sobre la capacitat (agència) individual davant els mitjans mòbils. Adopto un enfocament crític i multilocal que combina la recerca col·laborativa comunitària i

l'anàlisi d'economia política; i estudio quatre àmbits: les mobilitzacions polítiques per descolonitzar la comunicació; l'orientació sociocultural de la indústria d'aplicacions (*apps*) mòbils a Argentina i Bolívia; les pràctiques mòbils en comunitats rurals guaranís del departament de Tarija, Bolívia; i l'ús d'Internet mòbil en una comunitat urbana guaraní del Gran Buenos Aires, Argentina. Encara que l'etnografia multilocal no és nova en l'àmbit, aquest disseny sí ho és perquè juxtaposa la recerca amb membres de comunitats indígenes i amb desenvolupadors d'*apps* mòbils.

Les conclusions qüestionen alguns supòsits que encara impregnen les intervencions TIC en contextos indígenes. Tot i que les TIC es promouen com a instruments de revaloració cultural, alguns/es dels informants consideren que la difusió de continguts culturals tradicionals en els mitjans digitals els marginalitza. A més, nombrosos/es informants consideren que la comunicació mòbil no garanteix una comunicació real. Si bé les preocupacions sobre la rellevància local de les TIC s'han centrat en la naturalesa dels continguts, el principal aspecte de la negociació cultural en aquesta recerca és la forma en què les TIC reestructuren la comunicació interpersonal, un tema habitualment ignorat en les investigacions sobre mitjans indígenes. Descric com qüestionen el seu ús en certs contextos, per exemple quan es desitja recrear una comunicació valorada per la comunitat, que és íntima i es produeix en persona. Mentre que els usuaris i usàries de telefonia mòbil bàsica en el context bolivià qüestionen els mitjans mòbils de forma proactiva, els serveis d'Internet mòbil en el context argentí produeixen rebuig. Els resultats indiquen que les *apps* mòbils més accessibles generen imaginaris que desmotiven i frenen el desenvolupament d'habilitats digitals efectives. A més, l'estructura neoliberal de la distribució d'*apps* mòbils allunya l'atenció dels desenvolupadors/es d'aquestes *apps* cap a tercers països.

Els meus resultats confirmen la necessitat de superar el tecno-optimisme associat a la inclusió digital. Sostinc que la inclusió digital no és augmentar o millorar l'ús de les TIC, sinó la capacitat d'influir, des de la dimensió cívica, en com societats i localitats es mediatitzen. La meva anàlisi indica que la inclusió digital ha d'anar acompanyada de la creació d'espais que tinguin en compte a les comunitats indígenes tant en la gobernança de les TIC com més enllà de les restriccions que imposen els proveïdors digitals. Alguns/es informants, mitjançant grups de pressió i aliances comercials, ja han influït en la prestació de serveis. Per contra, la falta d'alfabetització mediàtica i l'orientació cultural dels serveis digitals més accessibles han dificultat la transformació i l'ús creatiu dels mitjans mòbils. Si bé la influència d'aquests factors en la descolonització de la comunicació mòbil ha d'interpretar-se en termes del context multilocal analitzat, la tesi estableix connexions entre determinats contextos i condicions que poden influir en la capacitat d'agència sobre els serveis de comunicació mòbil.

Paraules clau: mitjans indígenes; mitjans mòbils; inclusió digital; descolonització de la comunicació; comunicació interpersonal; desenvolupament d'aplicacions mòbils; recerca col·laborativa comunitària; economia política dels mitjans mòbils; etnografia multilocal.

Una etnografía multilocal de la descolonización de los medios móviles entre los y las guaraní

Sarah Wagner

Resumen

Numerosos estudios muestran que las tecnologías de la información y la comunicación (TIC) -radio, TV, servicios de Internet- han sido herramientas valiosas para que dirigentes y organizaciones indígenas logren auto-representarse y promover sus agendas políticas. Asimismo, la investigación sobre TIC con comunidades indígenas suele interesarse por superar las barreras de acceso y uso digital desde la perspectiva del déficit. Esta tesis tiene un enfoque diferente. Explora las políticas de comunicación cotidiana en algunas comunidades guaraní de Argentina y Bolivia. Me centro en los medios de comunicación móvil –la diversidad de formas de comunicación que facilita el teléfono móvil. La telefonía móvil no es sólo la tecnología de comunicación más popular en los contextos que analizo sino que presenta retos particulares en relación a la autodeterminación, un objetivo central de los movimientos políticos guaraníes. Y si bien la obtención de frecuencias de TV y radio ha permitido que los grupos indígenas de la región controlen la producción y difusión de contenidos, el control sobre los medios móviles deviene un proceso más complejo dada la vinculación de las multinacionales con las plataformas y sus contenidos.

Esta tesis se centra en los diversos factores—políticas públicas, instituciones, discursos, interfaces técnicas y competencias digitales—que interactúan y

condicionan la percepción sobre la capacidad (agencia) individual ante los medios móviles. Adopto un enfoque crítico y multilocal que combina la investigación colaborativa comunitaria y el análisis de economía política; y estudio cuatro ámbitos: las movilizaciones políticas para descolonizar la comunicación; la orientación sociocultural de la industria de aplicaciones (*apps*) móviles en Argentina y Bolivia; las prácticas móviles en comunidades rurales guaraníes del departamento de Tarija, Bolivia; y el uso de Internet móvil en una comunidad urbana guaraní del Gran Buenos Aires, Argentina. Aunque la etnografía multilocal no es nueva en el ámbito, este diseño es novedoso porque yuxtapone la investigación con miembros de comunidades indígenas y con desarrolladores de *apps* móviles.

Las conclusiones cuestionan algunos supuestos que todavía impregnan las intervenciones TIC en contextos indígenas. Aunque las TIC se promueven como instrumentos de revalorización cultural, algunos/as de los informantes consideran que la difusión de contenidos culturales tradicionales en los medios digitales les marginaliza. Además, numerosos/as informantes consideran que la comunicación móvil no garantiza una comunicación real. Si bien las preocupaciones sobre la relevancia local de las TIC se han centrado en la naturaleza de los contenidos, el principal aspecto de la negociación cultural en esta investigación es la forma en que las TIC reestructuran la comunicación interpersonal, un tema habitualmente ignorado al investigar medios indígenas. Describo cómo cuestionan su uso en ciertos contextos, por ejemplo cuando se desea recrear una comunicación valorada por la comunidad, que es íntima y se da en persona. Mientras que los usuarios/as de telefonía móvil básica en el contexto boliviano cuestionan los medios móviles de

forma proactiva, los servicios de Internet móvil en el contexto argentino producen rechazo. Los resultados indican que las *apps* móviles más accesibles generan imaginarios que desmotivan y frenan el desarrollo de habilidades digitales efectivas. Además, la estructura neoliberal de la distribución de *apps* móviles aleja la atención de los/las desarrolladores/as de estas *apps* hacia terceros países.

Mis resultados confirman la necesidad de superar el tecno-optimismo asociado a la inclusión digital. Sostengo que la inclusión digital no es aumentar o mejorar el uso de las TIC, sino la capacidad de influir, desde lo cívico, en la forma que sociedades y localidades se mediatizan. Mi análisis indica que la inclusión digital debe ir acompañada de la creación de espacios que tengan en cuenta a las comunidades indígenas tanto en la gobernanza de las TIC como más allá de las restricciones que imponen los proveedores digitales. Algunos/as informantes, mediante grupos de presión y alianzas comerciales, ya han influido en la prestación de servicios. Por contra, la falta de alfabetización mediática y la orientación cultural de los servicios digitales más accesibles han dificultado la transformación y el uso creativo de los medios móviles. Si bien la influencia de estos factores en la descolonización de la comunicación móvil debe interpretarse en términos del contexto multilocal analizado, la tesis establece conexiones entre determinados contextos y condiciones que pueden influir en la capacidad de agencia sobre los servicios de comunicación móvil.

Palabras clave: medios indígenas; medios móviles; inclusión digital; descolonización de la comunicación; comunicación interpersonal; desarrollo de aplicaciones móviles; investigación colaborativa comunitaria; economía política de los medios móviles; etnografía multilocal.

Acknowledgments

Note to the reader

This dissertation is submitted as a compendium of five publications. The publications follow the dissertation report. The dissertation report serves three purposes. First, it introduces the research subject (sections 1 to 5). In these sections, I discuss the research problem (section 1), expand on the research context (section 2), provide a literature review (section 3), define the research objectives and scales (section 4), and present and justify the methodology (section 5). Second, the report provides an overview of the publications and substantiates their relevance to the research subject (section 6). I recommend at this point that the reader addresses the original publications. Third, the report presents conclusions on the research findings (sections 7 to 9). In these sections, I integrate the findings across the publications to specifically address the research objectives (section 7), summarize the methodological, empirical and theoretical contributions made by the research (section 8), and consider the research limitations and some areas for further research (section 9).

List of included publications

Journal articles (in SSCI-indexed Q1 communication/cultural studies journals)

Wagner, S. (2019). Cultural revitalization and the ontology of communicative spaces: 'Mobile coordinating' among Guaraní. *International Journal of Cultural Studies,* 22 (3), 417-433.

Wagner, S. and Fernández-Ardèvol, M. (2019). Decolonizing mobile media: Mobile Internet appropriation in a Guaraní community. *Mobile Media and Communication.* Advance online publication. doi:10.1177/2050157918822163.

Wagner, S. and Fernández-Ardèvol, M. (2016). Local content production and the political economy of the mobile app industries in Argentina and Bolivia. *New Media and Society*, 18 (8), 1768–1786.

Book chapters

Wagner, S. (2015). The politics of mobile media inclusion in Argentina. In C. Wamala-Larsson, C. Scharff and J. Hellström (Eds.), *Mobile Participation: Access, Interaction and Practices* (pp. 99-124). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Wagner, S. (in press). Ageing and indigeneity: Mediatization tactics among Guaraní leaders. In M.D. Goggin and U. Marinšek (Eds.), *Off Campus: Seggau School of Thought. Meditating and Mediating Change: State – Society – Religion.* Graz, Austria: University of Graz Press.

Thematic ordering of the publications

Publication 1:   The politics of mobile media inclusion in Argentina

Publication 2:   Local content production and the political economy of the mobile app industries in Argentina and Bolivia

Publication 3:   Cultural revitalization and the ontology of communicative spaces: 'Mobile coordinating' among Guaraní

Publication 4:   Decolonizing mobile media: Mobile Internet appropriation in a Guaraní community

Publication 5:   Ageing and indigeneity: Mediatization tactics among Guaraní leaders

A multi-sited ethnography of the decolonization of mobile media among Guaraní

Dissertation report

Contents

Preamble

The long migratory paths of Guaraní peoples across South America brought much speculation during colonial times. Likely originating in the Brazilian coast, groups of Guaraní were moving across the Gran Chaco, an arid lowland region that spans most of Paraguay, southeastern Bolivia and northern Argentina, and into the Andean foothills at the time of colonization (Santos-Granero, 2011). These journeys described by the Guaraní as the pursuit of yvy marae'y[1] were often confused among historians and colonizers with a search for a gold-filled utopia, the Inca empire, or more generally, virgin, untouched land (Saignes, 2007, p. 35).

Today in Guaraní political circles in Argentina and Bolivia yvy marae'y is emblematic of their ongoing pursuit for the good life (Ruiz Fournier, Buitendijk, &

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[1] The common translation of yvy marae'y is 'la tierra sin mal' in Spanish and 'the land without evil' in English (e.g. Sanchez, Ehrenberg, & Valdivia, 2013).

Valeroso Cuéllar, 2013). Colonization in the Gran Chaco was violent. Thousands of Guaraní were massacred (Combès, 2005; Lowrey, 2006, p. 69). Lands were overtaken by ranchers and factory owners and inhabitants were displaced or put into forced labour (Gordillo & Leguizamón, 2002; Zambrana Cachari et al., 2009). Children were taken away from their families and indigenous languages and cultural practices were forbidden by schoolteachers and landowners (see section 2.1. *Histories of migration and displacement*). In Guaraní politics today, the pursuit of the good life is about overturning the ongoing injustices that have resulted from colonial and capitalist expansion. The Asamblea del Pueblo Guaraní, initiated in Bolivia in the 1980s, explains their overall motive as follows: "All the injustices we have experienced and the consequences this has had for our people has incited us to defend ourselves and reclaim our rights" (Asamblea del Pueblo Guaraní quoted in Camiri.net, 2010).

The poster on the cover page photo, which reads "My neighborhood is Guaraní territory too," was displayed at a Guaraní event I attended in Buenos Aires in September 2014. The territorial claim made in this poster is not based on precolonial settlement on those specific lands but on a history of movement and change that was interrupted by colonization. The poster calls for Guaraní in Buenos Aires to advance their rights to ownership over wherever they choose to live today. This is not just about land titles but about self-determination, about owning and managing all aspects of social and political life.

Indigenous rights movements in Latin America have strived to overturn the colonial hegemonies that continue to permeate most domains of contemporary life (see Bengoa, 2007, 2009; Quijano, 2000), including education, modes of production,

environmental management, and more recently communication media (Basanta, 2013; Mignoli, 2010). Over the past decade, Guaraní among other indigenous leaders have advanced their rights to own and manage all kinds of communication media services (see Baraldini, Cañicul, Cian, Juan, & Melillán, 2012; Cumbre Continental de Comunicación Indígena de Abya Yala, 2016). In this dissertation, I take up particular concern with the making of self-determination over mobile media services. That is, I endeavor to understand how mobile communication becomes Guaraní territory too.

I consider the decolonization of mobile media as an ongoing process of re-politicization by which power structures embedded in mobile media services are transformed through self-determination. Self-determination was acknowledged as fundamental in the 2009 United Nations Declaration on Indigenous Rights and associated with self-governance, autonomy and the freedom to pursue one's own development. While self-governance has been an important achievement for indigenous groups (cf. Dacks, 2004; Tockman, Cameron, & Plata, 2015), decolonizing research has emphasized the ongoing and variegated nature of self-determining struggles (see Corntassel, 2012; L. T. Smith, 1999; Tuck & Yang, 2012). Linda Tuhiwai Smith (1999), a Maori scholar renowned for her work on decolonizing methodologies explains, "Decolonization, once viewed as the formal process of handing over the instruments of government, is now recognized as a long-term process involving the bureaucratic, cultural, linguistic and psychological divesting of colonial power" (p. 98).

This dissertation tells a story of decolonization that is varied and reflects contextually specific tactics. While decolonizing practices have been thought to

center on the rejection of neoliberalism (see Escobar, 2010, p. 38; Fenelon & Hall, 2008; Ministro de Planificación del Desarrollo de Bolivia, 2006) or the reclamation of cultural traditions (Jacob, 2013, p. 6), in the contexts of this research commercial partnerships were sometimes sought out and speak about traditional culture was at times intentionally minimized. Guaraní peoples have a long history of social and cultural change and a prominent cultural symbology, yvy marae'y, that stands counter to the pervasive stereotypes of indigenous peoples as traditional, as primitive, and as averse to change. Cultural traditions played a role in decolonizing processes but not always because informants had interest in their resurgence. Rather, they were at times rejected and at times embraced in informants' negotiations of an ever widening, pan-indigenous identity.

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Research problem

'Indigenous people' is a category decidedly best left undefined. It referents an estimated 370 million individuals across 90 countries (UNESCO, 2018) with such wide diversity that any universalizing account based on geographical antecedence, productive activities or position within the state would be exclusionary (Dean & Levi, 2003). While collective labels like 'native,' 'aboriginal' or 'indigenous' were used pejoratively by colonial administrations, the term 'indigenous' has been reclaimed and, in its current use, it functions as a self-declared political category. Interests in defining indigenous people at an international level have been dropped and self-identification is typically considered the basis for indigenous identity (Borrero, 2016; United Nations Permanent Forum on Indigenous Issues, 2015). Indigenous membership has been declared around the world and has been a way to mobilize political action and draw attention to ongoing injustices (de la Cadena & Starn, 2007; Dean & Levi, 2003). As Borrero (2016) puts it, "While indigenous peoples are extensively diverse, they have one unfortunate commonality—a history of injustice" (p. 4).

Indigenous movements in Latin America arose in the 1980s, and by the 1990s indigenous claims for political, economic and cultural autonomy were a significant phenomenon across the region (Bengoa, 2009; Escobar, 2010). A host of research

has considered the role of communication media in both supporting and undermining these rights movements. Concerns have arisen about the potentially homogenizing influence of dominant cultural contents in indigenous contexts. In addition, there has been much interest in the opportunities that communication technologies bring for indigenous peoples to disseminate their own contents. Ginsburg (2002, p. 51) explains,

> Indigenous and minority people have faced a kind of Faustian dilemma. On the one hand, they are finding new modes for expressing indigenous identity through media and gaining access to film and video to serve their own needs and ends. On the other hand, the spread of communications technology such as home video and satellite downlinks threatens to be a final assault on culture, language, imagery, relationship between generations, and respect for traditional knowledge.

This Faustian dilemma that Ginsburg speaks of has been seminal to the indigenous media research field (Graham, 2016; Grixti, 2011; P. Wilson, 2015), a field that has explored both the issues and possibilities that communication media have brought for indigenous groups (McCallum & Waller, 2017; P. Wilson, 2015). Numerous studies have shown that television and radio media have been used by indigenous groups to advance cultural and political goals while the mainstream contents made available by these media have negatively represented those groups (see Alia, 2009; Butler, 2018; Knopf, 2010; Latimore, Nolan, Simons, & Khan, 2017; Levo-Henriksson, 2007; Muñoz, 2010).

Research on Internet media in indigenous contexts has tended to emphasize the positive influences. Websites and social networking services have been effective tools for many indigenous groups to mobilize political action (A. Wilson, Carlson, & Sciascia, 2017). A few studies, however, have outlined issues that indigenous

groups have had with web services. That many indigenous organizations lack technical and promotional expertise and rely on government funding has been found to inhibit the value of the Internet for indigenous social movements (Lupien & Chiriboga, 2017). Furthermore, it is often a struggle in cultural revitalization projects to develop locally relevant web architectures (Oppenneer, 2009) and research has shown that indigenous ways of knowing can be subjugated within the hierarchical forms of websites (e.g. Srinivasan, 2006, 2012a; van Gelderen & Guthadjaka, 2017). Along these lines, studies have described the tactics used by indigenous organizations to transform web services to align with their cultural and political goals (Gómez Mont, 2012; Soriano, 2012).

Mobile technologies present further issues when it comes to technical malleability. Whereas the Internet was designed on an egalitarian model, mobile telephony services are based on a proprietary network where contents and services are locked in with providers (see Goggin, 2011; Gurumurthy, 2010). Accessing the Internet on a mobile phone is more often based around commercially owned applications (see Donner, 2015; also, Zittrain, 2008) and the user experience is more limited than when accessed on a personal computer (Walton & Donner, 2012). Based on a scoping review of mobile Internet studies, Napoli and Obar (2014) argue that the functionality of the Internet has been "dumbed down" to meet the needs of mobile users. They explain,

> Mobile Internet access represents an inferior form of Internet access on a number of fronts—content availability, platform and network openness, speed, memory, and interface functionality, among others ...these disparities detrimentally affect users' abilities to engage in information seeking and content creation, and to develop a wide range of digital skills (p.330).

These observations are particularly pertinent to the growing number of users—predominantly in developing world contexts—that access the Internet only or primarily via mobile devices (see Donner 2015). That "mobile-first" Internet users tend to develop a limited array of Internet skills and are less likely to create contents or seek out information (Napoli & Obar, 2014; see also Zittrain, 2008) makes them more reliant on the media contents and services that are preloaded on handsets.

In dominant cultural contexts consumer appropriations often influence innovation and production processes at the industry level (Bar & Riis, 2000; Castells, Fernández-Ardèvol, Linchuan Qiu, & Sey, 2007; Coutts, Coutts, & Alport, 2005; Prahalad, 2012; Vincent, Haddon, & Hamill, 2005). The M-Pesa service in Kenya is one example where the service providers altered the design of the project based on user appropriations (Heeks, 2012). Additionally, the cultural trends in mobile use noted by Castells et al. (2007) such as the *kawaii* mobile culture in Japan (p. 52), the Little Smart in China (p. 60), and mobile credit transfer systems in sub-Saharan Africa (p. 223), interacted with industry actors who developed new services in response to user innovations. Inclusive innovation practices in the mobile media sector are not common in minority indigenous contexts unless mediated by the not-for-profit sector. Such projects have typically centered on externally defined development issues (Budka, 2015, p. 140) and in particular cultural safeguarding (e.g. Owiny, Mehta, & Maretzki, 2014; Villacrés Roca, 2016; see also, Dyson, Grant, & Hendriks, 2016).

Self-representation outside of NGOs has been an important political achievement for many indigenous organizations that use web services (Basanta, 2012, 2013; González Lorenzo, 2009; Monasterios, 2003). Over the past decade, indigenous

rights movements across Latin America have taken up particular concern with the decolonization of communication (Agurto & Mescco, 2012; Basanta, 2013; García Mingo, 2016). The Cumbre Continental de Comunicación Indígena del Abya Yala, held every three years in Latin America since 2010, takes as its tagline, "Decolonizing and transformative communication, a tool in the ongoing struggle of the peoples of Abya Yala and the world" (Cumbre Continental de Comunicación Indígena de Abya Yala, 2016). While community-owned radio stations have been important achievements in these movements (Lizondo, 2015; Mignoli, 2010; Murillo, 2010), they are not the only focus. Leaders and communication practitioners in Latin America have advanced decolonizing strategies for all kinds of communication technologies including computer system software and social networking services (see Baraldini et al., 2012; Cumbre Continental de Comunicación Indígena de Abya Yala, 2016). Elsewhere indigenous groups have developed their own web platforms for media sharing (e.g. Budka, 2015; IRCA, 2016) and their own mobile network services (e.g. O'Donnell, Kakekaspan, Walmark, & Mason, 2013), which not only have enhanced the local relevance of these services but also have been important achievements of self-determination (see also McMahon, 2011).

On the one hand, indigenous media research has shown that communication media can support local cultural and political aims when indigenous groups can transform the available services—create their own aesthetic styles (Ginsburg, 1994; Turner, 2002), alter the structure of websites (Srinivasan, 2006, 2012a; van Gelderen & Guthadjaka, 2017), develop novel ways of recording and sharing information (Verran & Christie, 2007), tactically manage their uses of web services (Soriano,

2012), or overturn the power structures of service ownership (Magallanes-Blanco & Rodriguez-Medina, 2016). On the other hand, mobile media lack malleability. They are owned, managed and surveilled by commercial providers and while there are opportunities to engage with and contribute to the vast array of contents and platforms on the web, studies suggest that use patterns are streamlined, creativity is minimal and that skills obtainment is limited particularly among those that primarily use the Internet on a mobile phone. Mobile media present their own set of challenges for indigenous self-determination. While much indigenous media research has focused on the self-representation gained through communication technologies (see section 3. *Indigenous media research*), this dissertation has interest in the making of self-determination over mobile media services themselves.

I explore this research problem in two very different Guaraní contexts: (a) 12 rural communities associated with the Asamblea del Pueblo Guaraní near Villamontes, Tarija Department, Bolivia, referred to as the "Villamontes communities" throughout this report; and, (b) an urban, self-claimed Guaraní community in Glew, Greater Buenos Aires, Argentina that I refer to as the "Glew community" in this research.[2] My interest is not only the ways that informants negotiate, resist, adopt and transform mobile media services but also how informants are positioned and represented within mobile media industries and mobile service planning processes. My research focus thus extends beyond the local contexts to also consider the claims made by indigenous communication activists and the sociocultural orientation of mobile media industries in Argentina and Bolivia. This research does

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[2] For critical reflection on the concept of community and the meaning it takes on in this research see section 5.3. *Collaborative research*.

not intend to arrive at any generalizable results on mobile media for Guaraní, let alone indigenous people, but rather to forge some initial connections on what is involved in the decolonization of mobile media.

I return to further outline the focus and objectives of this dissertation in section 4 after providing some context on Guaraní peoples in Argentina and Bolivia (section 2) and a review of some of the key trends in indigenous media research (section 3).

2

Guaraní in Argentina and Bolivia

2.1. Histories of migration and displacement

Guaraní peoples moved into the lowland Chaco regions of present day western Paraguay and eastern Bolivia in the 15th and 16th Century—with presence in what is now northern Argentina since the early 1600s (Gordillo, 2011)—through several waves of migration which most sources suggest originated in the Atlantic coast of Brazil (Santos-Granero, 2011; see also Melià, 1988; Saignes, 2007). Guaraní speaking peoples residing in the Chaco and Andean foothills around the time of colonization—given the name 'Chiriguano' by the Spanish—were often characterized in historical documents as fierce warriors on a route of southwestward expansion (see Oliveto, 2010; Santos-Granero, 2011).

One of the main groups displaced and subjugated by Guaraní in the Bolivian Chaco was the Arawak-speaking Chané peoples. This resulted in the formation of a master-slave social structure in which Chané peoples served as an underclass (Combès & Lowrey, 2006; Gordillo, 2011; Oliveto, 2010; Saignes, 2007; Santos-Granero, 2011). While much literature has emphasized the 'Guaranízation' of the Chané peoples, the process of cultural exchange was not unilateral and Chiriguano society was influenced by Chané material culture and social organization (Combès & Lowrey, 2006; Combès & Villar, 2004). The term 'Chiriguano' used to categorize

this Guaraní-Chané mixed group by the Spanish became a pejorative, associated with stereotypes of cannibalism, primitivism and brutality used to justify colonial conquests (Oliveto, 2010). By the 1980s and 1990s, the overarching Guaraní identity of the so-called Chiriguano peoples had been proclaimed by their own governing organization in Bolivia (see Gordillo, 2011; Hirsch, 2003).

Three subgroups are often recognized among Guaraní in Bolivia: the Ava, the most populous subgroup, who derive from the 'master' class of Chiriguano society and compose most zones of Guaraní communities across Santa Cruz, Chuquisaca and Tarija Departments; the Simba who are often considered the most traditional and primarily reside in western Chuquisaca Department and the Itika Guasu zone of Tarija Department; and, the Isoseño who derive from the underclass Chané population of Chiriguano society and reside along the Parapetí River in Santa Cruz Department. The designation of these subgroups points to variations in language and traditions rather than group identities, and all are considered to share a common Guaraní way of life (see Combès & Lowrey, 2006; Zambrana Cachari et al., 2009).

Research in this dissertation was conducted with Guaraní peoples of the Ava subgroup: members of the Villamontes zonal communities in Tarija Department (see Figure 1 below) and descendants of the Alto Parapetí zonal communities in southwestern Santa Cruz Department (see Figure 2 below). Yet, I use the more general term 'Guaraní' throughout as informants did not speak of being 'Ava' or consider it a point of identification. Furthermore, among some leaders the designation of Ava was purposefully minimized due to political interest in

emphasizing a wider Guaraní identity and shared heritage across Argentina, Bolivia, Paraguay and Brazil (see also Hirsch, 2003).
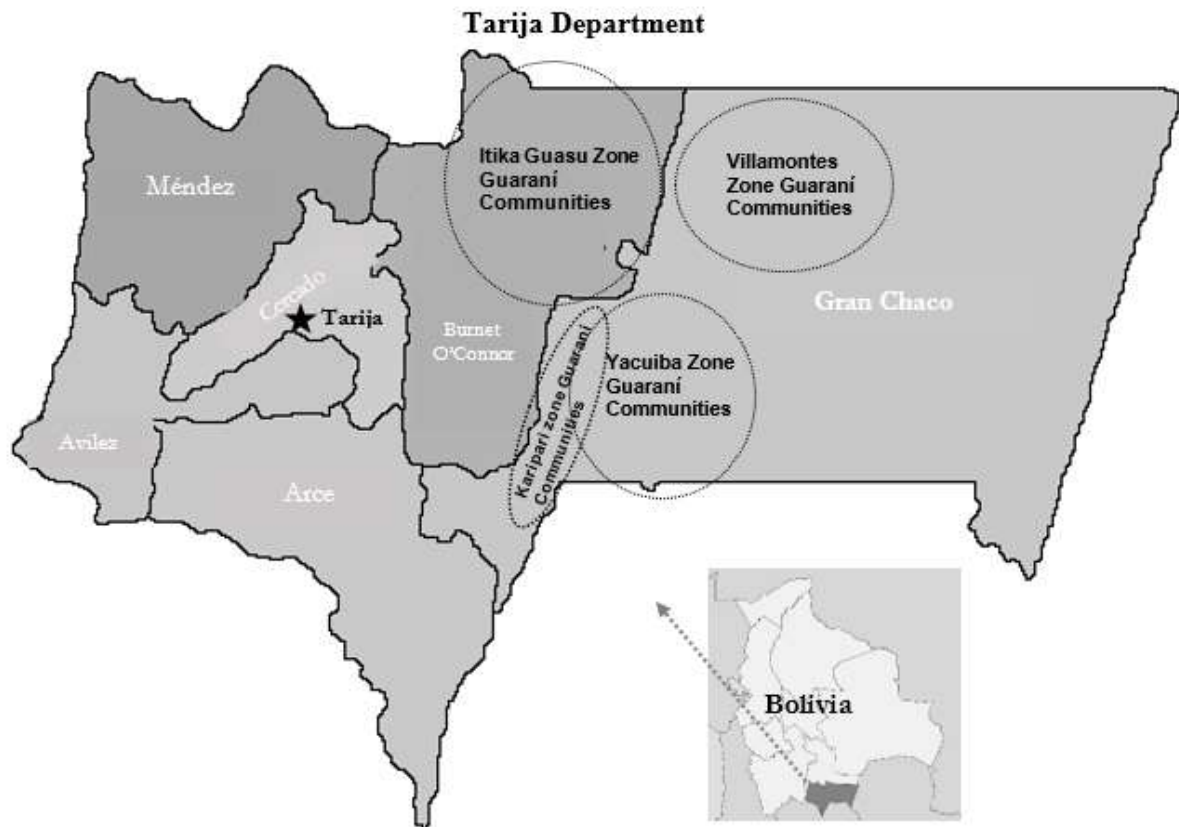
Figure 1. Map of Tarija Department with provinces and zonal regions of Guaraní communities indicated. Adapted from Gilles, 2006 and TUBS, 2011. Markings added.

The Chaco region underwent great upheaval and violence during the colonial years where relocation was an important strategy, and necessity, for many indigenous peoples. Through an onslaught of Christian missions, sugar cane plants and cattle ranches—in addition to the 1930s Chaco War—many Guaraní peoples were displaced or put in situations of forced labor (Gordillo & Leguizamón, 2002). Middle-aged community informants in the Villamontes Zone, Tarija, Bolivia described being displaced from their lands, taken from their families at a young age or being forced to work as ranch labourers. A 2008 survey conducted across Tarija

Figure 2. Migratory path of Glew community members. Adapted from Google Maps, 2018. Markings added.

Department found nearly half of all Guaraní families without any land and 37 individuals in a situation of labour exploitation with either minimal or no pay (Zambrana Cachari et al., 2009).

Beginning in the late 19th Century there were significant migrations of Guaraní peoples into Argentina with many fleeing from the Chaco War or seeking out work in sugar cane plants and farms in the northern provinces of Salta and Jujuy (Hirsch, 2003). The relocation of members of the Glew community from Alto-Parapetí to Salta province and later to Buenos Aires province (see Figure 2) is characterized in the community's own documentation as an "involuntary detachment from their root family." This migratory path began with the maternal grandmother's escape from a labour camp in Bolivia.

These situations of displacement, subjugation and forced labour meant that many individuals were forbidden to speak Guaraní or partake in Guaraní cultural practices. In both research contexts community informants accounted a history of

physical abuse from landowners, employers, adoptive parents or teachers for speaking Guaraní. For this reason, the Guaraní language had not been transferred to younger generations among many families in the Villamontes communities and among all families in the Glew community. Other cultural practices were spoken about—such as, Guaraní dances and corn-based food products—which alongside Guaraní language were sometimes envisioned as important expressions of Guaraní cultural resurgence (as discussed in Publication 3,[3] *Cultural revitalization and communal living* section).

2.2. Writings on Guaraní culture

The influential *Handbook of South American Indians*—an ethnographic series published in the 1940s—categorized indigenous peoples across Latin America, propagating a distinction between the supposedly more civilized or advanced peoples of the highlands and the simple or socially disorganized peoples of the lowlands. Such perspectives rooted in cultural ecology influenced scholarship in the region (e.g. Lowie, 1948; Murdock, 1951; see also, Castro, 1996) and the ongoing perception of the Chaco as a barbaric and backwards region (see Gordillo & Hirsch, 2003). Notably, Metraux's (1946) writings on the peoples of the Chaco were included in the volume of the *Handbook* titled 'The Marginal Tribes' (as noted in Combes, Villar, & Lowrey, 2009). As discussed above, early historical writings emphasized the hostile and violent nature of the Guaraní speaking peoples in the Chaco, which were used to justify colonial warfare (see Oliveto, 2010; Santos-

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[3] The publications included in this dissertation are ordered thematically as listed on p. xiii. Consult section 6, *Guide to the publications*, for information on this ordering.

Granero, 2011). In quite a different vein, a running theme in many writings on Guaraní culture, both old and new, is the value of reciprocity and group collaboration (see Hirsch, Huenuan, & Soria, 2016; Melià, 1988).

In what follows, I consider three concepts that not only have an academic legacy within Guaraní cultural studies but also commonly arise in contemporary Guaraní political discourses in Argentina and Bolivia and were considered by leaders in this research as central to understanding the Guaraní way of life.

2.2.1. Ñemboati (Assembly)

Guaraní political culture historically centered on the assembly. By the early twentieth century anthropological writings on Latin American indigenous groups had fomented the image of a leader without power among the lowland peoples in the Chaco and Amazon, which was contrasted with the hierarchical structure of the Inca peoples. Guaraní leaders were characterized as mediators and orators (Clastres, 1987; Lowie, 1948). While this historical portrayal of a powerless leader is often over idealized and discounts the diverse historical influences on Guaraní peoples of the Bolivian lowlands (Combès & Villar, 2004; Saignes, 2007), face-to-face decision-making in assemblies is an ongoing practice (see Publication 3; also, Lowrey, 2011; Wahren, 2011b) and the basis of the self-governing organization, the Asamblea del Pueblo Guaraní.

The Asamblea del Pueblo Guaraní was initiated in the late 1980s among Guaraní in Bolivia and represents Guaraní interests as distinct from the dominant Quechua and Aymara indigenous context. The structure of the Asamblea del Pueblo Guaraní, partly influenced by the organization of other indigenous unions (Wahren, 2011a),

brings together a network of departmental, zonal and community level assemblies (see Figure 3). At each level a Capitán and Segundo Capitán is designated alongside political representatives for the areas of production, infrastructure, health, education, territorial land, environment, gender and communication. The organizational structure works like a "spider,"[4] bringing information and political decisions from the national, departmental and zonal levels out to the communities while also bringing information and issues from the communities back to the higher-level assemblies for discussion.
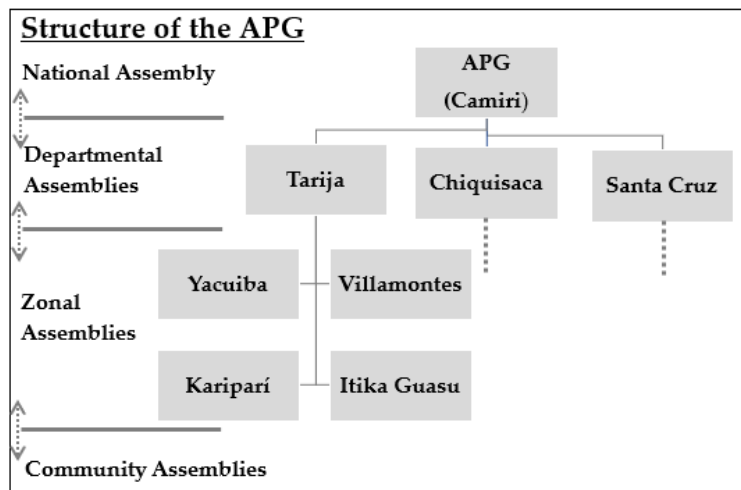
Figure 3. Organizational structure of the Asamblea del Pueblo Guaraní with zonal assemblies of Tarija Department listed. Own elaboration.

The political practice of assemblies varies across the levels of the Asamblea del Pueblo Guaraní. Community assemblies involve all interested community members and are typically held in the community Capitán's yard in a circular arrangement. Attendees are provided with the opportunity to raise discussion points. Zonal assemblies involve community-level Capitáns and Segundo Capitáns or other interested individuals sent to represent their community while departmental assemblies involve representatives across the zones. Assemblies at the zonal and departmental level tend to have a more formal structure

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4   The spider metaphor was used by representatives of the national Asamblea del Pueblo Guaraní in Camiri during a preliminary discussion with me in December 2013 on research collaboration.

with set-out agendas. In Villamontes, zonal assemblies are carried out in the zonal headquarters—a one-room building with seats and a chalkboard—with the zonal Capitán positioned at the front of the room. Regardless of the assembly's level, the mood is typically relaxed and there is ample time for joking and for interested members to contribute to the discussion. Listening and providing opportunity for response is important (see also Lowrey, 2011).

While a nation-wide organization of Guaraní assemblies has not yet emerged in Argentina, the Bolivian Asamblea del Pueblo Guaraní has influenced the course of Guaraní politics and social organization across the border. In the 1990s—influenced by the Guaraní movements in Bolivia—Guaraní families in northern Argentina that had been geographically dispersed through migration and displacement began to form community and regional level assemblies and advance land claims (Gordillo et al., 2011; see also Castelnuovo Biraben, 2014). In recent years, Guaraní leaders across Argentina have come together to discuss the formation of an official national network of assemblies.[5] These initiatives to revitalize Guaraní political culture—which have also involved international assemblies with leaders from Argentina, Bolivia and Paraguay[6]—have been an important way for Guaraní peoples to take ownership over their claims and integrate their rights movements within their own modes of group-based decision-making (see Wahren, 2012b, 2012a).

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[5] Personal communication with a Guaraní leader from Jujuy, Argentina, on July 18 2013 in Tarija, Bolivia. These meetings have also involved the Glew community leader.

[6] Such as the case of a meeting I attended in Villamontes in July 2014. According to an auxiliary member of the departmental Asamblea del Pueblo Guaraní in Tarija, the possibilities for communication enabled by mobile phones and the Internet have been important in enabling Guaraní leaders across Argentina, Bolivia and Paraguay to come together.

2.2.2. Ñande reko ('Our culture')

Ñande reko is often characterized as the Guaraní way of being or living well (Melià, 1988; PADEP/GTZ, 2002; Wahren, 2011a). The rich semantic nature of this concept was observed by Montoya in 1939 to span "the mode of being, the mode of acting, the system, the law, the culture, the norm, the way of behaving, the habits, the conditions, the customs" (qtd in Melià, 1988, p. 29).

Writings on Guaraní culture in the Bolivian lowlands have connected the values associated with ñande reko, in particular group collaboration and reciprocity, to various domains of Guaraní life, including politics, economic production and relations with the environment. In Guaraní political practice as discussed above the reciprocal act of speaking plays a central role. Melià (1988) explains, "The communal assembly can be considered as a form of generalized reciprocity in which what is communicated is the freeing gift of the spoken word" (p. 66). This diverges from Western understandings of consensus democracy as the focus is on the activity rather than the outcome, and group consensus is not always reached (see Lowrey, 2011).

Guaraní understandings of reciprocity have been distinguished from common rules of barter or commodity exchange. Wahren (2011a) explains, "Gifts and invitations offered among Guaraní do not have a clear form of reciprocity … it is the act of exchange itself that is important and not the notion of profit or accumulation" (p. 206). Cooperative work systems, called *motiro* (see Hirsch et al., 2016; Melià, 1988; Wahren, 2011a), reflect this understanding of reciprocity as the activity of collaboration rather than the exchange of goods or services. Collaborative labour is not only important for household or agricultural work, but, as found in this research

(see Publication 3, *Cultural revitalization and communal living* section), can also underly the significance attached to arts and crafts production.
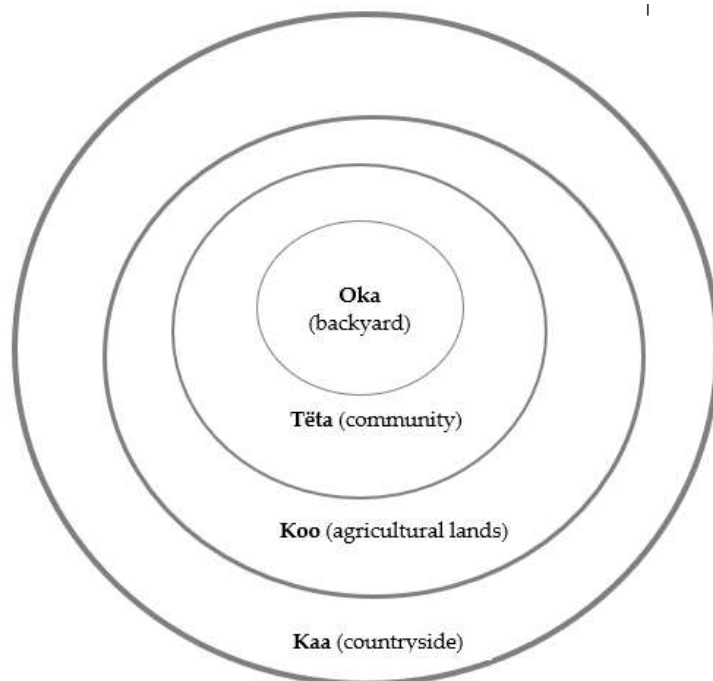
Figure 4. The concept of space among Guaraní as described by Hirsch et al., 2016. Adapted from Hirsch et al., 2016, p. 11.

The value attached to group collaboration has been related to the ways that communities are physically organized in space. Historical writings describe a communal form of land ownership among Guaraní: agricultural land was designated for use by individual families by decisions made in assemblies, but these designations were not considered a form of individual ownership (Melià, 1988). Researchers have described how the Guaraní household intertwines with the social sphere through the backyard—the 'oka'—which is used for gatherings with family and friends, meetings or celebrations (Hirsch et al., 2016; Melià, 1988).

Hirsch et al. (2016) describe the concept of space among Guaraní in concentric circles, in which the space of the family (oka) interconnects with the wider space of the extended family or community (teta), the agricultural lands (koo) and the countryside (kaa) (see Figure 4). They explain, "With these circles, daily life, belief systems and community practices are intertwined" (p. 11). In the present research,

the oka was the chosen place for most interviews (see Publication 3 and 4) and a common place for informal meetings and exchanges between community members.

Ñande reko in this research was most often spoken about by leaders and connected to the values of togetherness and unity. Promoting these values among some leaders was considered a fundamental political goal. Similarly, Wahren's (2011a) research with Guaraní in Argentina and Bolivia found that ñande reko functioned as a guide for political action. He explains,

> It [ñande reko] appears as a political projection and not only as a recuperation of ancestral traditions. This concept emerges as a political alternative to the idea of 'development' imposed by the colonial/state/capitalist matrix for indigenous peoples. It juxtaposes ancestral notions with the current economic, cultural and political practices of the Guaraní people (p. 304-305).

2.2.3. Yvy marae'y ('The land without evil')

While regional conflicts, economic necessities, and interests in valued metals will have played a role in guiding Guaraní peoples' migratory paths, a principle motivating factor was the mythical or religious understanding of yvy marae'y itself (Saignes, 2007; Wahren, 2011a; Zambrana Cachari et al., 2009). Saignes (2007, p. 82) emphasizes the religious aspect of these migrations, which rather than aiming to find a particular place, commodity or type of earth, sought to overcome the imperfections of the human condition. He explains, "If we take into consideration the various factors (like the attraction of Andean metal...) we cannot reduce this ambitious search from the mythical realm to merely a lust for material things" (p. 35).

This history of migration and motivation for social change continues to influence contemporary characterizations of the Guaraní way of life. In Guaraní political circles in Bolivia, yvy marae'y is often considered an ongoing search motivated by the social and political ideals of ñande reko. That is, rather than seeking out a particular place, it reflects ongoing efforts to construct a perfect society (Ruiz Fournier et al., 2013). According to a departmental leader of the Asamblea del Pueblo Guaraní,

> The Land without Evil is the greatest aspiration in which the people always have dreamed of living well... It is what always the Guaraní have dreamed to be, with no lack of food or poor health, where all is well with education, land, production of the land, infrastructure and natural resources... It is to think that the people are united... That has always been said, that the Guaraní search for the Land without Evil, the unity of the people and the good life (qtd. in Wahren, 2011a, p. 306).

The meaning of yvy marae'y is intertwined with the Guaraní understanding of well-being as togetherness. Zambrana Cachari et al. (2009) explain that the concept of yvy marae'y, while often connected to the search for the perfect land, "is not detached from the values of everyday living such as invitations and reciprocity" (p. 4).

The Glew community's documentation of their history considers Guaraní migratory paths an important part of their heritage as well as their rights to their settled lands. The document explains, "The Guaraní historically relocated to zones that our *Guarajhi* (sun god) shone brighter for our lives." As characterizations of yvy marae'y among members of the Asamblea del Pueblo Guaraní in Bolivia, the Glew community's document characterizes Guaraní migrations as a search for a certain

lifestyle—i.e. the life where the sun god shines brighter—rather than a particular place or possession.

2.3. Contemporary politics

In what Quijano (2000) has termed the 'coloniality of power' the hierarchical structure instituted during colonization infiltrated Latin American society such that indigenous peoples continue to be systematically marginalized. Quijano argues that the ongoing situation of colonial domination is embedded in the concept of race, which surfaced during colonial times to produce new identities—'blacks', 'mestizos', 'indians'—that were conceptualized as inferior 'others' to the European colonizers. Indigenous movements in Latin America since the 1980s have endeavored to overturn embedded colonial power systems and obtain political, economic and cultural autonomy (Bengoa, 2009; Escobar, 2010).

Bengoa (2009) describes the "indigenous emergence" in Latin America in two phases. In the first phase with its heyday in the 1990s the focus was on gaining ethnic recognition and autonomy. At the core of the claim for autonomy included what had become a contradictory assumption in many indigenous contexts—that indigenous groups are traditional, homogenous ethnicities with bounded, identifiable territories. Substantial segments of indigenous populations had resettled in urban regions where they had reappropriated and integrated their cultural lifestyles in these urban settings. Interest arose in taking ownership over or becoming involved in public institutions at the municipal, regional or national level. This second phase of indigenous movements widened the concept of ethnicities and drew attention to the pluricultural background of nation states. The

central theme of indigenous politics across Latin America in the 21st Century was no longer about obtaining the autonomy needed to practice traditional cultures but was about breaking down the social and political divide that had excluded indigenous peoples from being both indigenous and citizens of their state. It was about exhibiting pride in indigenous ethnicities as significant political and social agents within contemporary nation states (Bengoa, 2009).

Indigenous resurgences in Latin America should thus not be seen as collective actions against globalization or modernization—or presumed to have interest in revitalizing traditional lifestyles— but rather, as individual and diverse processes that shift power structures and the positioning of indigenous peoples within wider social and political relations (see Maldonado Rivera, Reyes Velásquez, & del Valle Rojas, 2015). The contemporary situation of Guaraní peoples in Argentina and Bolivia has been shaped through two distinct histories of nation building. Indigenous resurgences in Bolivia have been influential across the continent (see Bengoa, 2009; Escobar, 2010). Among Guaraní in Argentina, Bolivia is often considered ahead politically, and the Asamblea del Pueblo Guaraní is looked up to as a model.[7]

2.3.1. Indigenous resurgence in Bolivia

Responding to a wider trend of indigenous politicization in Latin America, the 2001 census in Bolivia presented for the first time in the country's history a question on indigenous orientation (Schkolnik & Popolo, 2005). When sixty-two percent of the

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[7] Personal observation based on attendance at indigenous events and political meetings in Buenos Aires province in 2013 and 2014 (see also Hirsch, 2003).

population auto-identified with an indigenous group, the unjust concentration of political and economic power in the hands of a white minority became grossly apparent. With the election of Evo Morales to office in 2005, the term 'decolonization' spread through political discourses in Bolivia, developing a political and discursive structure in which previously marginalized voices can be valued (Howard, 2010). The 2006 National Development Plan aimed to overturn "a long period of imposition and domination by colonialism, deepened through the last 20 years of neoliberalism" (p.1) and "remove from its roots the social inequality and inhuman exclusion that has oppressed the majority of Bolivians, particularly those of indigenous origin" (p.3).

Following significant upheaval throughout the country, a new Constitution was ratified in 2009, which lays out the framework for the new 'plurinational state', presenting cultural diversity as a founding principle and enabling indigenous self-governance (see also Rocabado, 2010). Significant decolonizing policies in Bolivia include the Education Law "Avelino Siñani-Elizardo Pérez" of 2010 which lays out principles for intercultural education including the obliged use of an indigenous language as the primary or secondary language of instruction. In addition, the 2011 General Law of Telecommunications and ICTs reserves 17% of radio frequencies for indigenous peoples and other minority groups.

The Guaraní are recognized by the national government as the fourth largest indigenous group, with the 2012 national census tallying close to 97,000 individuals, largely residing in the three most Eastern departments of Tarija, Chuquisaca and Santa Cruz (INE, 2015). Compared to the highland departments of La Paz and Potosi where Andean indigenous peoples—primarily Aymara and

Quechuan peoples—form the majority, the Guaraní are a minority population. In each of the three provinces of Tarija, Chuquisaca and Santa Cruz, Guaraní form less than three percent of the total population and are outnumbered by Quechuan indigenous peoples. While Andean indigenous cultural symbology—the Wiphala flag in particular—permeates Bolivian politics in general, lowland populations have actively worked to distinguish their histories, cultural practices and claims from the presumed Quechuan/Aymara mainstream. The majority population of the eastern lowlands, a mestizo group—the Camba—have sought recognition for Bolivia's eastern departments as an independent state, at times drawing on Guaraní cultural symbology to advance their claims on the non-Andean context of the region (see Fabricant, 2009; Lowrey, 2006). Meanwhile, indigenous peoples in these regions have initiated their own pan-indigenous organizations to represent the indigenous groups of the eastern lowlands.[8]

In Villamontes municipality, indigenous peoples form a minority 21 percent of the population by the 2012 national census estimates. The Guaraní were identified as the most populous indigenous group in the municipality with 2843 individuals, forming 7 percent of the population,[9] followed by Weenhayek peoples (2738

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[8] In 1982 Isoseño Guaraní peoples played a central role in intiating the Confederación de Pueblos Indígenas de Occidental Bolivia (CIDOB) (see Lowrey 2006) which presently represents over 30 indigenous groups in the eastern lowlands (Coica.org, n.d.). The Asamblea del Pueblo Guaraní formed in 1987 is a member of the CIDOB.

[9] While the 2012 census results and procedure regarding the question on indigenous identity have generated controversy (see Albó, 2012; Schavelzon, 2014), the number of Guaraní peoples in Villamontes municipality tallied by census data is similar to the Asamblea del Pueblo Guaraní's estimates. A survey conducted by the Departmental Asamblea del Pueblo Guaraní in Tarija in 2008 found 2224 individuals that identified as Guaraní and were affiliated with the Asamblea del Pueblo Guaraní (Zambrana Cachari et al., 2009) and a 2013 report by Comunidad Estudios JAINA—a non-profit organization that works closely with the Departmental Asamblea del Pueblo Guaraní in Tarija—estimated the Guaraní population in Villamontes at 2666 (Ruiz Fournier et al., 2013).

individuals) and Quechuan peoples (1085 individuals) (INE, 2015). While the constitution for the plurinational state calls for increased indigenous representation and influence within municipal and regional level governments, and lays out legal routes through which municipal governments and territorial lands can be converted into indigenous self-governments, these opportunities are most relevant in the highland regions where many municipalities have an indigenous majority population (see Tockman et al., 2015). Indigenous peoples of Tarija Department continue to be excluded from regional and municipal governments: there is no official recognition of the region's indigenous languages and no clear process for consultation with the indigenous organizations of the region (Ruiz Fournier et al., 2013).

At the community level in Villamontes, Guaraní peoples faced situations of cultural and social exclusion. Of the four communities that were composed entirely of Guaraní families, three lacked basic services such as health centers, schools, electricity, water supply, public transport and/or mobile network coverage. In many cases youngsters or whole families resided in another community during the week to be closer to a school. In large, mixed communities, Guaraní families were dispersed among campesino families and lacked influence on community planning. Many informants explained that the schools did not teach the local Guaraní dialect and that they could not access the agricultural lands surrounding their community. Among those in the Villamontes communities, the pluricultural policies in Bolivia had generated renewed interest in Guaraní language learning and in exhibitions of cultural identities but had not brought relevant changes to the education system nor to their marginalized political situation.

2.3.2. Indigenous invisibilization in Argentina

Nation building in Argentina was based around a European identity. Indigenous peoples were invisibilized and represented in government documents and school textbooks as marginal groups of the past and outsiders to the nation state (Gordillo & Hirsch, 2003). Urban indigenous Argentineans have been particularly negated as the imaginary of indigeneity in Argentina is strongly associated with the barren lands of the north and south (Valverde et al., 2014). This runs counter to the fact that an estimated 31 per cent of Argentina's indigenous population resides in Buenos Aires province (INDEC, 2014).

In the 1970s, indigenous collectives formed firstly in Buenos Aires and later in other regions of the country and beginning in the 1980s a number of indigenous rights movements were mobilized. A uniting factor of these movements has been the fight for state recognition. While the 1853 Argentinean Constitution spoke of indigenous peoples as outside of the nation state, an important achievement of indigenous movements in the 1990s was a constitutional reform that recognized indigenous peoples as Argentineans with some cultural and territorial rights (Gordillo & Hirsch, 2003). In more recent years, indigenous movements in Argentina have also taken up interest with rights to 'Communication with Identity.' During the 2009 Audiovisual Communication Services Law's public consultation phase, indigenous representatives across the nation spoke up at forums claiming their rights to self-representation (see Guzmán, 2011; Mignoli, 2010). The resulting Law reserves one AM, one FM and one television frequency for indigenous peoples in each locality they reside.

The leader of the Glew community had been involved in the Communication with Identity movement and had worked to obtain the first indigenous FM radio license in Greater Buenos Aires. Those in the Glew community hoped their radio station would help them to raise awareness about their community and about Guaraní peoples' contemporary ways of life. Discrimination of indigenous peoples is widespread across Argentina (see Mouratian, 2014) and had been experienced by many in the Glew community. Informants explained that history classes at the local school reinforced ideas that indigenous peoples were traditional and barbaric peoples that were no longer present in Argentina today. The leader advanced community media projects, including a communications tower with a community Wi-Fi signal and cultural webpages, with the intent of shifting their marginalized position. As he put it, "All this work we need to do [i.e. creating their own media channels and contents] is so that we can be actors. It is to give the people, the society, the message that we are political subjects."

3

Indigenous media research

Indigenous media research, while considered a discipline on its own (McCallum & Waller, 2017; P. Wilson, 2015), has largely been situated within the academic tradition of community communication and alternative media studies. Community communication and alternative media studies has historically been an interdisciplinary field, employing diverse perspectives—both media focused and society focused—to understand the interrelations of communication media and local communities (Carpentier, 2016). A significant site of interest in this body of research has been the ways that localized social, cultural and political practices shape and transform communication media and develop into forms of action (Rodríguez, Ferron, & Shamas, 2014; Salazar, 2007).

Indigenous peoples around the world have been early communication technology adopters—from radio to Internet webpages—and have strategically developed connections to mitigate their marginalized social position (Budka, 2015; see also Downing, 2011; Landzelius, 2006; Rodríguez, 2001). The mainstay of the indigenous media research field has been the politics of representation surrounding both mass media and indigenous media productions (McCallum & Waller, 2017; see Alia, 2009; Landzelius, 2006; Magallanes Blanco & Ramos Rodríguez, 2016; P. Wilson & Stewart, 2008; Wortham, 2013). This diverse body of research has revealed much variation on indigenous peoples' perspectives, interests and goals in

respect to media technologies, political advocacy and the representation of cultures such that the umbrella term 'indigenous media' has generated some controversy insofar as it suggests uniformity (Graham, 2016; Wortham, 2013).

The following review of indigenous media research draws on studies from around the world and emphasizes diversity in how indigenous peoples have engaged with communication media. Rather than focusing on issues of representation, I adopt a broader understanding of the discipline as any research on the interrelations between indigenous peoples and communication media, which expands beyond community communication and alternative media studies into fields such as development studies, digital literacy studies and social informatics. Based on this diverse body of research, I identify four main interrelating research approaches: the politics of representation; digital inclusion; cultural revitalization; and, technology appropriation. For each research approach, I supply some background on its academic legacy and then consider some of its key contributions to indigenous media research.

3.1. The politics of representation

3.1.1. Mass media representations

Concerns about 'global' ICTs and 'local' cultural identities arose in the 1970s over the presumed homogenizing influences of foreign, audiovisual contents (Fejes, 1981; Morley & Robins, 1995, p. 44). These concerns arose alongside debates on the power asymmetries of media production, which drew attention to the dominance of transnational media corporations. The Americanisation and marketisation of media was revealed as imperialistic, perpetuating the economic and social

domination of the global North (Beltrán & Fox de Cardona, 1980; Mattelart, 1974). The 1980 UNESCO commissioned 'MacBride Report' documented the imbalanced flow of communication media and set out principles for a New World Information and Communication Order (NWICO). The NWICO was never successfully implemented, being overrun by dominant ideologies of deregulation and privatisation on the backdrop of lobbying by the World Trade Organisation (Mastrini, 2005). Yet, it raised important debates on the top-down structure of media dissemination, the exclusion of developing world populations, and the empowering potential of communitarian media (Rodríguez, 2009).

Research in indigenous contexts around the world has drawn attention to the role of mass media in propagating negative, historicized or exotified stereotypes of indigeneity. An important theme in much of this research is the invisibilization of indigenous peoples' contemporary political and cultural presence. In Latin America, mass media has been particularly criticized for reinforcing the hegemonic power structures of nation states in which indigenous peoples' rights are negated (Basanta, 2013; Muñoz, 2010). Analyses of mass media relations with indigenous peoples in Australia have shown how the media contributes to the exclusion of indigenous peoples from public debate and perpetuates racism (McCallum & Waller, 2017). Latimore et al. (2017) explain of mass media in Australia that "media coverage and reporting practices serve to sustain racist ideologies, and … result in portrayals of indigenous people and issues as a source of conflict, blame and deficit" (p.2).

The perpetuation of racism towards indigenous peoples in and through mass media has been found to influence self-perceptions. Leavitt et al. (2015) argue that societal

and self understandings of indigenous peoples are not only influenced by negative portrayals but also by the deficit of representations of indigenous peoples as contemporary figures. They conducted an Internet image search for the terms 'Native American' and 'American Indian' and found that almost all results were historical representations of indigenous peoples. Knopf's (2010) research in Canada also points to the role of mass media in perpetuating racism and shaping indigenous peoples' self-perceptions. She argues that the colonial gaze of mainstream media reinforces the inferiority of indigenous cultures and religions and portrays indigenous peoples as "second class citizens."

Much research on mass media in indigenous contexts has drawn attention to the way that the racism and invisiblization perpetuated by mass media channels has incited local interests in community media productions (Alia, 2009; Butler, 2018; Knopf, 2010; Latimore et al., 2017; Levo-Henriksson, 2007; Muñoz, 2010).

3.1.2. Indigenous media productions

Indigenous video productions have been an important way for indigenous peoples to invert the colonial gaze and go beyond exotified and stereotyped representations of indigeneity (Cardús i Font, 2014). An early example of indigenous video productions is Terence Turner's work with Kayapo indigenous peoples in Brazil. Turner (1992) describes how Kayapo appropriations of video equipment beginning in 1985 went beyond the confines of ethnographic film: rather than being represented as the indigenous 'other', Kayapo videographers presented their own cultural and political standpoints, and with their own editing and aesthetic styles. Silva-Muhammad (2015) explains, "the Kayapo first experiment with video projects

as an approach to performing ethnographic documentation of themselves for themselves became part of a larger project of self-representation and construction of the Kayapo's identity as cultural and political subjects" (p. 7).

An important theme among much indigenous video research in Latin America and elsewhere has been the cultural and political potential this media has brought for indigenous peoples (Magallanes-Blanco & Ramos Rodríguez, 2016; Mora, 2015; P. Wilson & Stewart, 2008; Wortham, 2013). Graham's research (2016) with A'uwe-Xavante peoples in the 1980s and 90s in Brazil found that video technologies can help communities to achieve greater "representational sovereignty" particularly when projects are locally controlled and independent from the objectives of funding sources. In what Ginsburg (1994) has called "embedded aesthetics," the local significance of many indigenous video productions is not primarily aesthetic but relates to their "capacity to embody, sustain, and even revive or create certain social relations." Salazar (2016) shows how Mapuche peoples in Chile have developed their own narrative through video productions as a form of cultural and political activism in which they have performatively displayed their ethnic citizenship and shifted the way they are presented in official discourses.

A common strategy in indigenous media productions has been the weaving together of past and contemporary cultural symbols to self-consciously transform, diversify and visibilize contemporary meanings of indigeneity (Ginsburg, 2008; Srinivasan, Enote, Becvar, & Boast, 2009). Indigenous peoples around the world have fought to obtain their own television networks (Bell, 2008; Meadows, 1995) and radio stations (Alfonso Murillo, 2011; Magallanes-Blanco & Ramos Rodríguez, 2016; Mignoli, 2010; Rodríguez, 2001) to fight back against the marginalizing role of

mainstream media, bring awareness to their cultural standpoints, and advance political agendas. The emergence of 'comunicación indígena' in Latin America has made significant strides in overcoming a colonial mediascape which has largely negated and invisibilized indigenous peoples' rights and contemporary presence (Agurto & Mescco, 2012; García Mingo, 2016; Maldonado Rivera et al., 2015).

3.1.3. Self-representation and Internet activism

Alongside the obtainment of radio and television frequencies, the Internet has been an important way for indigenous peoples to gain self-representation. An important event in indigenous Internet mobilizations was in the mid-1990s when the Zapatista National Liberation Army's used the Internet to propagate their claims against the Mexican government. This re-shaped the nature of the conflict to a nonviolent protest in which they gained support from international and national non-governmental organizations (Ronfeldt, Arquilla, Fuller, & Fuller, 1998). Studies across Latin America have shown how indigenous organizations have benefited from having their own websites to represent themselves—rather than being represented by other organizations—through which they have advanced decolonizing agendas (Basanta, 2012, 2013; González Lorenzo, 2009; Monasterios, 2003). Basanta (2013) identified three main uses of the Internet among indigenous organizations in Argentina: first, to advance political and cultural agendas; second, to disseminate their own media and visibilize contemporary indigeneity; and third, to connect with other organizations and indigenous groups.

An important use for the Internet among indigenous organizations around the world has been the development of interregional, international and

intercontinental networks to share knowledge, advance political and cultural mobilizations, and generate more clamour around important issues (Ginsburg, 2008; Landzelius, 2006; Sandoval Forero & Mota Diaz, 2007; Soriano, 2012; Virtanen, 2015).[10] These networks have been part of what is sometimes seen as an international indigenous movement. International organizations and events such as the United Nations Permanent Forum on Indigenous Issues and the Cumbre Continental de Comunicación Indígena del Abya Yala have advanced shared rights and principles for indigenous peoples. However, there remains great diversity in indigenous peoples aims, perspectives and activities in respect to their histories and contemporary situation which cannot be subsumed in a single category (de la Cadena & Starn, 2007; Ginsburg, 2008; Rodríguez & El Gazi, 2007). Carlson et al. (2017) warn that universalizing speak on indigenous peoples supports ready-made understandings of 'the indigenous problem' and defers national and regional governments' responsibility to listen and respond to the particular claims made by indigenous groups.

In recent years, online sharing platforms have enabled indigenous peoples to develop and advance specific claims against governments and other institutions. In 2012, the Idle No More movement mobilized over Facebook and Twitter by four women in Saskatchewan, Canada gained nation wide support in the protest against a government bill (Tupper, 2014). In Australia, the #SOSBLAKAUSTRALIA movement, also initiated by a group of women, used social media to gain support

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[10] International networks were also present in the two research contexts of this thesis: Guaraní leaders in Tarija, Bolivia had convened with indigenous representatives from Yukon, Canada to exchange knowledge and political progress on managing inland river habitats; and, the community leader in Glew had partaken in an international indigenous leadership educational program in Europe sponsored by the United Nations.

in advancing claims against government cutbacks to basic services in indigenous communities (Carlson & Frazer, 2016). On a smaller scale, McLean, Wilson and Lee (2017) describe how indigenous social media users advanced a campaign against a high school sports team with racist connotations through which they successfully shifted public opinion. When social media campaigns have not been successful in bringing recognized political change, research has shown that the collective action involved in these movements has brought worth to local communities by generating recognition, shared feelings of 'survivance' and community healing (Carlson et al., 2017; Parkhurst, 2017).

3.2. The indigenous 'digital divide'

3.2.1. Digital inequalities and digital inclusion

Building on the field of technology diffusion, the term 'digital divide' first appeared in the early 1990s, and refers to a growing body of research on variations in ICT access and use across countries, regions or social strata (Hilbert, 2010). Insofar as the problem was initially conceptualized as an access divide, in what has been called the first level digital divide (Scheerder, van Deursen, & van Dijk, 2017), the solution was increased technology diffusion. The term 'digital inequalities' has been used to broaden the meaning of the digital divide to account for the inequalities of use among those with access (DiMaggio & Hargittai, 2001). This marked the start of the so-called second level digital divide which has drawn attention to the wide variety of skills needed to effectively use communication technologies, from information literacies to technical competencies (e.g. A. van Deursen & van Dijk, 2010).

Studies on use patterns have not only considered skills levels but also the relative affordability of services and user creativity. What Selwyn (2004) has termed "meaningful access" to ICTs relates to users' abilities to control and manipulate features and contents. Many studies have accounted cost-reducing appropriations of communication technologies by low-income users, such as uses of mobile telephony for 'beeping' (Castells et al., 2007; Donner, 2007). Financial constraints for some users can be extreme, and despite innovative appropriations, the mobile's development potential can be significantly reduced (Sey, 2010). More recently, speak has emerged about a third level digital divide which concerns the outcomes of digital technologies and the variations among users in what they can gain from their ICT use (Scheerder et al., 2017; A. J. A. M. van Deursen & Helsper, 2015).

The term 'digital inclusion' emerged amongst digital divide speak in the late 1990s. As governments in the West began to shift national information to digitized formats, available to citizens through the Internet, policies and research studies arose on the accessibility of digitized information (e.g. U.S. Department of Commerce, 2000). As a more encompassing term, digital inclusion has not only concerned access or ability of use but also cultural appropriateness (e.g. M-Inclusion, 2012). Some studies have found inequalities in mobile communication relating to the local relevance of the services. For example, French designed mobile services can cause cross-cultural issues for West-African immigrants (Bationo-Tillon, Sangaré, and Ledunois 2014) and interface languages have been found to reduce quality of use among farmers in Bangladesh (Dey, Newman, & Prendergast, 2011). Along these lines, the World Summit on the Information Society (2005) endeavored to create a "people-centred, inclusive and development-oriented

information society" (p.1) and to promote the "development and use of local and/or indigenous languages in ICTs" (p.4).

3.2.2. ICT access and use in indigenous communities

Studies around the world have accounted how ICT access in indigenous communities falls short of that of the general population. As Dyson et al. (2007) put it in their edited volume, *Information Technology and Indigenous People*, "In an age dominated by information technology, indigenous peoples have often found themselves separated by the digital divide." Households in Argentina that had at least one member that identified as Ava Guaraní in the 2010 census were 57 per cent less likely to have a personal computer, 61 per cent less likely to have a fixed line phone and 17 per cent less likely to have a mobile phone (own calculation based on INDEC, 2014). In Bolivia, individuals that identified as Guaraní in the 2012 national census were 62 per cent less likely to have a personal computer, 36 per cent less likely to have a fixed line or mobile phone, and 96 per cent less likely to have Internet service in their household (own calculation based on INE, 2015). Research elsewhere shows similar trends. For example, Fiser's (2010) study on broadband availability in Canada estimated that 55 per cent of households in northern and indigenous communities had access to residential broadband compared with 94 percent in the national profile. Furthermore, this study found that indigenous social enterprises have been important to provide Internet services in regions ignored by commercial operators.

ICT use barriers among indigenous peoples range from lacking infrastructure in remote communities to users' digital skills levels and the cultural appropriateness

of technologies. As with digital inclusion studies in general, studies in indigenous contexts have drawn attention to the importance of digital skills training to enable effective access to ICTs. Camargo and Paredes (2012) argue that ICT access on its own is another form of social exclusion for many indigenous peoples, and that projects are needed to assist indigenous communities to use ICTs in ways which support local cultural and political aims. López-Vicent et al. (2014) also argue for the importance of digital literacy training. Their collaborative work with Mapuche peoples in Chile found that the implementation of a social media training program was effective to provide community members with an appropriate skillset to use social media in ways which contributed to community and professional advancement. Glowczewski's (2007) research with indigenous Australians demonstrates the importance of aligning digital training programs with local ontologies and epistemologies. She worked with indigenous artists to develop ICT sharing platforms as 'dreaming networks,' building on traditional understandings of space-time; in this way, new social practices of sharing over ICTs began to emerge, which enabled ICTs to be meaningful within local cultural maintenance efforts. Mills et al. (2016) also argue for the importance of participatory research to develop and re-envisage indigenous ways of learning in the making of digital training programs.

Watson (2015) argues for the importance of more qualitative research on barriers to technology uptake among indigenous communities, which she found in Australia related to issues with billing systems and connectivity, as well as lack of awareness on telecommunication rights. Dyson and Brady's (2009) research on mobile telephony use among indigenous peoples in Lockhart River, Australia drew

attention to the way ICT uptake is shaped through community members' choices as well as the cultural appropriateness of available contents and services. They identified three main areas that would improve mobile services in the communities: telecommunications policy to extend coverage and reduce cost burden; training provision on service choices and usage costs; and, the development of locally relevant mobile applications and contents.

3.2.3. ICTs and self-determination

While development oriented literature often assumes that increased ICT adoption in indigenous communities is an end goal (e.g. Diego Soto, Flores, & Siliceo Murrieta, 2018), collaborative studies with indigenous communities have drawn attention to the diversity of perspectives and preferences indigenous peoples have in respect to ICTs, which sometimes means that ICTs are not wanted or that the available ICTs are not considered appropriate. Ginsburg (2008) criticizes the evolutionary perspective inherent in the concept of the 'digital age' in which individuals and communities that have chosen not to use ICTs are presumed to be 'behind.' Canadian and Australian governments in the 1970s and 1980s moved ahead with launching communication satellites over remote areas which brought mainstream television contents into indigenous communities without any kind of consultation. Rodriguez and El Gazi (2007) explain, these indigenous communities "never had the opportunity to discuss whether they wanted these technologies in their territories, much less how they wanted to use them" (p.455). As a counterexample, they describe how indigenous communities in Colombia were consulted with before the implementation of a radio project. This process revealed the diverse local needs and wants in respect to radio technologies. While some

communities welcomed the opportunity for community radio others put stipulations on how the radio would be used or they rejected the project completely. Similarly, Rennie et al.'s (2016) research on Internet uptake among indigenous communities in Australia describes how (non-) adoption was often a group digital choice based on whether the conditions of the Internet met community interests and needs.

The incongruity of available ICT services with local needs and wants in some indigenous contexts has incited efforts to takeover service management and provision. Indigenous organizations have not only carved out spaces on the Internet, launching websites and pages on mainstream social networking sites (Hernández & Calcagno, 2003; Landzelius, 2006; Sandoval-Forero, 2013; Sweet, Pearson, & Dudgeon, 2013), but also have developed their own digital communication services. Examples of such initiatives led by indigenous organizations include a collaborative online platform for software development in Quechua language (López-Vicent et al., 2014), an alternative social media service in Australia (IRCA, 2016), and community-owned mobile telephony services in Mexico (González, 2018; Magallanes-Blanco & Rodriguez-Medina, 2016) and Northern Canada (O'Donnell et al., 2013). In addition to the locally owned mobile network service, indigenous organizations in Northern Canada instigated their own social media web space called 'myknet.org'. This web space which has been primarily used for social networking has generated sentiments of belonging and ownership, and is particularly valued among users for facilitating forms of expression and self-representation not possible on mainstream social networking sites (Budka, 2015).

3.3. ICTs and cultural revitalization

Cultural diversity and heritage revitalization have been cemented as international issues recognized by the World Summits on the Information Society (2003, section C8; 2005, article 93), the United Nations Educational, Scientific and Cultural Organization (2001, 2013), the United Nations Sustainable Development Goals (United Nations, 2015, target 11.4), and the United Nations Declaration on the Rights of Indigenous Peoples (2007, articles 11.1, 31.1). Likewise, there has been much interest in the potentials of ICTs to aid in the revitalization of indigenous languages and cultural traditions. As much of this work has taken a development perspective, I first provide some background on development studies.

3.3.1. Development aid and the participatory turn

Many development initiatives tend to employ the Eurocentric models and value systems which are criticized by decolonizing research (see MacEwan, 2009). Joel Wainwright (2011) argues that development projects, regardless of intention, operate as a continuation of colonization due to the asymmetrical power relations which inevitably result in the disregard of indigenous values. Similarly, Arturo Escobar (1991) criticized the development industry for reducing plural cultural realities to an economic situation, 'poverty,' and promoting 'progress' as defined by the capitalist worldview. Such critiques relating to the Eurocentrism of development aid work have had some influence on development studies and there has been an increasing interest in participatory development.

Participatory development emerged as a buzzword in the 1970s: development practitioners began to institute processes of local participation, develop interest in

cultural relevance, and involve anthropologists in intervention design (Escobar, 1991). Numerous studies have criticized top-down approaches to development for both ethical and pragmatic reasons, where partnership building with beneficiaries has been linked to the increased sustainability of interventions (see Unwin, 2009). However, many participatory approaches have failed to realize a decentralized model and to take seriously local knowledge and values (Cooke & Kothari, 2001; Guijt & Kaul, 1998). In 2005, Cornwall and Brock argued that the term 'participation' had lost its subversive power.

The term 'ICTs for Development' (ICT4D) emerged in the 1990s alongside the Millennium Development Goals when government and non-government actors became interested in the potential of ICTs to boost development targets (Heeks, 2008a). The Millennium Development Goals (2000) and the ensuing Sustainable Development Goals (2015) both aim to increase ICT access. Mobile telephony has proven the most successful in realizing this target (United Nations, 2012), with penetration rates estimated at 98 per cent in developing regions (ITU, 2017). *The Economist* (2005) was not alone in its view that "the mobile phone is the technology with the greatest impact on development." Numerous studies have pointed to the important implications of mobile telephony for economic, health and education development as well as for reducing digital inequalities due to ease of access, simplicity and affordability (see Donner, 2008; Kumar & Svensson, 2012; Niang, Scharff, & Wamala, 2014; Svensson & Wicander, 2010; Zacarias & Wamala-Larsson, 2016).

Much early Mobiles for Development (M4D) and ICT4D research adopted a classic approach to development and concerned the impacts of ICTs on predefined

development goals. In more recent years, interests in participatory development have also shaped the communication and development research field. Rather than 'communication for development,' interest arose in 'communication for social change.' The latter "is a way of thinking and practice which puts people in control of the means and content of communication processes" (Dagron & Tufte, 2006, p. xix). Participatory practices intend to go beyond the technology diffusion model to arrive at collaboratively developed ICT solutions. Along these lines, knowledge sharing within and between developing world communities is important to enable local forms of development, and some ICT4D research has concerned the role of mobile ICTs in enabling local information exchange (e.g. Vitos, Lewis, Stevens, & Haklay, 2013; Yimeng & Chang, 2012).

3.3.2. Indigenous knowledge revitalization

Research on the possibilities ICTs bring for revitalizing traditional knowledge has been carried out both from a classic development perspective, where the safeguarding of traditional cultures is the presumed cultural aim, and with a participatory angle, where practitioners have worked with indigenous communities to devise ways ICTs can assist with locally defined cultural aims. In the first camp, many studies have found that ICTs such as archival databases or communication platforms have enabled indigenous peoples to preserve and disseminate traditional and indigenous language content matter. Owiny et al. (2014) argue that social media servers accessed on mobile phones can provide important opportunities for the preservation and sharing of indigenous knowledge across communities in eastern Africa and should be incorporated into public library services to ensure community access. The Ulwazi Indigenous Knowledge Programme in Durban,

South Africa is an example of such a library outreach project: an open social-network platform for sharing and preserving cultural knowledge can be accessed on mobile phones at the public library. Greyling and McNulty (2011) found that this project successfully facilitated access to digitized indigenous knowledge contents and provided the opportunity for knowledge exchange.

Some non-intervention studies have also evaluated the extent to which ICTs enable/inhibit the sharing of traditional cultural knowledge. SanNicolas-Rocca and Parrish (2013) conducted a survey on everyday social media practices among Chamorro peoples in Guam and found that they were using Facebook to learn about and share traditional cultural knowledge. Harris and Harris' (2011) research on cultural transmission among Kelabit peoples in Malaysia found that the social influences of family, friends, the church and the school were more important for learning and sharing cultural knowledge than ICTs; yet, compared to television and radio, the Internet played a more important role in Kelabit language learning. Villacrés Roca (2016) considered the influences of digital cultures on acculturation among Kichwa in Ecuador; in this context, cultural loss was not directly related to engagements with ICTs and external media but rather was intertwined with wider social contexts.

Taking a much different perspective, Otenyo (2017) argues that the proliferation of ICTs combined with development interests in documenting traditional cultures has exacerbated the marginalized position of Maasai peoples in Kenya. International organizations have presumed that Maasai culture is under threat and implemented ICT projects without local consultation; in effect, these projects have reinforced the wider economic and social contexts that silence Maasai peoples' contemporary

perspectives, interests and rights to self-representation. Otenyo (2017) explains, "While archiving traditions is seen as 'empowering' the tradition bearers... the question becomes who controls the narrative about the Maasai?" (p. 10). The proliferation of stereotypes on traditional indigenous cultures form part of what many indigenous peoples have fought against, particularly evidenced in indigenous peoples' use of media for 'image management' (Landzelius 2006; Srinivasan et al. 2009; see also, Ota 2004; Soriano, 2012) in which they have purportedly recreated, diversified and visibilized contemporary conceptions of indigeneity.

Not all cultural revitalization research has presumed that the safeguarding of traditions is the local aim. A number of studies have collaborated with indigenous organizations and community members to develop ICT projects which derive from and reflect the particular cultural interests of the group (see Ormond-Parker, Corn, Fforde, Obata, & O'Sullivan, 2013). Sabiescu et al. (2012) argues for the importance of participatory cultural projects, which she describes as involving phases of consultation, cooperation and collective action; in this way, community members can gain opportunities to express themselves using ICTs while also obtaining a sense of ownership over the project. Singleton et al. (2009) worked with indigenous community members in Australia to develop an ICT project in line with their local aims; the resulting project, while also containing an element of knowledge transmission, reflected elders' interests in building on youths' ICT skills to support community economic development.

3.3.3. Technical architectures and indigenous epistemologies

Much early anthropological research with indigenous peoples resulted in the categorization of cultures and ethnicities (Metraux, 1946; Murdock, 1951; see also Duarte & Belarde-Lewis, 2015), and in many cases, knowledge repositories on indigenous languages and material cultures were created without community consultation (see Ormond-Parker et al., 2013). In recent years, there has been interest in restructuring indigenous knowledge repositories so that they reflect local forms of cultural representation (see Geismar, 2013). Gumbula et al. (2013) describe the work of a Yolŋu elder on restructuring the University of Sydney, Australia archives on Yolŋu history and culture to not only facilitate community access but also to ensure that the inclusion of photos and other documents reflect Yolŋu principles on what can and cannot be shared. Geismar (2013, p. 273) explains, "the open circulation of images and objects and information may, in fact, work against local understandings of the appropriate use of museum collections."

The disharmony between indigenous ways of knowing and digital technology design has been a major challenge in the use of ICTs for cultural revitalization (Oppenneer, 2009). Digital storytelling is one way that practitioners have developed alternative forms of digital knowledge production. For example, Iseke (2011) has worked with indigenous elders in Canada on teaching remembrance through digital storytelling projects using an indigenous knowledge framework of 'witnessing'. Christie and Verran's (2013) research in Australia has explored how indigenous peoples can use Western technologies without compromising the authenticity of indigenous knowledge forms. They collaborated with indigenous peoples in Australia to develop modes of using digital video technologies that enabled participants to

'perform' knowledge which aligned with local knowledge practices rather than the Western understanding of knowledge as representation (Verran & Christie, 2007).

Duarte and Belarde-Lewis (2015) argue that an essential part of decolonizing indigenous knowledge archives is to go beyond the Western assumption that all knowledge can be represented and documented. She describes how a process of 'imagining' should be incorporated into the making of cultural archives to understand and experiment with indigenous knowledge organization. Along these lines, Srinivasan (2006, 2012b) has worked with indigenous groups in North America to develop new media platforms and websites that reflect the non-hierarchical structure of local epistemologies, and Geldern and Guthadjaka (2017) have collaborated with Yolŋu peoples in Australia to develop a website that harmonizes with Yolŋu epistemological frameworks which are based around performance, multiple perspectives and narration.

3.4. ICT appropriations and cultural practices

3.4.1. Mobile communication and developing world socialities

On a global scale, the mobile is becoming an increasingly important gateway to the Internet, with the number of active mobile broadband subscriptions in the developing world nearly tripling in the past 5 years (ITU, 2017). This has generated a mobile-only Internet culture in many developing world contexts (Donner, 2015). Outside of intervention studies, an important research area has been the complex role of mobile communication in daily lives in the developing world. Studies have found intimate interconnections between economic and social uses of mobile telephony and sociocultural contexts (see Castells et al., 2007; Donner, 2008;

Fernández-Ardèvol & Híjar, 2009; Miller & Horst, 2006; Tenhunen, 2018). As mobile and Internet technologies converge, the nature of mobile services and how they are used in the developing world become increasingly important (Donner, 2015; Zacarias & Wamala-Larsson, 2016).

Bar, Pisani and Weber (2016) argue that mobile technologies are embedded with cultural values through the process of their innovation and production, and must be renegotiated at the local level. Some studies have specifically analyzed the interplay between mobile communication and local cultural practices. Mobile technologies have been found to: reconfirm long-term values of collective action and cooperation (Sreekumar, 2011); encourage authenticity in social relationships (Pertierra, 2005); enable rural users to communicate in more culturally appropriate ways with urban family members (Hahn & Kibora, 2008); express intimacy in ways which reflect traditional cultural values (Lesitaokana, 2018); and, facilitate the exchange of indigenous knowledge (Greyling & McNulty, 2011; Owiny et al., 2014).

However, not all appropriations of mobile telephony in the developing world have been positive. The prevalence of mobile ICTs has been found to intensify financial burden (see Heeks, 2008b) and propagate capitalist content (Gurumurthy, 2009). Furthermore, the way mobile communication interrelates with local socialities can challenge communal social structures. Tall's research on mobile communication in Senegal (2004) found that mobile communication threatens existing social structures by reshaping the private sphere and by providing the opportunity for new power arrangements. Palackal et al.'s longitudinal study in Kerala (2011) found that mobile communication is associated with a reduction in social ties as it facilitates co-presence rather than co-location.

The ongoing regular contact throughout the day facilitated by mobile telephony has in many contexts merged forms of mobile-mediated communication with face-to-face interactions in what Licoppe has called 'connected presence' (2004). For those separated by long distances, mobile communication has played a role in reshaping social relationships. Smartphone use among UK-based Filipino migrants has generated sentiments of what Madianou (2016) calls 'ambient co-presence' with family and friends back home; this has brought emotional consequences in respect to both personal conflicts and feelings of community and belonging. Meanwhile, mobile communication practices among Cameroonian migrants and family and friends back home have been found to accentuate feelings of distance and the loss of community belonging due to changing socialities abroad (Tazanu & Frei, 2017).

The importance of face-to-face interactions in some cultural localities has meant that mobile-mediated communication can generate sentiments of distance or discomfort. Early research on mobile and Internet uptake among general populations found these mediated forms of communication were often considered impersonal or a lesser form of face-to-face communication (Baym, 2010). As new technologies have enabled richer interactions and become integrated in daily lives, mobile mediated communication is often characterized as a necessary supplement to—rather than diminished form of—face-to-face communication (Madianou, 2016). This, however, may not be the case in all cultural contexts. Featherstone (2013), for example, emphasizes the ongoing importance of face-to-face communication for Yarnangu indigenous peoples. Slater's (2013) research in Sri Lanka found that face-to-face communication held an integral cultural position such that "the very *purpose* of phones or radio or Internet was to a large extent to

coordinate the real or imagined assemblage of people and community (original emphasis)" (p. 33).

3.4.2. 'Indigenizing' the Internet

Much indigenous media research initially one-sidedly concerned the impacts of technologies on indigenous communities (Salazar, 2007). There has been growing interest in the ways indigenous peoples influence and culturally construct ICTs to suit local needs and wants. Soriano (2012) explored the processes through which indigenous groups in the Philippines have 'localized' or 'indigenized' online spaces. Indigenous organizations rejected professional looking designs, stayed clear of advertising, devised ways to ensure ongoing management over contents, and ensured planning sessions involved face-to-face communication. Soriano explains, "the use of online technology for these indigenous activists entailed a complex negotiation of opportunities and challenges on the part of the users, to the extent that the Internet in itself is considered as 'an arena of struggle'" (p. 37). She argues that the "low profile techniques" through which indigenous groups negotiate and transform online spaces play an important role in shifting power relations; in other words, these negotiations 'behind the scenes' are what position the use of ICTs for political action. Rincón (2009) draws attention to the ways indigenous groups in Colombia have subverted the status quo of communication in their uses of online spaces like Facebook and YouTube for narration and political purposes. Salazar (2003) describes how Mapuche peoples in Chile transformed online spaces into their own political instrument. Through a group of websites which performatively spoke from the Mapuche nation, they opened new discursive spaces through which

they could give voice to those incarcerated and present images excluded from mass media outlets.

Obtaining agency over Internet services has been important for indigenous groups to meaningfully integrate Internet practices within cultural and political aims. Gómez Mont (2012) considers how indigenous groups in Mexico have used the Internet in ways which can reflect their cultural standpoints and traditions of oral communication. She emphasizes that an important part of appropriating Internet services involves the ability to create and transform the assigned purposes and uses. She argues that for indigenous groups this entails the deployment of locally relevant tactics to align online spaces with their worldviews and local needs. Along these lines, Paz Ramos (2015) describes how an indigenous organization in Colombia developed a webpage which not only responded to their interests in disseminating information about their cultural and political activities but also reflected their particular worldview.

3.4.3. Mobile media and everyday communication practices

While much indigenous media research has concerned the use of ICTs for political communication or cultural revitalization, a small group of studies have concerned the mutual shaping of ICTs and sociocultural contexts through everyday communication practices.

Indigenous peoples' uses of social media have not only brought new opportunities for self-representation (as discussed above in section 3.1.3 *Self-representation and Internet activism*) but also have influenced everyday communication and cultural practices. Virtanen's (2015) ethnographic research with Amazonian indigenous

peoples in Brazil considered the way social media practices were reshaping indigenous socialities. She found that Facebook use had become intertwined with daily lives, community-building, economic activities and social relationships, and had enabled more agency in interactions with organizations. Social media use for Amazonian indigenous peoples was an important part of participating in a contemporary world. She explains, "For many Amazonian Indians (sic), having command of, or rather mastering, social media is about avoiding further marginalization that can be of a cultural, political, religious, or economic nature" (p. 360). Among a group of indigenous Australians, Lumby (2010) found that Facebook was being used to perform and surveil indigenous identities. The endorsement of indigenous identity on—and off—Facebook required the ongoing performance of indigeneity. Lumby (2010) explains, "badging, profiling, and be-friending is the 'doing,' the performance of proving Indigeneity in cyberspace as entry to community" (p. 71).

New forms of mobile communication and norms of use have emerged among indigenous groups. Kral (2013) argues for the importance of understanding indigenous peoples appropriations of ICTs from a perspective of creativity rather than deficit. She describes how indigenous youth in Australia have developed their own forms of texting through linguistic play. Texting in indigenous languages has been an important part of how indigenous peoples have negotiated mobile communication. Through indigenous language texting practices, indigenous peoples have expressed their indigeneity (Zapata, 2017), undercut service fees by using shorter language forms (Unamuno, 2011), and reconfirmed oral communication traditions through the creative interplays with written language (Brady, Dyson, & Asela, 2008).

A few studies have specifically considered the ways mobile communication practices in indigenous contexts interrelate with traditional communication practices. Zapata (2017) considers the interrelations of mobile communication and local cultural practices among Igorot peoples in the Philippines, where the local social code has shaped mobile phone use: informal moral principles based on cultural traditions have emerged on how and when to use mobile phones. Among Ngaanyatjarra indigenous peoples in Australia the cultural concept of 'dreaming' structures the ways individuals interconnect with kin, identities and the land. Traditionally, face-to-face communication has been important. Kral (2014) describes how Ngaanyatjarra youth have developed new forms of communication through their mobile media practices which reflect and build on the cultural structuring of Ngaanyatjarra socialities. In Papua New Guinea an important form of communication traditionally has been the 'garamut', a communication drum, which for centuries has been used to communicate short messages across long distances. Watson and Duffield (2016) describe how the introduction of mobile telephony in rural communities in Papua New Guinea did not replace the communication drum but rather interspersed new forms of mobile-mediated private communication alongside the traditional practice of public communication.

Such studies on everyday mobile communication practices in indigenous contexts have contributed understanding on the variegated ways that mobile telephony can influence local cultural practices. What has lacked exploration in indigenous media studies is the politics of these everyday appropriations and their influences on digital technology planning and production. As Bar et al. (2016) put it succinctly, "While cultural implications of appropriation are often considered, the

ramifications of culture appropriation on the originators of a given technology are often overlooked. Likewise, the interplay between economic, cultural, and political tensions remains largely unexplored" (p. 621).

4

Research scope

Given that the indigenous media 'problem' is often framed in terms of a Faustian dilemma over ICT adoption (see section 1. *Research problem*), it is not surprising that much indigenous media scholarship has had interest in the positive and/or negative influences that communication technologies have *on* indigenous socialities (see also Rodríguez & El Gazi, 2007, pp. 460–461; Salazar, 2004, p. 70). Meanwhile, studies have shown the active role of indigenous peoples in recreating and reinventing communication media (as discussed at 3.2.3 *ICTs and self-determination* and 3.4.2. *'Indigenizing' the Internet*). A pertinent issue for indigenous media research has thus also been the ways that indigenous groups can coopt and transform communication media to advance their cultural and political aims (Salazar, 2004; Soriano, 2012; see also, 3.1.3. *Self-representation and Internet activism*). Yet, little empirical attention has been given to the processes involved in the self-determination of communication media (counterexamples are discussed at 3.4.2. *'Indigenizing' the Internet*) and the contexts and conditions that support or inhibit these processes. Moreover, the politics surrounding communication media in indigenous contexts are almost always considered from the perspectives of leaders, communication professionals and organizations (some counterexamples are discussed at 3.4.3. *Mobile media and everyday*

communication practices). The self-determining work of community members over their day-to-day communications lacks exploration.

This dissertation has interest in the interrelations between mobile media services and everyday communication practices among members of self-identified Guaraní communities in Argentina and Bolivia. Guaraní leaders and organizations in the contexts of this research have been active communication technology adopters, have advanced decolonizing agendas and have obtained recognition of their indigenous status and rights (see sections 2.2.1. *Ñemboati* and 2.3. *Contemporary politics*). Group unity, reciprocal action and a welcoming attitude towards change hold a central place in Guaraní cultural symbology and are often promoted by leaders as important to the Guaraní way of life (as discussed at 2.2. *Writings on Guaraní culture*). My interest in this dissertation is not whether mobile technologies positively or negatively impact such political and cultural interests, but the processes through which the meanings and purposes of mobile media are reinvented within community members' (re)negotiations of indigeneity, Guaraní cultural symbology and community belonging. More specifically, I endeavor to develop understanding on the factors that influence informants' levels of agency over mobile media services. My overarching research question is as follows.

➤ **What factors are influential in the meaningful appropriation of mobile media among Guaraní in Argentina and Bolivia?**

I focus on mobile *media* rather than mobile *technologies* as I have interest in the ways that mobile technologies are used. A 'medium,' as defined by the Oxford Dictionary of English (A. Stevenson, 2010), is "an agency or means of doing something; ...a means by which something is communicated or expressed." A

medium, as opposed to a device, already involves the user. As Rodríguez (2001, p. 6) and Salazar (2004, p. 79) have argued, indigenous media are social and political phenomena that arise from specific contexts of appropriation. By focusing my attention on the means by which people communicate, rather than the devices that they use, I take up concern with the interrelations between users and technologies and the ways that communication media come into being in and through technical, social and cultural relations (see Salazar, 2007).

While mobile communication media could refer to many things, from megaphone advertising to a letter sent in the post, the term 'mobile media' in this research specifically denotes the communication means that arise when using a mobile phone. This includes the many modes by which audio, visual and textual contents are produced and/or received on a mobile phone, from text messages and voice calls to social media status updates and YouTube videos. While my focus is mobile media, I adopt a communicative ecology approach (Slater, 2013; Tacchi, 2015) and have interest in the positioning of mobile media practices within wider communicative, sociocultural and political practices (see also Publication 4, *Theoretical considerations* section).

I use the term 'meaningful' as Selwyn (2004) to reflect the obtainment of a sense of agency over engagements with media technologies. Selwyn explains that meaningful use is "where the 'user' exerts a degree of control and choice over the technology and its content, thus leading to a meaning, significance and utility for the individual concerned" (p. 349). I couple this term 'meaningful' with 'appropriation' in my research question to draw attention to the politics involved in meaningful use. As Bar et al. (2016) argue, mobile media appropriation is about

transforming the imagined uses of mobile technologies in "a contest for control over a technological system's configuration" (p. 618). Bar and colleagues go on to explain, "Creative re-negotiation is the core of appropriation, the process through which users take something external and make it their own" (p. 619).

Having now clarified the meanings of 'mobile media' and 'meaningful appropriation,' the above research question, in other words, is about exploring the factors that enable and disenable members of Guaraní communities to exert control over the ways that they communicate using mobile phones. As outlined at the outset (section 1. *Research problem*), I focus my attention on two Guaraní contexts: the Villamontes communities in Bolivia and the Glew community in Argentina. My interest is in the policies, institutional arrangements, discursive structures, technical interfaces, digital abilities, and sociocultural standpoints that interrelate to influence the obtainment of agency over mobile media among members of these communities.

My research objectives are threefold as outlined in the following.

Objective 1: Develop understanding on what is at stake in the relations between Guaraní community members and mobile media services: community informants' experiences of mobile media inclusion/exclusion and the positioning of mobile media industries towards these experiences.

Objective 2: Examine the processes by which community informants obtain agency over mobile media services in their everyday, intragroup

communications; contextualize these processes within communication practices and sociocultural standpoints.

Objective 3: Identify Guaraní leaders' decolonizing strategies in respect to mobile media services and the contexts and conditions that foster/hinder decolonizing appropriations of mobile media.

These objectives take the research focus beyond a local, bounded site. Not only are mobile media tied to multinational industries but also the interests of community members in this research are represented by local and regional indigenous leaders. The research problem of this dissertation—the process of obtaining autonomy over mobile media—is an open-systems subject which, as Fortun (2016) has argued, lends itself to being visualized and approached across different scales. My research design includes four scales each of which provides a unique perspective on the research problem. The rationale for and relation between these four scales is outlined below (5.2. *Research design*). Here I introduce the reader to the research scales to provide a reference point for the ensuing discussion on the multi-sited methodology of this dissertation.

The four research scales are as follows.

Scale 1: The Communication with Identity movement in Argentina.

This scale has interest in the representation of indigenous communication interests. I explore the activities and perspectives of leaders and activists in representing indigenous claims to decolonize communication media services.

Scale 2: The sociocultural orientation of the mobile app industries in Argentina and Bolivia.

At this scale, I am concerned with inclusivity in the mobile media sector. With focus on the perspectives of app developers, I examine factors that connect and disconnect mobile app development from the innovations of in-country user groups.

Scale 3: Rural Guaraní community members' (mobile) communication practices in Villamontes, Bolivia.

This scale considers the appropriation of basic phone services in a group of 12 politically interconnected communities where intercommunity communication is becoming increasingly important for both family and political reasons.

Scale 4: Urban Guaraní community members' (mobile) communication practices in Glew, Argentina.

This scale develops understanding on the initial stage of mobile Internet appropriation following the recent installation of a community Wi-Fi signal.

As in the old parable about a group of blind men that are tasked with describing an elephant by touch[11]—not uncommon to discussions on comparative or multi-sited

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[11] As the parable goes, as described by Popple (2010), "Each [blind] man describes only the part of the elephant he is touching, forming an incomplete representation of the whole… The elephant is perceived by one man as a snake (because he feels the trunk), by another as a tree (because he feels the leg), and so on" (p. 492).

research methods (e.g. Cook, Laidlaw, & Mair, 2016; Kraidy & Murphy, 2008; Rodríguez, 2001, p. xii)—each scale in this research project provides its own, incomplete insight onto a much larger research problem. Unlike the elephant, however, this research subject is not a bounded, concrete object, but distributed across material, political and discursive domains and constructed through the research process (as discussed below at 5.2. *Research design*; see also Cook et al., 2016).

5

Methodology

The epistemological approach of this dissertation pays heed to the translocal character of the research subject and follows a multi-sited ethnographic approach. A multi-sited research frame is not new to indigenous media studies (e.g. Salazar, 2004; Wortham, 2013) nor to media anthropology work (Ginsburg, Abu-Lughod, & Larkin, 2002; see also, Brauchler & Postill, 2010; Horst & Miller, 2013) or global communication studies (Kraidy & Murphy, 2008). As Ginsburg, Abu-Lughod, & Larkin (2002, p. 4) explain of anthropological research, "Increasingly, our theory and practice are unbounded, multisited, traveling, or 'itinerant'... a transformation that is particularly evident for those studying media." Kraidy and Murphy's (2008) speak of a "translocal epistemology," Appadurai's (1996) speak of the "production of locality" and Wortham's (2013) speak of "the practice of location" all challenge the presumption of the 'local' as a bounded or given research object and draw scholarly attention to the translocal practices implicated in the making of localities. Multi-sited approaches expand and transform the ethnographic locus to engage with the interconnected geographies, materialities, and discourses that shape the reproduction of localized practices.

This dissertation develops understanding on the making of decolonizing mobile appropriations among Guaraní by juxtaposing research conducted across four

scales, as discussed in the previous section (section 4. *Research scope*). The multi-sited nature of this research does not simply reflect the multiple research sites, but moreover reflects my epistemological stance which remains situated yet endeavors to explore the translocal knowledge systems that shape localized mobile media practices. In what follows I first provide background on 'multi-sited ethnography'. Next, I describe the particular journey of this research: the literatures, empirical findings and ethical principles that guided decisions in the research design. Finally, I elaborate on what I see as an ethical shortcoming in typical characterizations of multi-sited ethnography particularly for research in indigenous contexts: its failure to acknowledge the role of the research in participants' projects. I discuss the importance of a collaborative approach for research with indigenous peoples and describe the collaborative process carried out with Guaraní leaders and community members in this research.

5.1. Multi-sited ethnography

The term 'multi-sited ethnography' was coined by George Marcus in a 1995 article published in the *Annual Review of Anthropology* that has generated ongoing debates on the meaning of ethnography particularly in respect to procedure and scale (see Coleman & Von Hellermann, 2011; Falzon, 2016). Marcus introduced the term to characterize what he saw as the emergence of a new form of ethnography. His interest was both descriptive and normative: from Marcus' perspective, multi-sited ethnographies were already making important contributions in media studies, science and technology studies, cultural studies and development studies, and

further to that, are vital to do justice to the nature of contemporary research topics which cut across localities.

From Marcus' perspective, the work of an ethnographer in a multi-sited project is to juxtapose and translate findings from various levels of analysis which in many respects may seem "worlds apart." The connections and disconnections developed through this act of juxtaposition is how an ethnographer can develop understanding *of* "the world system" while still being *in* that system. Marcus (1995, p. 97) explains,

> the world system is not the theoretically constituted holistic frame that gives context to the contemporary study of peoples or local subjects closely observed by ethnographers, but it becomes, in a piecemeal way, integral to and embedded in discontinuous, multi-sited objects of study.

Instead of "the world system," Marcus speaks of "distributed knowledge systems" (2011, p. 23) in later writings which better reflects what multi-sited ethnographies intend to achieve by juxtaposing multiple research sites. Rather than accounting a systemic whole, multi-sited ethnographies—as any ethnography—reflect the particular path of knowledge production taken by the ethnographer.

A multi-sited project in Marcus' understanding is not simply about bringing together research from different geographical locations or on different subject matters but develops a different kind of perspective on the research subject. For Marcus, "traditional" single-site ethnographies develop understanding on the perspective of subaltern subjects within a global—capitalist or colonial—system where the workings of this system are presumed. That is, 'global' is reified, a given structure in which subjects engage in varying degrees of resistance or accommodation. On the contrary, the multi-sited approach breaks down the

distinction between the local and the global, or the lifeworld and the system (Marcus, 1995). Regardless of whether Marcus' view on so-called traditional ethnographies holds true—and this has indeed been a critique (see Coleman & Von Hellermann, 2011, p. 7)—the distinction he makes between traditional and multi-sited ethnographies is key to understanding the motivation for a multi-sited research field and the applicability of this approach to the research subject of this dissertation. In Marcus' words (1995), multi-sited ethnography

> takes unexpected trajectories in tracing a cultural formation across and within multiple sites of activity that destabilize the distinction, for example, between lifeworld and system by which much ethnography has been conceived. Just as this mode investigates and ethnographically constructs the lifeworlds of variously situated subjects, it also ethnographically constructs aspects of the system itself through the associations and connections it suggests among sites (p. 96).

Multi-sited ethnographies importantly consider social/political/economic/cultural systems as inseparable from local sites of experience. In other words, while traditional ethnographies—as characterized by Marcus—posit an external global system in which the local subjects of study are positioned, multi-sited ethnographies try to understand globally distributed forms of knowledge by juxtaposing empirical research conducted across different sites. Marcus (1995) explains, "The global is an emergent dimension of arguing about the connection among sites in a multi-sited ethnography" (p.99). In this way, multi-sited ethnographies develop a different kind of ethnographic depth than traditional ethnographic projects (see Falzon, 2016, p. 8).

The research problem approached in this dissertation—the decolonization of mobile media among Guaraní peoples—lends itself to a research approach which is mindful of the spatially disperse modes in which processes of decolonization

operate and the varying domains—material (mobile handsets), economic (mobile service structures), political (indigenous claims), and discursive (concepts of decolonization and cultural revitalization)—which constitute the research subject. A framework of accommodation/resistance based on research in a single site would be challenged to draw out the complex and contradictory ways in which colonization/decolonization can be experienced. Among informants in this research, representations of traditional culture were characterized as colonizing (see Publication 4, *Media flows and cultural continuity* section) while in other respects symbolic displays of traditional culture were experienced as decolonizing (see Publication 3, *Cultural revitalization and communal living* section) as was the community dissemination of mainstream media (see Publication 4, *Media flows and cultural continuity* section). These seemingly inconsistent experiences of colonization/decolonization cannot simply be explained in terms of resistance to/accommodation of a static, given colonial system, but rather emerge as colonizing/decolonizing in respect to discourses, knowledges and materialities which extend across local sites.

In community media studies, Deleuze and Guattari's concept of the rhizome has been used to approach such distributed, non-hierarchical systems of discourses, knowledges and materialities (Carpentier, 2016; Carpentier, Lie, & Servaes, 2003). Deleuze and Guattari (1987) explain of the rhizome,

> A rhizome as subterranean stem is absolutely different from roots and radicles…
> any point of a rhizome can be connected to anything other, and must be. This is
> very different from the tree or root, which plots a point, fixes an order (pp. 6-7).

Deleuzean concepts like the rhizome should not be understood as a metaphor for or description of the way social phenomena are organized, but rather as a force or

way to bring change to thinking (Wagner, 2008). In this respect the rhizome concept incites us to think about social phenomena beyond hierarchical arrangements or dualities of structure/agent or global/local that are entrenched in much social thinking. Carpentier (2016) explains, "This rhizomatic approach to community media allows us to see how community media are part of fluid civil society networks, and how they are connected with other (non-media) civil society organisations and social movements" (p.5). The many connections between community media and the market and state means we cannot simply understand community media as counterhegemonic. Rather, Carpentier draws attention to the "trans-hegemonic"[12] nature of community media. What deserves attention in community media studies according to Carpentier (2016) is the way these various connections "are materially and discursively played out" (p.5).

Carpentier's interest in the "trans-hegemonic" nature of community media echoes Marcus' interest in moving away from an accommodation/resistance framework. In fact, the identifying factor of a multi-sited ethnography in Marcus' characterization is its interest in understanding distributed knowledge systems by way of localized experiences. Along these lines, Marcus allows what he terms "strategically situated single-site research" also be considered a form of multi-sited ethnography (Marcus, 1995, pp. 110–111). Such research considers the way subjects experience discourses/knowledges/materialities that extend beyond the research site. Marcus' characterization of "strategically situated" single-site research shares much with Dorothy Smith's (2005) call for an "ontological shift" with institutional

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[12] 'Trans-hegemonic' is used by Carpentier to describe the ambiguous positioning of community media within state and market structures which he argues is neither hegemonic nor counterhegemonic.

ethnography. In institutional ethnography, what Smith calls the "relations of ruling" are not understood by way of theories at the level of systems but rather by situated research on actual material and social relations. Smith explains, "Institutional ethnography's program is one of inquiry and discovery. It has no prior interpretive commitment such as that which follows from concepts such as global domination and resistance" (p. 36).

The ontological shift Smith speaks of is key for a multi-sited research perspective. An external and antagonistic wider system is not presumed and posited at the outset. Rather, the ethnographer develops understanding on distributed knowledge systems by empirically investigating the way these systems emerge from and are experienced at local sites.

5.2. Research Design

The application of multi-sited ethnography in this dissertation extends beyond Marcus' characterization in respect to the methods and the research design. I incorporate quantitative research and I do not contend that my methodological decisions directly follow from the imaginaries and movements of informants. The ethnographer's role in selecting—or rather, constructing—research sites has emerged as a contested issue in the 'second generation' of multi-sited ethnographies (Falzon, 2016). Given that Marcus' 1995 portrayal of multi-sited ethnography implies that the research subject itself guides what becomes relevant in the investigation, critics contest that the methodological decisions taken by the ethnographer should not be invisibilized (see Coleman & Von Hellermann, 2011; Falzon, 2016). Candea (2016) argues

whereas the strength of the multi-sited imaginary lies in its enabling anthropologists to expand their horizons in an unprecedented way, its weakness lies in its lack of attention to processes of bounding, selection and choice—processes which any ethnographer has to undergo to reduce the initial indeterminacy of field experience into a meaningful account (p. 27).

Later applications of multi-sited ethnography have considered the decisions taken by the ethnographer in selecting and bounding research sites as a central part of the research process (e.g. Fortun, 2009; Gallo, 2016). Falzon (2016) suggests the concept of "satisficing" to characterize the decisions taken by the ethnographer which broadly intend to be both satisfying and sufficing. He explains,

ethnographic partiality (the 'cut') is not established by the ethnographer in an autocratic and arbitrary way. Rather, one is guided by the scholarly literature on a particular topic, the current state of methodology, and one's unfolding ethnographic insights on the ground (p. 11-12).

Fortun (2009) draws on the Gestaltian concept of figure-ground to explore the "play" by which ethnographers frame what becomes meaningful. By framing research sites across various scales, ethnographers can facilitate "intertwined cultural and political economic analysis," which is what Fortun (2016, p. 75) considers the central task of a multi-sited ethnography.

The way I engaged with research sites in this dissertation was guided by relevant literatures—theoretical, methodological and context-specific studies—and the activities and perspectives of informants. Taking a wide-angled approach (Spitulnik, 2010) which contextualizes media practices within wider social, cultural and communicative contexts, I engaged in an iterative process to frame the research subject. One significant entry point to the research subject was the Communication

with Identity movement in Argentina: a group of indigenous leaders' call for the decolonization of communication services. Another important entry point was the sociocultural and political debates surrounding mobile media. While a host of research shows how mobile media and social networking tools can be important vehicles for social transformation (e.g. Castells, 2012; A. Wilson et al., 2017), research from political economy and social informatics perspectives have argued that mobile media services are more 'locked in' than personal computer Internet services and can be a source of cultural subjugation (e.g. Gurumurthy, 2010; Srinivasan, 2012a). Such debates alongside the increasing use of mobiles as audiovisual information tools (see Donner, 2010, 2015) incited my specific interest in the ways indigenous peoples negotiate mobile telephony services.

These two entry points formed the first two scales (Fortun, 2016) of this four-part multi-sited project (see section 4. *Research scope*). On one scale I explored the actions and aims of the Communication with Identity movement. I conducted research with indigenous leaders in Buenos Aires province over three months from September to December 2013. I attended meetings and events, followed online activities and conducted a series of interviews with a Guaraní leader. For the most part, my findings echoed main currents in indigenous media research. Indigenous leaders sought after their own media channels to gain self-representation, advance political and cultural agendas, influence mass media and visibilize community injustices. Yet, in addition to this, another discourse emerged among leaders: local ownership over media channels was not only for the sake of self-representation but also an important moment of decolonization and an end in itself. Furthermore, while indigenous owned radio and television frequencies have received the host of

attention (see section 3.1. *The politics of representation*), indigenous informants spoke more generally about communication tools and had interest in taking over Internet and mobile telephony service provision. I later found some examples of indigenous owned mobile telephony networks (González, 2018; Magallanes-Blanco & Rodriguez-Medina, 2016; O'Donnell et al., 2013) and a social media server (Budka, 2015; Molyneaux et al., 2014) and along with McMahon (2011) began to characterize these actions as instances of 'digital self-determination.'

On another scale, I explored the sociocultural orientation of mobile media services in Argentina and Bolivia. Given trends towards app-based communication (see Donner, 2015; Khalaf, 2014; see also Zittrain, 2008), I focused on the app industries. I wanted to understand the social and economic conditions that connect or disconnect app developers in Argentina and Bolivia from the interests of user groups in their own countries. I developed a mixed-methods approach that combined quantitative methods with the situated approach of multi-sited ethnography. Situating my research from the perspective of app developers, I reviewed corporate websites of app development businesses and conducted qualitative interviews with app developers and related practicioners. The research was conducted in two phases. In early 2013, I reviewed the contents of 50 corporate websites and conducted 15 semi-structured interviews over Skype. In early 2014, I extended the quantitative website review to aim at the exhaustion of app development firms in Argentina and Bolivia. While my findings suggested that app distribution platforms presented a significant block between developers and in-country user groups in both countries, perspectives towards indigenous peoples and social development apps varied significantly between the two countries.

The research conducted at these two initial scales was more descriptive than analytical: I aimed to identify the intents and activities of indigenous communication activists and of mobile app developers. Empirical, situated research at these scales not only provided background for the main subject matter of this dissertation—Guaraní peoples' engagements with mobile media—but also formed a significant part of my multi-sited approach. That is, rather than presuming a "world system" (Marcus, 1995) which Guaraní peoples accommodate/resist, I wanted first to develop understanding on some of the complexities involved in the positioning of indigenous peoples within the mobile media industries in Argentina and Bolivia. Findings indeed did complicate narratives on the homogenizing role of mainstream media, and furthermore, framed areas for further exploration in the main analytical work of this dissertation which was conducted collaboratively with Guaraní leaders and community members.

My involvement with indigenous leaders in Buenos Aires province incited my interest in two very different Guaraní contexts. Guaraní leaders in Argentina often spoke about the Bolivian indigenous context as more politically advanced, not as much for Evo Morales' regime as for the Asamblea del Pueblo Guaraní, a Guaraní governing organization based on traditional modes of governance (see section 2.2.1. *Ñemboati*). In December 2013 I followed personal contacts to Tarija Department, Bolivia where I developed plans with leaders at the departmental level of the Asamblea del Pueblo Guaraní for a research project on ICT appropriation. In June and July 2014, we framed the locale and aims of the project and in August 2014 I carried out research in Villamontes communities. Meanwhile, in early 2014, a Guaraní collaborator in Greater Buenos Aires installed a community Wi-Fi signal

on his community's lands in Glew, Argentina. Some community members already had smartphones but had limited involvement with mobile Internet due to mobile data service costs. We planned a research project to explore mobile Internet practices in the community. This project was carried out in September 2014. In both sites, I focused my analysis on everyday uses of mobile telephony for both academic and practical reasons. Much indigenous media research concerns the uses of ICTs for political advancement or for cultural safeguarding while everyday ICT appropriations are often overlooked (counterexamples are discussed at 3.4.3. *Mobile media and everyday communication practices*). Moreover, the Guaraní leaders I collaborated with were interested in bringing together community members' perspectives on their everyday life uses of ICTs.

The research conducted at these scales was more traditionally ethnographic. I participated in informants' day-to-day activities, conducted in-depth qualitative interviews, and casually discussed my developing ideas with informants. My analysis endeavored to arrive at locally relevant understandings of my observations. The analysis process was more indexical than categorical: I repeatedly resituated my observations within their particular and broader contexts and developed analytic accounts on my developing ideas (see Rankin, 2017; see also Hammersley & Atkinson, 2007).

What emerged as particularly culturally significant in both research contexts was the mode or form of interpersonal communication. This opened a new dimension to the indigenous media 'problem,' often framed as a Faustian bargain between the ramifications of media consumption and the opportunities presented by media production (see 1. *Research problem* and 4. *Research scope*). Along with much

indigenous media research, I initially had interest in indigenous peoples' negotiations of external audiovisual contents alongside their uses of communication technologies to produce their own contents. In particular, I was interested in the way that mobiles were becoming increasingly "culturally loaded" (as I phrased it in my project proposal) and the implications the increasing amounts of foreign audiovisual contents made available by mobile telephony have for indigenous communities. My attention however shifted to the way that mobile telephony restructures everyday interpersonal communications and the cultural and political significance of interpersonal communication practices. To frame my findings, I borrowed language from communication studies on technical architectures (Papacharissi, 2009) and discussed my observations on indigenous interpersonal communication structures alongside parallel lines of research from social informatics studies on indigenous knowledge structures (Christie & Verran, 2013; Duarte & Belarde-Lewis, 2015; Srinivasan, 2012a; Srinivasan et al., 2009; van der Velden, 2002; van Gelderen & Guthadjaka, 2017; Verran & Christie, 2007).

Across the four research scales, all participants were informed of the research aims, the research procedure, the use of the research for my doctoral dissertation, and the voluntary nature of their participation. The procedure for obtaining consent was adapted to the particular contexts of the research sites. Mobile application developers and related practitioners gave consent by email prior to the interviews while community informants provided verbal consent as per local protocols in their governing institutions. Anonymity of all participants was carefully maintained. The online materials surveyed—software business websites and indigenous media websites—were made publicly available and intended for a public audience.

Additionally, as recommended in the UOC Doctoral School's (2014) *Code of Good Practice in Research and Innovation*, the research results obtained at each scale of this multi-sited project have undergone objective and external peer-review processes.[13]

Further ethical considerations guided the research with Guaraní community members, which followed a collaborative approach as discussed in the next section.

5.3. Collaborative research

In 1995 when Marcus coined the term 'multi-sited ethnography' he emphasized the role of the ethnographer in "following" people, objects, metaphors or narratives across space and time. In later writings he emphasized the way strategic collaborations with informants guide the ethnographer's decisions in research design (Marcus, 2011). In this way, key informants become counterparts in the research, or "para-ethnographers" (Holmes & Marcus, 2008), whose insights on the research problem play a role in shaping the space in which the ethnography inhabits (see Coleman & Von Hellermann, 2011).

As discussed in the previous section, the movement across research scales in this dissertation was incited by relevant literatures in addition to the imaginaries, material engagements and movements of informants. In particular, Julio—the

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[13] Results at each scale underwent at least two external peer-review processes. This included the blind peer-review of international conference papers (M4D 2014, CPR-LATAM 2014, ECREA 2014, ICA 2015, IAMCR 2015) and SSCI indexed journal submissions (Publications 2, 3 and 4) and the editorial review of the invited book chapters (Publications 1 and 5). In addition, the research design and methods were reviewed at two doctoral workshops (the Mobile Telephony in the Developing World Doctoral Workshop in Jyvaskyla, Finland, May 2013, and the M4D Doctoral Workshop in Dakar, Senegal, April 2014).

community leader in Glew, Argentina—played a pivotal role in shaping the research process. Julio was positioned at a juncture between research sites: he designed and led the Glew community's communication projects; he was engaged in the Communication with Identity movement—in which he was a proponent of the idea that colonization/decolonization is intertwined with the ownership of communication services; and, he was politically engaged with, had historical and family connections with, and had admiration for the Guaraní context in Bolivia. The way Julio and other informants influenced the research process, however, forms only one side of collaborative research. A more ethically pertinent issue for collaboration relates to how the research process engages with informants' political projects and interests. While Marcus' portrayal of multi-sited ethnography delineates the way informants contribute to the ethnographer's research project, it falls short to examine the way the ethnographer engages with informants' projects. This latter form of collaboration is particularly important for research with indigenous peoples.

Research methodologies in indigenous contexts are contentious. Smith's 1999 monograph *Decolonizing Methodologies: Research and Indigenous Peoples* was influential in bringing critical attention to the detrimental influences of research in many indigenous communities. She argues that research has objectified indigenous cultures, reinforced the notion of indigenous peoples as a social 'problem', and silenced and misrepresented indigenous knowledges (see also Dawson, Toombs, & Mushquash, 2017). Rather than research *on* indigenous peoples, she calls for a power reversal through collaborative research approaches. Researchers around the world have recognized collaborative research as an essential starting point for

research in indigenous contexts (see for example, Cochran et al., 2008; Leyva & Speed, 2008; Wingert & White, 2017). A key area for collaboration is the development of research methods. Smith (1999, pp. 127–128) explains, "In all community approaches, process—that is methodology and method—is highly important. In many projects the process is far more important than the outcome." She emphasizes that the research process should be locally aware and respectful. In addition to being culturally relevant, close collaboration on methods design is important to produce knowledge faithful to the local situation by embedding methods in local epistemologies (see Cochran et al., 2008; Kovach, 2009; S. Wilson, 2001). Group discussion and narration, for example, have been ways in which researchers in some indigenous contexts have engaged in locally meaningful modes of knowledge production (see Dawson et al., 2017; Kovach, 2009).

Collaborative research techniques are not unique to indigenous contexts but have an extensive history spanning various research domains (see Kemmis & McTaggart, 2005). Some prominent frameworks or orientations[14] for collaborative research include Participatory Action Research (Kemmis & McTaggart, 2005), Ethnographic Action Research (Hearn, Tacchi, Foth, & Lennie, 2009), Community-Based Participatory Research (Israel, Schulz, Parker, & Becker, 1998; Wallerstein & Duran, 2006; Wexler, 2011) and Collaborative Action and Reflection (Eubanks, 2011). While these frameworks have some variations in procedure and scope, the following principles are typically considered important in any formulation of

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[14] Eubanks (2009) uses the term 'orientation' while Dawson et al. (2017, p. 7) use 'framework.' Along with Kemmis & McTaggart (2005, p. 568-569), they make the point that collaborative approaches should not be conflated with a methodology. Rather, it is a way to arrive at locally relevant methods.

collaborative research: the research process involves collaborative partnerships with informants across all phases of research design and implementation; the research is conducted in a "cyclical and iterative manner" (Israel et al., 1998) with cycles of observing, reflecting and planning (Kemmis & McTaggart, 2005); the research should be aimed towards social justice and be useful or beneficial for informants; the researcher is transparent about their research aims; and, the research results are shared with partnering organizations. In applying these principles to a local research context, important ethical decisions surround the issues of *who* to collaborate with and *what* to collaborate on. In what follows I discuss the collaborative research design developed in this dissertation by firstly addressing the issue of 'who' and secondly, 'what'.

Who?

Collaborating partners in this research included members of Guaraní political organizations and communities. I thus first provide some background on the concept of 'community' and clarify what it referents in this dissertation.

Amit (2002a, 2002b) argues that as social relations have become increasingly dispersed and fragmented through modernities, the imagined or symbolic character of communities have become increasingly emphasized in scholarly works. In anthropology the characterization of community in terms of social solidarity resurfaced when anthropologists began to study urban spaces; spatially dispersed urban groups were seen to uphold "folk relations of intimacy" (Amit, 2002b, p. 4). Amit contends further that "as anthropologists entered the last decade of the twentieth century and took up the popular and scholarly preoccupation with globalization, diasporas, deterritorialization and transnational fields, face-to-face

relations seemed to dissolve even further into less tangible 'structures of feeling,' of belonging, of imagined community" (2002b, p. 9).

This tendency to overemphasize the intangibility and solidarity of 'community' has drawn attention away from real world social interactions (see Amit & Rapport, 2002). 'Community' is often portrayed as ontologically prior to individuals, which has generated two sorts of issues. First, in scholarly work 'community' often appears as a ready-made analytical unit without investigation into the dynamics behind expressions of collectivity (Amit, 2002a). Amit explains, "invocations of community...do not present analysts with clear-cut groupings so much as signal fields of complex processes through which sociality is sought, rejected, argued over, realized, interpreted, exploited or enforced. Expressions of community... thus require sceptical investigation" (Amit, 2002a, p. 14). Second, in development practice, groups of beneficiaries are often subsumed under the harmonious category of 'community.' Interventions have exasperated inequalities within communities by presuming local consensus. Moreover, the reification and representation of a 'community voice' has been used by external organizations to further their own agendas under the guise of participation (see Cooke & Kothari, 2001; Mohan & Stokke, 2000). This dynamic has brought participatory research in general into disrepute. Yet, Eubanks (2009) reminds us that "while participation can become its own form of extractive 'tyranny,' many participatory fora feel empowering, develop valid and timely sociostructural critique and counter forms of domination" (p. 108).

In this research, the term 'community' refers to self-declared communities. That is, I use 'community' as it is used by informants to designate a group of households

that have been recognized as a Guaraní community by wider political organizations. The Glew community—composed of an extended family—registered themselves as an indigenous community in the federal institute for indigenous affairs (Argentina's Instituto Nacional de Asuntos Indígenas) in 1999. This recognition of community status followed from their efforts to gain rights to their settled lands in Glew, which were obtained in 1998. In Bolivia, the Guaraní governing body—the Asamblea del Pueblo Guaraní—functions as a network of communities and regional representatives. Villamontes communities were composed of families that had registered their allegiance with the Asamblea del Pueblo Guaraní under their community group. Not all families that identified as Guaraní in the Villamontes area were members of these communities.[15]

Thus, in both research contexts, 'community' was a politically defined category in which identities and motivations for membership varied among informants. While the communities were expressly 'Guaraní' not all members identified as Guaraní nor was this presumed by leaders.[16] Cultural and political interests (as also noted in Zambrana Cachari et al., 2009, p. 9) and family belonging were also recognized as motivations for community membership.

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[15] At the time of research an alternative Asamblea del Pueblo Guaraní in the Villamontes zone had been formed but had not obtained wider political recognition. Two communities that had been previously registered with the regionally recognized Asamblea del Pueblo Guaraní as well as some families from the other communities had changed their allegiance to this new political organization. The 12 communities included in this research were composed of families that had retained their allegiance to the zonal Asamblea del Pueblo Guaraní that was recognized by the departmental and national Asamblea del Pueblo Guaraní network.

[16] Among members of Villamontes communities, cultural identities were discussed as ephemeral and expressive, often connected to dance and Guaraní language use (see Publication 3, *Cultural revitalization and communal living* section). Some informants that did not speak Guaraní did not consider themselves Guaraní—rather they explained that they had Guaraní heritage. In the Glew community the waning Guaraní identity of young community members in particular was noted among informants and often connected to discrimination experienced at the school (see Publication 4).

To be clear, the communities in this research were not regarded as collaborative actors themselves. Rather, collaborations ensued with individual members who had diverse motivations and interests for engaging in the research. The procedure for these collaborations followed protocols within their own governing institutions and began with discussions with leaders. Individual informants at various levels had input on the research process and outcomes. For example, the Departmental Asamblea del Pueblo Guaraní expressed interest in conducting a household survey in Villamontes communities but in discussions with zonal and community leaders qualitative methods emerged as more relevant to local practices of knowledge production. In the end, the research was largely carried out through discussions in the 'oka' or backyard (on the significance of the oka see section 2.2.2. *Ñande reko*). While leaders were involved in the overall research design and in formulating the research aims, individual informants influenced the methods used and the ensuing analysis. Through the many discussions which occurred as part of the participant observation conducted in communities, informants became involved in the research process. In this way, the participant observation functioned as a mode of ongoing collaborative reflection on the research itself (cf. Eubanks, 2011, pp. 173–178).

What?

Collaborative research is often characterized as action research, which reflects varying levels of the research's commitment to bring empowerment, community benefit, or more generally to influence social justice. The 'action' of Participatory Action Research has been a site of critique insofar as the alleged empowering influence of research has been overemphasized and naïve to the difficult reality in

which change can be effected (Kemmis & McTaggart, 2005, p. 569). Moreover, as critical perspectives on development interventions have outlined (see Escobar, 1991; Wainwright, 2008), the intention to bring empowerment in itself can be disempowering by imposing an externally conceived problem that allegedly needs improvement. In indigenous contexts, research legacies have been particularly subject to critique for this dynamic which has furthered problem-oriented and deficit-based discourses on indigenous peoples (see Dawson et al., 2017; L. T. Smith, 1999). The problem with 'action research' is thus twofold: it lends itself to exaggerations on the empowering potential of the research; and, can be a form of 'tyranny' (see Cooke & Kothari, 2001; Eubanks, 2009) by presuming at the outset that change is required and the type of change allegedly needed. Eubanks (2009) characterizes these issues in the following.

> For me, methodological modesty has come to mean being radically open to both personal and social transformation through the participatory process. This is not "interventionist" work—we do not seek to transform "them." Nor is this flatly descriptive work—"we" do not try as hard as we can to reproduce how and what "they" think. …Participation is thus an ongoing journey *without a predetermined destination* (p. 131-132, emphasis added).

Along these lines, not all characterizations of action research are interventionist. The 'action' may be more subtle—such as fostering a sense of control among participants over locally-defined issues or visibilizing locally-produced forms of social critique—and not endeavor to effectuate a specific or measurable outcome (see Eubanks, 2011; Kemmis & McTaggart, 2005). While the collaborative research conducted in this dissertation intended to be useful in participants' own projects, I do not characterize it as action research. This is firstly because of the connotations attached to 'action' and 'intervention' and the legacy of these terms particularly in

indigenous contexts, and secondly because I do not contend that the knowledge produced brought empowerment or emancipation to those involved.[17]

Collaborative research projects have tended to focus on the benefits the research brings for communities and to understate or even conceal the role of that same research in academic projects. Cochran and colleagues (2008) explain, "Partnerships between academic researchers and indigenous communities must be clear regarding what, and for whom, the expected benefits are to be" (p. 25). The aims and role of the collaborative research included in this dissertation were explicitly dual. The research intended to contribute both to my doctoral dissertation on mobile media and to the leaders' ICT-related projects. Collaborating partners were informed of my research interests—which evolved through the collaborative process—and the role the research would play in my academic career. The intersections between my research and the leaders' projects developed in a different manner in each site.

In Glew, Argentina, the community leader, Julio, was working on obtaining funding and permissions for communication projects. His long-term aim was to run their own community-based communication business and, moreover, to decolonize ICTs by taking over the ownership of communication networks and services. In many ways our research interests converged. In discussing my research experiences with other indigenous leaders and his experiences with the community's communication projects we co-developed understandings of the

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[17] This is partly because the impact of this research within the communities was not itself researched. Moreover, due to the nature of the research—which brought together perspectives on ICTs—the contribution was minor and its influence within their projects would reflect more how the results were used rather than follow directly from the research itself.

decolonization of communication. The collaborative research I conducted with Julio developed along the lines of what Eubanks (2009, pp. 26–27) describes in the following: "eventually it becomes difficult to tell whose thought was whose, and we realize we co-create knowledge through participatory practices" (p. 26-27). At the time of my fieldwork in the community, Julio was interested in bringing together community perspectives on the social and cultural implications of the ICTs used among community members. Through participant observation and qualitative interviews with interested community members I explored these issues. The knowledge produced through this process was used by Julio in a government funding application for radio equipment.

In the Villamontes research context, the distinct interests of stakeholders in the collaborative research remained more defined. Departmental leaders in Tarija, Bolivia were exploring options to install community Internet centers and thus were interested in knowing what ICT services were available and used in the Villamontes communities as well as community members' perspectives on ICTs. While the departmental Asamblea del Pueblo Guaraní had not specifically called for the decolonization of communication—as was the case among leaders in Argentina such as Julio (see Publication 1)—they were active leading up to the 2010 Education Law, "Avelino Siñani-Elizardo Pérez," lobbying for Guaraní language and cultural education in schools. Leaders were thus interested in the cultural implications of ICTs and more generally in decolonizing processes.[18] While departmental leaders were interested in contributing to my research on the decolonization of ICTs, their

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[18] Departmental leaders also engaged in interviews in which they described their perspectives on the intersections of ICTs and cultural change.

primary interest was in obtaining data on ICT services in the communities. The research scope for the project in Villamontes amassed my interests in understanding the intersections of ICTs and cultural practices, the departmental Asamblea del Pueblo Guaraní's interests in obtaining data on ICT access and use, and community informants' interests in communicating their needs to the zonal and departmental leaders. Upon completion of the research project, findings across these three spheres were presented to the departmental Asamblea del Pueblo Guaraní in Tarija.

6

Guide to the publications

The five publications of this dissertation each contribute findings that address different aspects of the overall research objectives while also engaging with academic debates relevant to their particular research area. The publications are ordered in the way I suggest they be read. This order leads the reader through the journey of this research which began with the Communication with Identity movement in Argentina (as discussed in section 5.2. *Research design*). This thematic ordering of the publications does not correlate with their academic significance in terms of impact factor.

Publications 2, 3 and 4 are the major contributions of this dissertation. Each of these works presents original findings from one of the four scales of this multi-sited project (outlined in section 4. *Research scope*): Publication 2 concerns the mobile media industries (research scale 2); Publication 3 addresses the research I conducted with the Villamontes communities (research scale 3); and, Publication 4 presents my findings in the Glew community (research scale 4). These three works are published in journals ranked in the first quartile (Q1) of the communication or cultural studies categories of the Web of Science Social Science Citation Index (SSCI) by the most recent Journal Citation Reports (Clarivate Analytics, 2018).

Publications 1 and 5 are invited book chapters that include some overlap with the journal articles. These publications are included for two reasons. First, they each present original results that are significant to the aims of this dissertation: Publication 1 uniquely presents my findings on the Communication with Identity movement (research scale 1) and Publication 5 reflects on aspects of two Guaraní leaders' perspectives on digitization that are not considered in the other publications. Second, these two book chapters develop analyses across research scales: Publication 1 brings together research from scales 1 and 2, while Publication 5 draws on findings from scales 3 and 4. This juxtapositional analysis of research scales is broadened in the next section (7. *Discussion and further analysis*) and forms a significant part of my research approach as it allows for reflection on the interrelations between the discourses, institutional arrangements and user experiences that shape mobile media inclusion (see also 8.1. *Methodological contributions*).

In what follows, I substantiate the relevance of each publication to the research subject of this dissertation and summarize its most significant contributions.

Publication 1. The politics of mobile media inclusion in Argentina

Wagner, S. (2015). The politics of mobile media inclusion in Argentina. In C. Wamala-Larsson, C. Scharff and J. Hellström (Eds.), *Mobile Participation: Access, Interaction and Practices* (pp. 99-124). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

This book chapter develops a novel approach to mobile media inclusion by bringing together the perspectives of two vastly different stakeholder groups: indigenous communication activists and mobile app developers. The chapter is based on a paper I developed for the Mobile Communication for Development (M4D)

Conference (Wagner, 2014a) and the results are framed to speak to this research community. While M4D research has been largely interested in the outcomes of mobile technology use, this chapter calls for the need for political economy perspectives to scrutinize issues of service ownership and management. Indigenous communication activists in this research vied to transform all kinds of communication media services to make them more relevant to their political, cultural and social standpoints. I argue that the empowering potential of mobile media for these indigenous leaders will depend on a self-determining process over the meanings and uses of mobile services.

The publication comes first in this compilation as it provides background on some of the key concepts of this dissertation, like decolonization and digital inclusion. Furthermore, it sketches out my initial theoretical approach to mobile media inclusion which takes up concern with service quality and local relevance. I call for a change in thinking to the majority of digital inclusion measures which consider users as consumers and aim to intensify usage. I draw attention to measures that see users as productive members of society and, in some cases, have aimed to support users to influence technologies and service systems. Later in this report (section 7.3. *Decolonizing mobile media*), I further develop this understanding of inclusion with the concept of digitization citizenship.

Some key contributions of this publication are summarized in the following.

- Categorizes digital inclusion measures based on their focus and approach and calls for a change in thinking from usage intensity to the local relevance of services.

- Surveys telecommunications and media policies in Argentina and identifies a double standard between 'new' and 'old' media when it comes to issues of democratization.

- Presents original empirical findings on the Communication with Identity movement in Argentina which show that the local ownership of communication media services is not only a central aim in this movement but also considered an end in itself.

- Develops a spatial understanding of inclusion in ICT services and identifies key pathways taken by indigenous leaders to generate participatory spaces in service provision.

Publication 2: Local content production and the political economy of the mobile app industries in Argentina and Bolivia

This article presents my final results on the app industries in Argentina and Bolivia, which expand on the pilot study discussed in Publication 1. While the Communication with Identity movement incited my interest in the sociocultural orientation of mobile media service provision, the impetus for this article's particular focus on mobile apps arose from growing speak on the pervasiveness of mobile apps (e.g. Khalaf, 2014) alongside concerns expressed over the political economy of an increasingly app-based Internet (see Napoli & Obar, 2014; Zittrain, 2008). I frame my discussion of the mobile media service arena within wider histories of media democratization and pay particular attention to the role of Latin American theorists. Given the dearth of research on commercial app industries

from a social development perspective, the article develops its own research approach to examine the factors that connect and disconnect app developers in Argentina and Bolivia from the interests of local user groups.

Results revealed app industries that were almost entirely focused on business clients and marketing solutions. Meanwhile app developers explained that, ideally, they would like to innovate products for general public users. My analysis found that the international standard for app distribution—app stores—presented a block between developers and local users, which meant that NGOs played an important role in generating developers' interests in locally oriented solutions.

Within the contexts of this dissertation, the research provided evidence on two factors—namely, the monopolization of app distribution by a few international app stores and the mediation of locally-oriented apps by foreign donor agencies—which work to distance mobile media professionals from indigenous interest groups. Further below (7.3.1. *Decolonizing strategies*), I consider the role policies could play to overcome factors such as these and foster direct forms of inclusive innovation in the mobile media sector.

Some of the main contributions made by this article are the following.

- Developed a mixed-methods approach to study the social and cultural orientation of app development.
- Provided, as I am aware, the first political economy analysis of the mobile app industries in Argentina and Bolivia.
- Identified the role of international app stores in disconnecting app developers in Argentina and Bolivia from in-country user groups.

Publication 3. Cultural revitalization and the ontology of communicative spaces: Mobile coordinating among Guaraní

This publication presents the first half of the main analytical work of this dissertation. Drawing on my ethnographic research with members of the Villamontes communities, the article argues that the spatial structuring of everyday, interpersonal communication can play a significant role in cultural revitalization aims. This counters much ICT-related cultural revitalization research, which has focused on the nature of media contents. I describe how community informants' mobile media practices resulted in norms of use where mobile telephony was almost entirely delimited to the coordination of in-person meetings. In this way, community members safeguarded what they considered to be culturally valued forms of communicating in a relaxed, reciprocal and face-to-face manner.

In the context of this dissertation, the article contributes original research on the role of basic phones in a rural Guaraní context where mobile communication had longstanding presence. This enabled reflection on experiences of agency in mobile use when local appropriations and group norms surrounding the available services had evolved over years.

Some important contributions of this article are summarized in the following.

- Identified an understudied area in indigenous media and cultural revitalization literatures alike: the cultural implications of interpersonal communication structures.

- Presented original findings from a research context where mobile communication is not considered a true form of communication and, in doing so, provided a counterexample to common findings on mobile-mediated co-presence.

- Distinguished between technical affordances and technical architectures and built on the concept of 'communicative spaces' to account for the politics of everyday interpersonal communication.

- Drew a parallel between the roles that informants attributed to ICTs in their cultural revitalization aims and the ways they appropriated the concept of 'culture.'

- Contributed to literatures on ICT non-use and showed the role of choiceful non-use in the (re)making of group expectations about communication mediums.

Publication 4: Decolonizing mobile media: Mobile Internet appropriation in a Guaraní community

Wagner, S. and Fernández-Ardèvol, M. (2019). Decolonizing mobile media: Mobile Internet appropriation in a Guaraní community. *Mobile Media and Communication.* Advance online publication. doi:10.1177/2050157918822163

This publication builds on the previous article's findings on the cultural implications of communicative spaces among Guaraní in rural Bolivia with an analysis of mobile Internet appropriation in an urban Guaraní community in Argentina. The values that informants attributed to communicative intimacy and group collaboration in the Bolivian context were also expressed in this research context. The timing of this research, which followed the recent installation of a

community Wi-Fi signal, allowed for an analysis of what for many informants was an initial stage of mobile Internet appropriation.

The article argues that the community Wi-Fi installation was one factor that contributed to the decline of face-to-face deliberations, which had been the backbone of communal sharing arrangements. From the community leader's perspective, this went against one of his main aims for his community media projects: the revival of their communal way of living. The role of mobile communication in shifting the intimacy of in-group communication practices was also noted by other community members. The article describes how some informants delimited their mobile phone use as a political statement, that is, to align themselves with what they considered more Guaraní ways of communicating. My analysis shows that these culturally motivated contestations of mobile media often reflected imaginaries about mobile services that were based on limited experiences with a few mainstream mobile apps.

In the context of this dissertation, such findings enabled me to identify some factors that can challenge the meaningful appropriation of mobile Internet, which for many middle aged informants had become clouded in uneasiness or characterized as a cultural threat (see further discussion on this at 7.3.2. *Malleability and user engagement*).

Some key contributions made by this article are as follows.

- Developed an approach to media practices that socially and culturally contextualizes the politics of technology negotiation, drawing on the concepts of communicative ecology and technology appropriation.

- Presented findings that challenge the focus of much cultural revitalization research on the propagation of traditional cultural contents. Not only did informants relate speak about traditional indigeneity to the discrimination they experienced but also they considered the redistribution of mainstream media contents a more locally relevant cultural revitalization strategy.

- Identified the role of readily available mobile apps in generating imaginaries about the Internet that can demotivate users from obtaining relevant Internet skills.

- Developed an analytical model to account for the mobile Internet disappropriation I witnessed in this research context.

Publication 5: Ageing and indigeneity: Mediatization tactics among Guaraní leaders

Wagner, S. (in press). Ageing and indigeneity: Mediatization tactics among Guaraní leaders. In M.D. Goggin and U. Marinšek (Eds.), *Off Campus: Seggau School of Thought. Meditating and Mediating Change: State – Society – Religion.* Graz, Austria: University of Graz Press.

This book chapter carries forward themes discussed in Publications 3 and 4 with focus on the experiences of two leaders: the leader of the Glew community in Argentina and a leader connected to the Asamblea del Pueblo Guaraní in Tarija, Bolivia. In this publication, I contextualize the narratives of these leaders within their life courses to develop a richer analysis of their experiences of cultural and communicative change. The chapter followed from a seminar titled "(Re-) Configuring Age and Ageing" that I participated in at the Graz International Summer School in July 2018 and draws on theories from ageing studies to analyze the ways these leaders tactically managed the changing nature of cultural practices.

The chapter closes this compilation of publications as it succinctly re-examines the central themes in my analysis of mobile media practices in the two research contexts: the culturally motivated tactics behind ICT non-use; the values attached to intimate and reciprocal communications; and, the contrast between communicative norms for ingroup and outgroup communications. Moreover, within the context of this dissertation, the chapter contributes an initial comparative discussion on the diverging experiences of mobile media agency between the two research contexts (see further discussion on this below at 7.3.2 *Malleability and user engagement*).

Some contributions of this work are as follows.

- Drew attention to the creative and tactical ways that indigenous leaders appropriate technologies and manage cultural change, providing counterevidence to the common perspective that indigenous peoples are technologically disadvantaged or averse.

- Drew on Karl Mannheim's (1952) work to develop an analysis of generationalities of colonization and their relation to individuals' appropriations of cultural identities.

- Clarified the distinction between tactical mediatization, as discussed by Sawchuk (2013), and the concept of technology appropriation. I argue that, whereas both concern individuals' efforts to influence communication technologies, the former relates more to one's positioning in wider societal changes.

7

Discussion and further analysis

This dissertation set out to understand the complex arena of mobile media inclusion among Guaraní in Argentina and Bolivia. I combined political economy perspectives—to analyze the role of market structures in shaping mobile services, contents and their distribution—with grounded research on local appropriations of mobile services. Adopting a practice approach to communication media, I had interest in the double conditioning between mobile service structures and the appropriations of those services by locally situated users to understand the ways "media comes into being and function"—to use Salazar's phrasing (2007, p. 19)—within socialities. Drawing on the language used by indigenous communication activists in Latin America, I characterized this process as a form of colonization/decolonization. Findings revealed how negotiations of mobile media had significance for local politics, performances of cultural identities, and the imagined positioning of indigeneity within past and contemporary life. The process of decolonizing communication seemed conflictive and counterintuitive at times, and involved symbolic cultural displays, the redistribution of mainstream media contents or subtle shifts in communicative forms.

In what follows I bring together findings across the research sites of this multi-sited ethnography to explore key issues in the making of self-determination over mobile

media. The discussion proceeds in three parts which correlate with the three objectives outlined in section 4, *Research Scope*. First, I reflect on the meaning of mobile inclusion in indigenous contexts and consider interrelations between experiences of mobile exclusion among community informants and the socioeconomic orientation of mobile media markets. Second, I consider the many examples by which informants' cultural standpoints were expressed through their communication media choices. This analysis diverges from the focus of much indigenous media research on the orientation of media contents. Instead I found that, in the contexts of this research, the ontology of communicative forms played an important role in cultural and political processes. Third, I outline the mediatization strategies used by leaders and the contexts and conditions within the communities that modulated decolonizing appropriations of mobile media.

7.1. Indigenous mobile inclusion

This dissertation has problematized the wholesale adventure to expand the 'digital age' (see Ginsburg, 2008) and has argued for the importance of working towards localized and culturally embedded understandings of digital inclusion. Along with other studies in indigenous contexts which have described situations in which indigenous peoples have chosen not to adopt communication technologies (Rennie et al., 2016; Rodríguez & El Gazi, 2007), the present research with Guaraní shows that we should not assume that ICTs are always wanted or that instances of ICT non-use necessarily reflect some kind of deficit. As discussed further in the next section, the contextual non-use of ICTs among Guaraní in this research reflected diverse social and cultural interests—relating to political processes, communicative

preferences and/or the performance of cultural identities—in addition to more classic ICT use barriers such as digital skills level and service affordability. Furthermore, research findings revealed the importance of not equating ICT access or ICT use with digital inclusion. The form or style of communication held an integral position within understandings of community life and Guaraní culture and politics, and in the Glew community, there was interest in gaining control over ICT services to further the local relevance of supported communication forms (see Publication 4, *Communicative architectures* section).

Along these lines, Salazar has argued for understanding ICTs as a form of poetics or media making. He explains that a poetics of ICT is

> concerned with the way media comes into being and functions in a given community, group or culture through its practice, or poiesis. It is concerned with the way social practices of technology are grounded in cultural politics and social action, generally rooted in local social solidarities. This poiesis, or making of communication technologies, is both a process and product of cultural representation. Therefore, the term ICT should be understood more in a practical way, as a form of action, and not exclusively in a technical way, as the incorporation of material gadgets or tools into indigenous peoples' lives (p. 19).

This understanding of ICT as a 'form of action' shifts the focus from ICT uptake to the way ICTs are culturally constructed within localities and, furthermore, means that ICT uptake in itself should not be conflated with digital inclusion. Findings in this dissertation support such an approach to ICTs: my analysis describes the intertwining of communications with cultural and political interests such that increased access to ICTs in some instances can exasperate feelings of social marginalization (see also Bernal Camargo & Murillo Paredes, 2012). I drew attention to the ongoing political process of digital inclusion (Bar et al., 2016;

Couldry, Rodríguez, Bolin, et al., 2018) which in the Glew community in particular was aimed at increasing levels of "digital self-determination" (McMahon, 2011) to overturn what the community leader described as colonial power systems embedded in communication media services.

The positioning of mobile communication within the cultural trajectories of the communities is discussed below (section 7.2. *Communication practices and cultural expression*). In what follows, I am concerned with experiences of digital exclusion, informants' unmet needs and wants for mobile media, as well as the aspects of the mobile media industries that recreate and reinforce these situations of exclusion.

Among leaders and community informants in this research, experiences of mobile media exclusion related to many factors including affordability, inadequate infrastructures, the external ownership and management of services, and the dearth of locally relevant contents and services. Villamontes community members objected to the lack of mobile network service in all communities, the expense of mobile services (voice calls in particular), and the lack of Guaraní language services such as predictive text. While short voice calls were particularly valued for coordination purposes, calls were billed by the minute. This meant texting was popular, which was invariably in Spanish even among informants that preferred to communicate in Guaraní as the written form of Guaraní was not well known. In this way, the cost and type of available services interrelated such that local interests in maintaining the Guaraní language were being undermined by mobile communication practices (as discussed in Publication 3).

Among members of the Glew community, the orientation of readily available mobile services also challenged culturally valued forms of communication (as discussed in Publication 4). The costliness of mobile Internet services was one factor that prompted interest in obtaining a community Wi-Fi signal. This instigated a usage upsurge in the mobile apps WhatsApp, Facebook and Youtube. For some community members, the forms of communication supported by these apps— particularly public forms of online communication and ICT-mediated communication within the community—did not reflect their communicative preferences or understandings of Guaraní ways of communicating. Furthermore, community members' engagements with these readily available mobile services shaped their impression of what the Internet offered and, in some cases, deterred their interest from engaging further with Internet media.

The rise of mobile Internet cultures—which have enabled users to create and distribute their own contents (cf. Jenkins, 2006; Jenkins, Ford, & Green, 2013; van Dijck, 2009) and advance political agendas (Carlson, 2013; Castells, 2012)—among most informants in this research generated experiences of mobile media exclusion. While most middle aged and older informants in the Glew community felt the communicative forms supported by mobile Internet conflicted with their communicative preferences and/or Guaraní cultural values, those in Villamontes communities were excluded from mobile media markets. Most mobile users in Villamontes communities had never accessed the Internet and had few alternatives to the services fixed by network providers or preloaded on their devices. Considering the prevalence of pluricultural discourses in Bolivia (see section 2.2. *Contemporary politics*), Bolivian app developers were aware of cultural diversities

and indigenous groups in their country and some expressed interest in producing locally oriented or culturally specific apps. Yet, they lacked the means to directly distribute apps to publics in Bolivia as the app distribution system was based on an international standard—online app stores—which was geared towards smartphone users and credit card holders.

Most Internet users in the Glew community primarily accessed the Internet on their mobile devices, either via a mobile network or the community Wi-Fi signal. As has been found by a number of studies on app-based and mobile Internet use (Napoli & Obar, 2014), community informants' engagements with the Internet were streamlined, often following suggestions put forth by a few mainstream apps (as discussed in Publication 4). Furthermore, community members tended to accept or reject mobile services rather than seek out alternatives even when engagements with mobile Internet were experienced negatively or when interests diverged from the readily available contents, such as interests in listening to Guaraní pin-pin music (see Publication 4, *Media flows and cultural continuity* section). While this in part reflected the initial stage of mobile Internet appropriation and the low-level of digital skills among many community members, it also reflected the orientation of readily available contents which most adult community members perceived to have limited relevance to their situation.

Guaraní community members' needs and wants for mobile media were not on the radar of app developers in Argentina and Bolivia. I found that mainstream app distribution platforms distanced app developers' attention from the interests of publics within their own country (Publication 2). Developers explained that they tracked and responded to user groups' innovations when they developed apps

targeted directly at general public users. The only avenues developers were aware of to distribute apps directly to the general public were mainstream app stores—particularly, the Google Play Store and the iOS App Store—but as these stores are competitive international platforms most developers did not consider app store sales a viable business adventure and those that did found success in developing what they considered "neutral" products that targeted an international market. While many of the interviewed developers explained that, ideally, they would like to research and develop mobile solutions for general public users—and some had developed locally oriented free apps to showcase their work—this was not considered feasible financially and most developers targeted business clients. Developers in Argentina explained it was nearly impossible to get one's app seen on the app stores due to competition from more established developers—likewise, most of the popular apps in Argentina were developed in the United States or Europe (see Publication 2, Table 5)—while developers in Bolivia were restricted from sales on the Android Play Store and felt most mobile users in Bolivia lacked the resources to purchase apps online.

These findings suggest that alternative app distribution platforms in Argentina and Bolivia could play an important role in reorienting developers' interests to the needs and wants of in-country user groups. In Bolivia this would be particularly important as the online-only format for app sales presented a block between developers and local users. From the perspective of a La Paz based software business incubator—interviewed as part of this research—an alternative app distribution system would be an important way for the mobile media industry to adapt to the Bolivian context. In India, for example, an offline app distribution platform called 'AppsDaily' has

overcome issues such as those the present research revealed in the Bolivian app market by enabling mobile users to purchase locally oriented apps over the counter at shops. Kathuria and Srivastav (2014) explain,

> AppsDaily has gained immense popularity as it is addressing the current gap in the market in terms of delivering localised content and is also circumventing unfavourable mobile-payment regulation by allowing payments in cash. Moreover, by having stores with a physical attendant, AppsDaily has made the process of obtaining apps far easier for those who are less digitally literate or aware.

NGOs played an important role in bridging app developers and mobile users in Bolivia: they funded free apps distributed on online stores or distributed apps through alternative modes. Yet their funding was connected to organizations abroad and geared towards social development issues as defined by those organizations. The NGO-funded mobile apps identified in this research that were developed *for* indigenous populations were focused on traditional language learning.[19] These apps had not been developed in response to local needs or in collaboration with indigenous organizations.[20] The main political opportunity the Internet has brought for indigenous organizations according to a number of studies in Latin America (Basanta, 2012, 2013; González Lorenzo, 2009; Monasterios, 2003) has been self-representation independent of NGOs or other institutions

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[19] In Bolivia at the time of research there was an indigenous language translation app available for free on the Google Play Store or from the developers' website and a series of indigenous languages learning apps that were distributed through educational institutions. I did not identify any mobile apps on indigenous themes developed in Argentina.

[20] A developer involved in the language translation app project was interviewed as part of this research and explained that they funded the project by collaborating with an NGO. He explained further, "The language topic was not a project that came from the attendees [of the weekly Android Club he hosted in La Paz]... This is a completely classical situation where the local people think that what is related to their own culture is something in the past and that the future is not connected to what they believed before or what their parents believed. It is discussion from the outside people that want to make technologies with traditional languages and connect technology to traditional languages."

which have historically spoken for indigenous peoples and characterized their needs. Furthermore, ICT development projects tend to focus on specific social development outcomes and overlook the mundane everyday communication needs of indigenous groups. As Budka (2015) explains,

> Indigenous Internet connectivity projects and initiatives… often aim for the reduction of poverty, the improvement of education, or the creation of jobs in the indigenous communities. Such noble objectives and expectations are often in contrast to people's everyday use of Internet technologies; when these technologies are actually used for personal entertainment, self- representation, and individual social networking. …But to deny indigenous people the mundane appropriation of Internet technologies and services only reinforces their attributed marginal status as dependent people outside of "modern" society. (p. 140-141).

Community informants in both research contexts expressed frustrations with widespread assumptions that positioned indigenous peoples "outside of 'modern' society," and this was particularly challenging for those in the Glew community given the sociopolitical context that invisibilized contemporary indigeneity (see section 2.2. *Contemporary politics*). As discussed further below, informants did not speak about ICTs as a tool for development or for the safeguarding of the Guaraní language. Rather, they expressed preferences and concerns relating to the ways ICTs' restructured everyday communications and enabled new modes of accessing and sharing information. Informants in the Villamontes communities wanted short voice calls to be less costly as they used mobiles primarily for coordinating in-person meetings and preferred voice calls to texting. In the Glew community, many middle-aged and older informants were averse to the ways social networking sites restructured communication among family and friends in a public or group manner

and expressed interests in maintaining intimacy and bidirectionality in their communications.

These findings show that the manner in which indigenous peoples are included or participate in decisions about the digitization of mundane, everyday communications can be significant for local cultural and political goals, and furthermore, that the focus of many digital development projects on traditional culture and language revitalization could be irrelevant or even detrimental within local contexts—as would be the case in the Glew community context. The scope and nature of participatory practices in the mobile media sector are thus critical issues for indigenous media research.

Cornwall (2004) argues that the participatory practices of institutional arrangements—such as those relating to mobile media industries—benefit from a spatial analysis. She explains,

> A space can be emptied or filled, permeable or sealed; it can be an opening, an invitation to speak or act. Spaces can also be clamped shut, voided of meaning, or depopulated as people turn their attention elsewhere. Thinking about participation as a spatial practice highlights the relations of power and constructions of citizenship that permeate any site for public engagement (p. 1).

Drawing on Cornwall's call for a spatial understanding of participation, I suggest we can understand the making of spaces for meaningful access to—or citizenship in (see discussion further below at 7.3.1. *Decolonizing strategies*)—mobile media on two scales. First, at the industry scale, we can speak about spaces of participation *in* the mobile media industry, such as spaces of influence between users' innovations and developers' activities or the spaces in which users influence

political decisions on industry regulations. Public policies that stipulate local content quotas or reallocate network or frequency titles generate these kinds of participatory spaces. Second, at the scale of user appropriations, meaningful access transpires through the generation of spaces *from* providers' restrictions, or what Rodríguez (2016) has called the detachability of technologies from service providers. Among community informants in this research the making of spaces both *in* the industry and *from* the industry were important to decolonize the mobile mediation of communication and information activities. I return to this discussion on the spatial dynamics of meaningful use in the final section of this discussion (section 7.3. *Decolonizing mobile media*).

7.2. Communication practices and cultural expression

In both research contexts community fragmentation was a reality. In the Glew community the pressures of urban life and changes in leadership had challenged community members to upkeep communal sharing arrangements and families had become individualized in their efforts to obtain employment. In the Villamontes communities, many families were disunited due to work and education activities. Furthermore, an alternative Guaraní political institution in the Villamontes zone had divided some of the communities (see note 15, section 5.3. *Collaborative research*). These situations meant that the waning solidarity of community life was spoken about among informants of all ages.

Communication practices were thought to play an important role in recreating group solidarity. Informants described the role of face-to-face communication in enabling mutual forms of exchange through which communal living arrangements

could be maintained. Among some middle aged and older informants in the Glew community the communication medium choice itself had become a way to express one's Guaraní identity by aligning oneself with more reciprocal, in-person modes of communication (as discussed in Publication 4). In the Villamontes research context, leaders stationed in Tarija city described the necessity of meeting with community representatives in-person regardless of the travel time required (as discussed in Publication 3).

The making of what the Glew community leader described as "direct"[21] communication and what a departmental leader in Tarija described as "close"[22] communication is what I discuss further in this section. First, I consider the instances through which ICTs were renegotiated and appropriated to enable what informants considered Guaraní forms of cultural expression. Second, I reflect on how these contestations are positioned within cultural revitalization aims.

7.2.1. Contestations of ICT-mediated communication

Analyses of the non-use of communication technologies can provide important insights on the relation between users and technologies (Baker & White, 2011; Lee, Derthick, & Chen, 2014; Wyatt, 2003). Rather than a binary divide between users and non-users, rejection of technology is often situational (A. Leavitt, 2014). Along with Bar et al. (2016), I understand technology appropriation as political—"a

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[21] "I am interested in direct communication with my siblings and my children and other colleagues." This quote is discussed in Publication 4, *Communicative architectures and community cohesion* section and Publication 5, *Julio's story*.

[22] "If I want to pass on our history to my children... it has to involve communication that is very close... If there is not this kind of close communication, there would be no transmission of understanding." This is discussed in Publication 3, *Mobiles and mobilities* section and Publication 5, *Alejandro's story*.

contest for control over a technological system's configuration" (p. 618)—where instances of rejection may reveal the technology's nonalignment with users' cultural standpoints. In this research, instances of mobile service non-use often reflected users' preferences for what they considered more reciprocal forms of communication. Mobile media features and communication styles were resisted when they were thought to generate distance or contribute to community fragmentation. I thus characterize these instances of non-use as 'contestations' to draw attention to their intentional character and to differentiate them from forms of non-use which more directly reflect issues with service availability or digital skills. This, however, is not to say that service availabilities and digital literacy levels—or one's "digital repertoire" (Donner, 2015; see also Khazraee & Losey, 2016; I. Stevenson, 2013)—did not influence the mobile contestations I witnessed. This will be discussed in the next section (section 7.3. *Decolonizing mobile media*). My interest here is in the relations between the contestations of mobile media I saw and informants' understandings of Guaraní cultural practices. In what follows, I discuss five sites of mobile media non-use by which informants tactically engaged in communication styles that were considered to be more intimate and to contribute to group solidarity—both of which were commonly discussed as important Guaraní cultural values.

Mobile communication among neighbours

Intracommunity communication practices in Villamontes communities reflected what many leaders and older informants described as the "traditional" way of communicating. Despite the long distance between some households and the reliability of mobile network coverage in most communities, mobile

communication was almost never used among households in the same community. Designated messengers would go door-to-door to inform community members of upcoming meetings and informants described walking long distances to drop by fellow community members' houses. A departmental leader stationed in Tarija city explained the significance of traditional communication practices as follows.

> *Departmental leader:* Traditionally communication is about being close and has its nexus in the family... This concept of communication in the Guaraní culture is very important. Before in the communities when they wanted to have a meeting they would go to each house...The houses you know are far apart, they are way over there! So sometimes you have to walk 2 kilometres, 3 kilometres, to get to a house, so they had a messenger and this person went to communicate—"tomorrow at eight o'clock we have a meeting"—and so this messenger would go communicating like this to each house. And so the next day at eight in the morning everyone was present, and this was due to knowing how to communicate... and now you don't see this as much.
>
> *I:* In Villamontes, yes, they have messengers that communicate meetings in this way.
>
> *Departmental leader*: So they maintain this structure. For us it is better to go and speak in-person than use a phone... It is part of our culture. It is important culturally and they are not forgetting this. They are maintaining this.

Community leaders explained that face-to-face communication was important to maintain community engagement, and some community informants explained that mobile mediated communication generated feelings of distance and disunity. While all forms of mobile communication were contested for intracommunity communication, short voice calls and texting were used among family and friends living in neighboring communities. These short forms of communication were a way to provide updates and coordinate in-person meetings. Face-to-face communication was prioritized and informants preferred to spend money on public

transport than on long voice calls (as discussed in Publication 3, *Mobiles and mobilities* section).

In the Glew community, the sentiment of distance generated by mobile communication had become a contested issue. The community Wi-Fi signal enabled community members to maintain contact throughout the day, providing cost-free updates on their whereabouts and activities via WhatsApp and Facebook. In other research contexts—such as among migrants situated at long distances from family members or families distanced during the day due to employment obligations—regular mobile communication throughout the day has generated feelings of co-presence (see Castells et al., 2007; Licoppe, 2004; Madianou, 2016). In the Glew community, however, informants expressed concern that mobile-mediated communication between households deterred from longer, unrushed, relaxed forms of face-to-face communication which were important to build and maintain group solidarity. The community center was an important site for group discussions and the making of group-based problem solving. The opportunity for cost-free remote communication was seen as one factor that waned at the prominence of the community center—and this was also witnessed when one of the hosts for my community homestay, Melina, received her first smartphone during my stay and no longer felt the need to go to the community center everyday (see Publication 4, *Communicative architectures* section). While some older respondents in the Glew community explicitly connected their contestations of mobile telephony to Guaraní forms of communication and their interests in maintaining Guaraní identity, some youth respondents also expressed concerns about community fragmentation and the influences of mobile-mediated

communication.[23] For example, seventeen-year-old Luis explained, "We are separated now… And as a community we are losing a lot." Luis was no longer interested in having a smartphone as he preferred to drop by his friends' houses unannounced.

Media playback

Smartphone users in the Glew community contested the opportunity to individualize media playback. They chose not to use the earphones that came packaged with their mobiles (see Publication 4, *Communicative architectures* section). Household radio use had been largely replaced by the YouTube app particularly after the introduction of the community Wi-Fi signal. Informants appreciated the opportunity to select their own music—which often followed suggestions in the YouTube app—but maintained the group practice of media consumption by using their mobiles' inbuilt speakers. Multiple sources of music coming from mobiles were usually audible in the community center, alongside household televisions which were typically kept on throughout the day. The expectation for shared forms of media consumption, which had become customary through household radio and television media, were transferred to mobile media consumption. While older informants saw group-based practices as basic to Guaraní culture, younger informants recreated the customary prioritization of communal activities in the way they used their mobiles' inbuilt speakers to maintain shared auditory spaces.

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[23] As discussed in Publication 4, 15-year-old Laura explained, "If the phone didn't exist, then one would have to go to the other person's house and speak to that person, and now with these technologies we don't do that as much."

Media content sharing

In both research contexts there were informants that preferred in-person modes of sharing documents and photos. A few informants in the Villamontes communities had feature phones with Internet capabilities, yet these informants did not see any utility to mobile Internet. Documents, games and ringtones were passed between people in a face-to-face manner using USB sticks or Bluetooth (as discussed in Publication 3, *Mobiles and mobilities* section). While these practices partly reflected the lacking Internet culture in the communities, they also reflected what informants described as their preference for meeting in-person. Similarly, some middle-aged informants in the Glew community contested the use of Facebook for sharing photos or posting comments, which they attributed to the "reserved" nature of the community (see Publication 4, *Communicative architectures* section). Other informants also spoke about being reserved, which they characterized as wanting to communicate intimately and privately. Reciprocity in information sharing— particularly knowing that the other was interested and invested—was considered important among middle aged and older informants.

Public communication

Various forms of public communication were contested among those in both research contexts. While departmental leaders stationed in Tarija city disseminated information to the general public about their activities via pamphlets and videos, they coordinated face-to-face meetings with zonal and community delegates using texts or voice calls. Community leaders contested the use of FM radio or leaflets to communicate information about meetings. This was related to two lines of reasoning. First, in-person communication within the communities was customary

and the use of a messenger as described above was considered the best way to ensure attendance at meetings. Second, political matters could only be communicated in-person. A community leader explained,

> The OTB [campesino organization] broadcasts information about their organization using the mass media, but we don't do that… we don't have this custom. The Capitán Grande (zonal leader) comes here, we have transport, and he can go there to all the communities… If you put the meeting on the radio, you don't know if people are listening. You wouldn't know anything about that, and that would be a problem.

This second point was echoed by departmental leaders who often emphasized that internal political processes had to be carried out in a face-to-face matter, as discussed further in the following section.

In the Glew community, many middle aged and older informants contested the use of social networking sites to communicate publicly or within their networks. This kind of unidirectional communication was considered "showy" (*demonstrativa/o*) or was connected to disagreement among family and friends. Online private messaging, however, was appreciated for being less costly. The community leader, Julio, on the other hand, used social networking and blog sites to account the community's activities to a public audience and to connect with other leaders. These uses of social networking sites he felt were necessary for his work as a leader. Yet, he had given away his smartphone as he did not want to use social networking to communicate with friends and family (see Publication 4, *Communicative architectures* section and Publication 5, *Julio's story*).

Political discussions

Group discussion in assemblies was the medium for political decision-making and considered an important Guaraní cultural practice. Assemblies do not necessarily result in group consensus, as was contended in many early writings on the Guaraní (see section 2.2.1. *Ñemboati*), but are about engaging in the reciprocal act of speaking face-to-face, "to make reciprocally to face" (Lowrey, 2011, p. 888). In the Villamontes communities, I described how zonal and community assemblies created a reciprocal space for informal, unrushed exchanges (Publication 3, *ICTs and cultural change* section). Furthermore, I found that face-to-face discussions were not only important for assemblies but also for any political discussion, such as strategizing about an upcoming meeting or communicating the outcome of a meeting. Departmental leaders in Tarija were nearly always on the move, travelling back and forth between Tarija City and localities in the Chaco. They regularly met with neighboring indigenous groups, called meetings with zonal level Asamblea del Pueblo Guaraní leaders, and visited community and zonal leaders at their houses to discuss outcomes and make plans. These interactions were invariably face-to-face. Departmental leaders explained that without the opportunity for in-person exchanges, communication would lose its value; it would no longer contribute to or have worth within political processes. Mobile telephony was considered useful for coordinating meetings, but leaders explained they could not use the phone to discuss political matters or even relay the outcomes of an assembly. As Alejandro, a departmental leader based in Tarija put it,

> The use of Skype, or the Internet, for a meeting in our culture this could not happen [...] because I have something to tell you and the other person has to say something, so it has to be like this, in front of each other, *face-to-face*.

In the Glew community, formal community assemblies were no longer held, yet informal exchanges among those without regular employment—particularly women—in the community center played a political role within the community (see Publication 4, *Communicative architectures* section). Afternoons in the community center had become a space for discussing community members' problems or devising group income-earning activities, such as clothing sales. As discussed above, the opportunity for mobile-mediated communication between households had generated some concern among informants as it encroached on these face-to-face discussions in the community center.

Beyond internal political discussions, leaders in both research contexts partook in another form of indigenous politics where public representation had become important. Communicating their activities, lobbying government institutes and making connections with other indigenous leaders were an important part of their work as leaders. Along these lines, Landzelius (2006) has distinguished between "inreach" and "outreach" forms of indigenous political action. Landzelius explains,

> Despite the heterogeneous range of indigenous cyberactivism, its varied expressions might be seen to gravitate towards one of two predominant orientations: those geared towards an internal public comprised of fellow group members, and those geared towards an external public (which may target non-indigenous peoples and/or indigenous peoples from other groups). We might describe the former initiative as predominantly *inreach*, and the latter as predominantly *outreach* (p.5, original emphasis).

Communication medium choices among Guaraní leaders in this research related to the inreach/outreach orientation of political communication (see Publication 5). Guaraní leaders tactically used ICTs to communicate their activities to the public or

to government organizations while also creating spaces for more intimate discussions among group members. Leaders in Tarija had made videos and pamphlets targeted at the general public while the leader of the Glew community, Julio, disseminated information about the community via Facebook, Twitter and a blog site. Public forms of communication as discussed above were not used to disseminate information to fellow group members. Furthermore, leaders set limits on the use of mobile telephony for inreach communications. Julio used his mobile to update those in the community when travelling but contested the use of any ICT-mediated communication with community members while present in the community. Villamontes community leaders also contested mobile communication with those in their community, while zonal and departmental leaders limited their mobile use to the coordination of in-person meetings.

Informants in this research carefully considered and selected their communication mediums along the lines of what Sawchuk (2013) has described as "tactical mediatization" (as discussed in Publication 5). Sawchuk draws on Michel de Certeau's distinction between tactics and strategies to describe how members of an elderly activist organization developed workarounds to wider digital strategies and the pressure to mediatize by finding their own, meaningful and considered ways of introducing ICTs into their organization. She describes how "rituals of communication" were maintained as members slowly familiarized themselves with new ICTs (p. 56). Many leaders in the present research contested mobile communication in certain contexts as they had interest in maintaining ingroup face-to-face communication practices. As Soriano (Soriano, 2012) has discussed among indigenous organizations, such "low profile forms of dissent" (p. 34) have

political significance. The purposive delimitations put on ICT use among many informants in this research was a way to reproduce the relaxed and reciprocal communicative spaces that were considered requisite to cultural and political action.

7.2.2. Cultural revitalization and communicative spaces

The recognition of indigenous cultural revitalization goals in international forums and declarations such as the World Summit on the Information Society and the United Nations Declaration on the Rights of Indigenous Peoples have fueled increased interest in the potential of ICTs for cultural safeguarding in indigenous communities. Cultural revitalization has been the focus of much ICT and development work in indigenous communities where numerous projects have provided databases, applications or websites for language learning or the production and circulation of traditional cultural contents (Dyson et al., 2016; Hernández & Calcagno, 2003; Ormond-Parker et al., 2013; Villacrés Roca, 2016).

In surveying locally oriented mobile apps developed in Argentina and Bolivia, I found two mobile app projects relating to indigenous languages in Bolivia and no apps in indigenous languages or with indigenous cultural contents in Argentina (as noted in Publication 1). The dearth of indigenous-oriented apps in Argentina is not surprising. The invisibilization of contemporary indigeneity is commonly recognized in indigenous studies in Argentina (see section 2.3. *Contemporary politics*) and was also spoken about in the Glew community (as noted in Publication 4). Community members hoped to use community media to shift societal

assumptions about indigenous peoples—as traditional, historical, technologically averse or even non-existent—by showing what their community was about today.

In Bolivia, indigeneity had become the hallmark of mainstream contemporary identities (see section 2.3. *Contemporary politics)*. Yet, software businesses surveyed in this research had not worked with indigenous governments. Rather, the indigenous language apps I identified were funded by non-profit organizations. While these apps included the Guaraní language, the Asamblea del Pueblo Guaraní had not been consulted with nor were they even aware the apps existed. While Guaraní language-learning was important to many leaders and community members in this research, it was not always considered the main issue for cultural revitalization nor was it the main interest for ICTs. Community informants spoke about the importance of having ICT services in Guaraní language—like Guaraní predictive text or Guaraní software programs in the schools—but not about ICTs as a tool for language-learning or cultural safeguarding. Rather than wanting to use ICTs *to* safeguard 'culture,' informants wanted ICT services that aligned with their everyday communication preferences and that were culturally meaningful and appropriate.

The tendency of governments and international organizations to emphasize indigenous peoples' interests in the revitalization of traditional cultures can depoliticize indigenous peoples' actions or detract attention from the contemporary social issues faced by indigenous groups (Kaomea, 2007; Otenyo, 2017; see St. Denis, 2005; Wortham, 2013). Informants in the Glew community felt that the widespread association of indigeneity with the past and the societal ignorance about contemporary indigenous peoples in Argentina was a cause of the discrimination

they experienced (see Publication 4, *Media flows and cultural continuity* section). While some organizations and research groups working in the Glew area were interested in safeguarding indigenous languages and traditions, the community leader, Julio, saw these efforts, while well-intentioned, as counterproductive as they further associated the community with traditional folklore.

This, however, is not to say that Julio or other informants in this research were not interested in cultural revitalization. Julio spoke about the importance of revitalizing Guaraní language in the community, and along with his brother Ramiro, he was re-learning the language through self-teachings from books they obtained from Bolivia. Yet, for the most part, Julio did not speak about maintaining Guaraní culture in relation to something specific like the Guaraní language or material cultural traditions. Rather, he associated being Guaraní with face-to-face modes of interacting (Publication 4, *Communicative architectures* section) and with being happy, friendly and working together (as discussed in Publication 5, *Julio's story*). Rather than traditional cultural practices, what Julio wanted to visibilize through media channels was their productivity, dedication and friendliness, and their ongoing pride in being Guaraní.

Similarly, informants in the Villamontes communities associated Guaraní identities with face-to-face modes of political decision-making and with group-based work activities. My analysis found forms of reciprocal, face-to-face communication positioned at the core of cultural activity, inciting and underlying cultural practices such as communal labour or dance (Publication 3). As described above, leaders and community members worked to maintain the cultural continuity of "close" communication in the ways they negotiated ICTs. In addition, informants engaged

in more overt forms of cultural revitalization. I described how public displays of traditional cultural practices at cultural fairs played an important symbolic role by revaluing what had previously been prohibited (Publication 3, *Cultural revitalization and communal living* section). As has been found in other indigenous contexts (Ginsburg, 2008; Ota, 2002; Srinivasan et al., 2009), the intertwining of contemporary artefacts—such as speakers and mass media outlets—with traditional products and practices—like corn-based foods and pin-pin music—was considered a powerful way to revitalize and repoliticize their marginalized standpoint.

What was of interest in the Glew community was that symbolic displays of traditional culture were not part of community members' cultural revitalization plans. Informants explained they intended to use their community radio station primarily to disseminate mainstream music. Youth members were keen to develop music programs featuring cumbia and hip-hop music and this prospect was supported by informants of all ages (see Publication 4, *Media flows and cultural continuity* section). In addition to these music programs, Julio explained the radio station would supply opportunities for neighboring groups and other indigenous organizations to publicize their activities and events. Informants expressed hopes that their community media projects would help them to reduce the discrimination they faced and to rejuvenate a more communal lifestyle. That much of the agreed upon content for their prospective radio station would *not* be traditional cultural contents would contribute to both aims: first, by challenging societal assumptions on the historical or traditional character of indigenous communities; and second, by re-engaging youth members in communal activities.

Glew community members' interests in disseminating mainstream media as part of their cultural revitalization work counters commonly expressed fears that mainstream audiovisual contents generate a cultural risk for indigenous communities. Ginsburg (2002) explains,

> Film, video, and television... contain within them a double set of possibilities. They can be seductive conduits for imposing the values and language of the dominant culture on minoritized people, what some indigenous activists have called a potential cultural "neutron bomb"... These technologies—unlike most others—also offer possibilities for "talking back" to and through the categories that have been created to contain indigenous people. (p. 51)

In the Glew community, the broadcast of mainstream music from their community radio station was envisioned as a form of "talking back" that would challenge the way indigenous communities have been categorized and marginalized within Argentinean society. The propagation of mainstream media contents via ICTs was not a site of concern for most informants in the Glew community; rather, it presented a political opportunity.

In both research contexts, informants' concerns about ICTs were most often linked to the influences of ICTs on ingroup interpersonal communication practices. As discussed in the previous section, there were many contexts in which informants contested ICT-mediated communication. Leaders in particular wanted to ensure that informal, unrushed and face-to-face communicative spaces within families, communities and inreach political activities were not restructured or lost through ICT use. In this way, the interrelations between technical architectures and the physical spaces of interpersonal interaction emerged as important cultural and political issues.

7.3. Decolonizing mobile media

Bar, Weber and Pisani's (2016) examination of mobile appropriation concludes with some important areas for further research on the positioning of mobile appropriations in the evolution of mobile technology development. These include: (a) "the conditions that permit and encourage appropriation" such as "technology openness;" (b) the "innovation modalities" that "unfold during the appropriation stage;" and, (c) "how innovations that emerge from appropriation are later incorporated or blocked by producers through the repossession stage" (p. 633). The way Bar et al. problematize the relation between users and providers shares much with what I have explored in this dissertation as the contexts that foster/hinder decolonizing appropriations of mobile media. That is, I had concern both with the malleability of mobile communication services—or the structural features of services that open them up for transformation—and with the modalities by which users can influence and make mobile services more malleable. This I characterized as the finding of spaces of influence within service provision structures while at the same time finding distance from service providers' limitations (as outlined at 8.1. *Indigenous mobile inclusion*).

Obtaining agency over ICTs is, needless to say, not only important in indigenous contexts and has been discussed elsewhere as "meaningful use" (Selwyn, 2004) and "effective access" (Couldry, Rodríguez, Bolin, et al., 2018). ICTs become meaningful when users can effectively engage with them and transform them to suit their needs and wants. As outlined at the outset of this dissertation, I consider the decolonization of mobile media as the contextually specific processes by which mobile communication services become meaningful in indigenous contexts. This

process can be overt, such as through the obtainment of rights to local ownership (as discussed in Publication 1), or subtle such as through the contestation of mobile-mediated communication with one's neighbours (as discussed in Publication 3, *Mobiles and mobilities* section and Publication 4, *Communicative architectures* section).
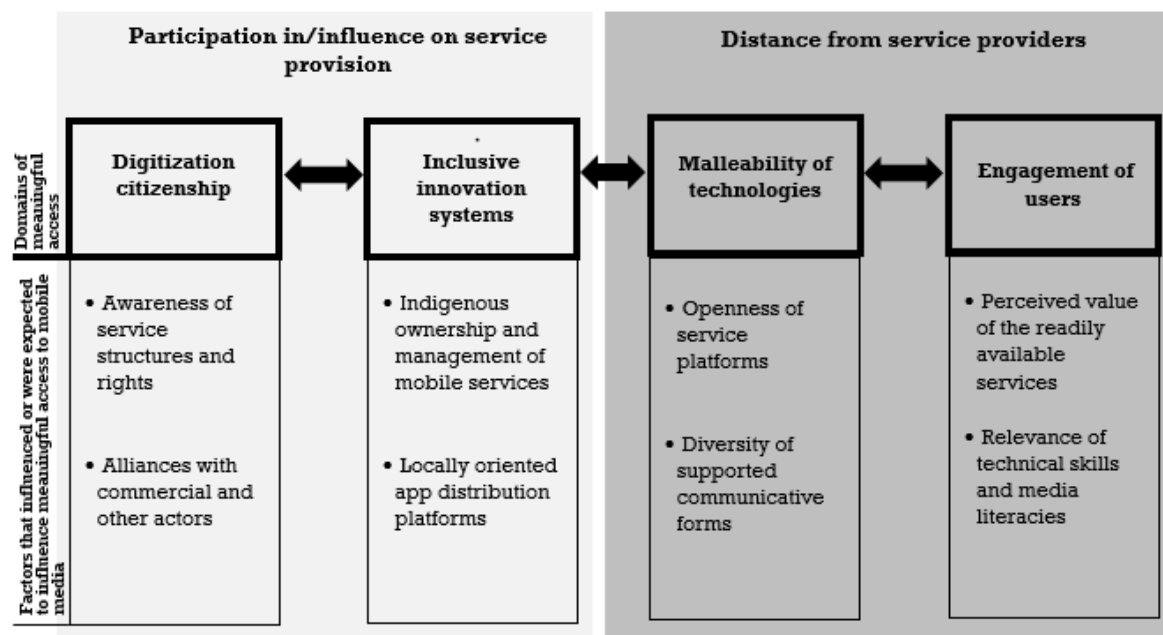
Figure 5. Four domains of meaningful access to mobile services and the corresponding factors identified in this research.

Figure 5 above distinguishes four interrelating domains of meaningful ICT access—"digitization citizenship", "inclusive innovation systems", "malleability of technologies" and "engagement of users"—which open spaces for individuals to influence service provision and evade the limitations of service providers. For each domain, I outline some key factors which I suggest would support informants in this research to meaningfully engage with mobile media. To be clear, Figure 5 does not purport to be comprehensive but rather provides an overview of the particular contexts and conditions that were found to support decolonizing mobile

appropriations in the journey of this research.[24]   In what follows, I examine the interrelations of these factors in shaping informants' levels of agency over mobile media services. The first section (7.3.1) has concern with the industry scale (the left side of Figure 5) and the routes taken by leaders to influence service provision, while the second section (7.3.2) considers meaningful use at the scale of user appropriations (the right side of Figure 5).

7.3.1. Decolonizing strategies: Lobbying and local ownership

Guaraní leaders in Tarija Department, Bolivia spoke with pride about the integration of ICTs into the political activities of the Asamblea del Pueblo Guaraní. Mobiles and computers had become important organization tools. Community leaders saw mobile network coverage as a basic service that they wanted expanded to all communities in the Villamontes zone, and departmental leaders explored options to amplify Internet access in the communities. One community leader had petitioned the national telecommunication company, Entel, to amplify mobile network service in his community while a leader of a remote community off the electric grid planned to lobby the municipal government to install a solar powered cell tower.

Lobbying was also an important strategy among indigenous leaders in Argentina. An important policy achievement for those involved in the Communication with Identity movement was the 2009 Audiovisual Communication Services Law's reservation of one AM, one FM and one television frequency for indigenous peoples

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[24] See section 5.2. *Research design* for reflection on the decisions, experiences and literatures that guided the focus of this research.

in each locality they reside. The leader of the Glew community, Julio, wanted to engage in similar efforts to gain ownership over mobile networks and web search engines and had been raising awareness among his colleagues to this end.[25] To advance his work on decolonizing communication services, Julio spoke up at public forums on communication policies, submitted funding proposals for equipment and training services, and collaborated with public and private sector actors. Partnerships with other actors played an important role (see Publication 1): a private Internet service provider built the communication tower on community land, a web designer assisted with the blog site, and a government funding agency provided radio equipment. As Carpentier (2016) has pointed out, community media organizations often persist through a myriad of connections with state and private sector actors without losing their "alternativity" (p. 5). Julio strategically developed alliances to influence the way communications in the community became digitized. That is, these partnerships were crucial factors in the making of his citizenship in digitization processes.

Eubanks (2011) employs the term "critical technological citizenship" to point at the need for individuals to develop critical understanding on their positioning in the so-called information age. In her perspective, technological citizenship is not simply about the distribution of information, technologies or skills, but moreover about the making of spaces for critical reflection on technologies. She explains, "Transforming technological citizenship begins when people who are marginalized

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[25] As he put it, "Google has interests from another world, from other countries, so we need to create our own server, a server that would be of the Guaraní culture. In various Guaraní meetings, I have been spreading this message that it is necessary to have our own server at the level of the continent." This quote is discussed in Publication 1.

in technoscientific and economic debates claim their right to political articulation and are seen as epistemological agents able to define and solve their problems for themselves" (p. 132). The term 'digital citizenship' has been used to referent users' levels of engagement with online media as well as the implications online media have for civic engagement (see Choi, Glassman, & Cristol, 2017; Mossberger, Tolbert, & McNeal, 2008). In this dissertation my interest has been in what could be called 'digitization citizenship.' This concept carries forth Eubanks' emphasis on critical reflection but specifically concerns the process of digitizing communication and information activities. That is, what I am calling digitization citizenship is about the ways individuals participate in and influence decision-making and planning for digital communication technologies.

Julio had transformed his citizenship in digitization processes firstly through his awareness and knowledge of communication service structures, public policy procedures and his communication media rights (see also I. Watson, 2015), and secondly through the many partnerships by which he moved ahead with exercising these rights. These partnerships as described above were both operational—such as his partnerships with commercial business owners, and political—such as his work with other indigenous leaders to influence communication media policies in Argentina.

Public policy can be a catalyst for inclusive innovation in the mobile service sector. Foster and Heeks (2016) have analyzed the role of policy in generating inclusive innovation systems in Kenya, where the often written about m-Pesa service (Horst & Miller, 2013; Ngugi, Pelowski, & Ogembo, 2010; Omwansa, 2009) targeted and responded to the needs of mobile users at the 'bottom of the pyramid'. Findings in

this dissertation suggested that regulations on app distribution platforms in Argentina and Bolivia could be particularly key to foster a mobile service arena where—to use Bar et al.'s (2016) phrasing—"innovations that emerge from [mobile users'] appropriation[s] are later incorporated...by producers" (p. 633). The monopolization of app distribution by a few online stores has generated competitive international app markets that many developers in Argentina and Bolivia found too difficult to penetrate. Without a viable mode to directly target apps at the general public, the innovations of in-country user groups were rarely of interest to developers interviewed in this research (see Publication 2 and the discussion above at 7.1. *Indigenous mobile inclusion*). These findings suggest that public policies that would channel funding to alternative app distribution platforms or set quotas for locally developed apps on the national portals of platform providers' stores would support the localization of the app industries in Argentina and Bolivia.

In addition to supply side policies for the mobile sector, enterprise policy has been found to influence inclusivity in mobile service innovations. In the Kenyan context, Foster and Heeks (2016) found that when intermediaries in the mobile sector were more active, the services were more inclusive of low-income and marginalized groups. In effect, policies that improved the viability of microbusinesses were found to promote "grassroots innovators" in the mobile media sector (p. 67-68). Regulations that would reduce the bureaucracy and costs incurred in the start-up and management of microbusinesses would support the Glew community leader to put into action his plans for a community-run communication services business.

The local ownership of communication services has been a significant strategy for indigenous organizations (see 3.2.3. *ICTs and self-determination*). In the mobile

sector, a few studies have described cases where indigenous organizations have become mobile network service providers (González, 2018; Magallanes-Blanco & Rodriguez-Medina, 2016; O'Donnell et al., 2011, 2013). These actions have been not only about expanding coverage to underserved areas but also about increasing the local relevance of mobile services. Budka (2015), for example, explains that an indigenous owned web service in northern Canada became popular for social networking as it enabled "different forms of cultural self-representation and individual expression" (p. 145) than commercial social networking services. Likewise, the Glew community leader felt that mainstream commercial web services have "interests from another world" that are not relevant to their situation. Moreover, Julio explained that the local ownership of communication services was a way to reclaim their invisibilized social and political position. As he put it, "We want to do it [develop and manage their own web server and other communication services] so that the people know that we can do it." For Julio, local ownership was an end in itself as it overturned the power structures of service provision.

Leadership in the two Guaraní contexts researched in this dissertation revealed two different strategies for digitization. Leaders in Tarija department, Bolivia were interested in ICT expansion; they wanted to ensure that all communities had access to Internet and mobile services. Meanwhile, the leader of the Glew community, Argentina, characterized ICTs more as a cultural threat and had interest in mitigating the influences of ICT-mediated communication (as discussed in Publication 5, *Tactical mediatization* section). On the one hand, Julio explained that they needed to "open up to the world" and that web-based social networking was crucial for his outreach political work. On the other hand, Julio felt that the use

of social networking sites incited discord between people and digressed interests from handling critical issues like human rights violations in person (see Publication 5, *Julio's Story*). While he wanted to amplify the community's outreach communications, he expressed concerns about how the media projects he initiated, like the community Wi-Fi signal, influenced intracommunity communications.

While leaders in Tarija department did not endeavor to overtake the ownership of communication services, they tactically engaged with communication technologies. They contested the mobile mediation of political discussions and felt that transport and movement around the region would always be essential to their communicative repertoire (as described in Publication 3 and above at section 7.2.1 *Contestations of ICT-mediated communication*). That these leaders had effectively appropriated the available mobile technologies to support their political activities I suggest was one factor that influenced their interests in expanding rather than mitigating ICT services. The contexts that influenced the ways informants in this research appropriated and thus envisioned mobile media is the subject of the next section.

7.3.2. Malleability and user engagement

Rodríguez et al. (2014) employ the concept of 'malleability' in their research on community media to argue that open and transformable media technologies have performative value. As they put it, "For community communicators to activate performative media, the technologies need to be malleable and flexible... community communicators need to be able to re-invent, bend, hybridize media technologies" (p. 161). Their research found that the ability to re-invent communication technologies is supported by the distance or detachment

technologies have from service providers. Elsewhere Rodriguez (2016) describes how community media in a war-torn region in Colombia became a powerful force precisely because of the openness of radio technologies. She explains,

> This community could count on the 'detachability' and malleability of radio technologies; once the community owned the equipment, it could sever all ties with the parent company. Then local communicators could bend and reinvent according to their specific needs. The degree of 'detachability' of digital platforms and mobile phones is very different. Because these tools can't function without the parent companies and their algorithms designed for profit and commodification, alternative and community media cannot detach from them (p. 37).

Among informants in the Glew community, this kind of "detachability" is what made FM radio a potentially valuable and inclusive community media tool. The community radio, in planning at the time of research, was envisioned as an open platform from which they could broadcast contents that reflected the community's diversity. Informants explained that individual community members would create music programs based on their own tastes and that neighboring communities would have the opportunity to publicize their activities. Meanwhile, the community social media pages launched by the leader were clouded with uneasiness and noninterest (as discussed in Publication 4). This in part reflected the page layout which required a set title and thus focus. The titles of the pages, meaning Guaraní culture, had been chosen by the leader. This explicit focus on Guaraní culture excluded youth members as they felt they had nothing to contribute and some youngsters explained they no longer considered themselves Guaraní.

Moreover, social media pages were not a suitable community media tool in this context as many adult informants associated web-based social networking with

distrust, disunity and negativity. Not only did adult informants consider the pages provided by services like Facebook unmalleable in respect to the forms of communication they generated—namely, negative, public, and non-discreet communications—but also the prominence of a few social media services (Facebook and YouTube in particular) coloured the way they envisioned the Internet in general. In this way, the readily available mobile apps in the Glew community played a significant role in shaping the ways users engaged and wanted to engage with Internet technologies. I described how mobile Internet use for many adult informants had become entangled in a cycle of disappropriation (Publication 4, Figure 1): the lacking relevance of the readily available apps demotivated many adults from learning how to find alternative services, which in turn reconfirmed their imaginaries of the Internet as a space solely for social networking and mass media consumption. If regulations on defaulted services and app distribution platforms diversified the readily available mobile media services, in the Glew community my findings suggest this would increase users' motivation levels to gain effective mobile Internet skills.

In this way, experiences of the unmalleability of mobile Internet services in the Glew community were not directly because of providers' restrictions but, rather, resulted from the streamlined nature of contents and supported communicative forms. That is, it would be very possible to listen to Guaraní pin-pin music on YouTube or generate a webpage for community media dissemination that was not linked to a commercial social networking service and that did not include a public comments space. Yet, informants' imaginaries of what the Internet was for and how it functioned meant that they did not explore such possibilities. This suggests that

the imagined unmalleability of services—or in the case of some informants in the Glew community, the imagined unmalleability of the Internet in general—has important consequences for how engaged users are.

Selwyn (2004, p. 355) describes levels of user engagement which reflect users' abilities to gain meaningful control over technical systems, where users' "networks of technological contacts" and investments in digital skills obtainment are key instigative factors. Technological contacts motivated leaders in this research to adopt new services, understand the workings of these services and gain relevant skills. Leaders shared their knowledge about ICTs at meetings and discussed the value and potential of different services for political action.[26] With political motivation, leaders sought ways to effectively engage with web services and to potentially overtake their ownership and management, as was the case among some leaders in Argentina as discussed in the previous section.

The social motivation to adopt mobile Internet services among community informants had not generated this kind of investment in digital skills development. For example, Alberto and Sergio had been pressured to buy smartphones by work colleagues so that they could be constantly reachable on Facebook (see Publication 4, *Communicative architectures* section). However, web-based social networking encroached on the reserved nature of communicating that they valued and that they attributed to the community's way of life. They were not interested in expanding their uses of mobile Internet and while they disliked Facebook, they continued to

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[26] The value of mobile media services like short message services (SMS), social networking sites and video cameras were the topic of many casual discussions among leaders at the indigenous events and meetings I attended in Buenos Aires province, Argentina and Tarija department, Bolivia. See also Publication 5, *Julio's Story*.

use the service to send private messages and receive communications from their social contacts. Other informants also felt uneasy with web-based social networking and expressed concerns that they were not able to effectively manage whether their comments were public or private.

Community informants in the Villamontes region were more confident about their mobile media skills. Informants of all ages described how they used texting and voice calls to arrange in-person meetings and in some cases to engage in long calls with family members that lived in another department or country. These uses of mobile telephony were not seen to impose on what were described as culturally valued forms of communicating in an unrushed, in-person and united manner. Rather, they were providing new opportunities to carryout in-person meetings or to communicate with family members—in albeit a more disunited manner[27]—at a distance where communication had previously not been possible. Mobile communication for many in the Villamontes communities did not present a cultural threat to face-to-face communication but, rather, a way to achieve face-to-face communication (cf. Slater, 2013).

Juxtaposing findings from urban smartphone users with rural basic phone users draws attention to the relative nature of digital skills levels. Villamontes community informants described their uses of mobile telephony as agentive: they used mobile communication in situations when they felt it was convenient and valuable and refrained from using mobile communication when they felt it would be

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[27] As a community informant in Villamontes put it, "When you are on the phone you don't know what they are speaking of really, whereas if you are here, *united*, it is different." See Publication 3, *Mobiles and mobilities* section.

inappropriate, such as in the case of political discussions. These informants primarily used basic phones with fixed services that they were knowledgeable about and could either use or contest depending on the context.

Mobile Internet access in the Glew community called for a different type of skillset. Internet technologies have been long seen to require skills beyond technical competences, including combinations of information, strategic, social and creative skills (A. van Deursen, Helsper, & Eynon, 2016; A. van Deursen & van Dijk, 2010). While the term 'skills' is most often used in technological studies on digital competencies, talk of 'literacies' more often arises in research from a media studies perspective (Ilomäki, Paavola, Lakkala, & Kantosalo, 2016). Media literacy approaches have had concern with the analysis and evaluation of media texts as well as the development of critical understanding on media institutions (see Buckingham, 2007; see Livingstone, 2004). As Buckingham (2007) puts it, "In media education, the aim is not primarily to develop technical skills, or to promote 'self-expression,' but to encourage a more systematic understanding of how the media operate, and hence to promote more reflective ways of using them" (p. 50).

Research in the Glew community showed that the wide variety of literacies that arise in mobile Internet use not only are embedded in a particular social and cultural context but also are specific to individual users' interests. Some informants like Julio had interest in overtaking the ownership of mobile Internet services and needed further understanding on commercial arrangements and public policies (see Publication 1), while other informants like Alberto, Melina and Sergio wanted to communicate in a reserved and intimate manner without losing their social contacts (see Publication 4, *Communication architectures* section) and would

benefit from a combination of technical and strategic competencies to negotiate the rise of web-based social networking. As Livingstone (2004) has argued, there is not a given set of abilities that every user requires, but rather the literacies that are needed result from the particular interaction between a user and a technical interface.

That many informants in the Glew community lacked the relevant skills and literacies at the outset of using mobile Internet furthered the streamlined nature of mobile Internet contents and services in this context. This shaped the way some informants came to characterize mobile communication as a cultural threat (see Publication 4, *Communicative architectures* section). At the time of research in the Villamontes communities, informants had already developed the skills they needed to effectively appropriate the mobile services they used, and in this context the limitations put on mobile communication were characterized actively and positively. As new ICT services become available in these two research contexts, the kinds of skills, literacies and critical awareness that users develop will likely play an important role in shaping their motivations and abilities to not only transform specific technical systems but also open pathways to influence wider processes of digitization.

8

Conclusions

8.1. Methodological Contributions

8.1.1. Multi-sited indigenous media research

George E. Marcus (1995), the anthropologist that coined the term 'multi-sited ethnography', identified indigenous media as a research subject that shifts the ethnographic locus beyond a single site. As he put it, "The activist role of indigenous peoples as media producers... have reconfigured the space in which the ethnography of many of anthropology's traditional subjects can effectively be done; they also have made this space inherently multi-sited" (Marcus, 1995, p. 103; as cited in Wortham, 2013, pp. 14–15). Indigenous media researchers have explored the power relations involved in media-making activities alongside the cultural implications of indigenous and mass media (see 3.1. *Indigenous peoples and the politics of representation*). Where political economy and cultural studies approaches have been historically bifurcated (Durham & Kellner, 2000), multi-sited ethnographies have been significant by bringing together analyses of the production and reception of communication media within the frame of a single project (Marcus, 1995, p. 103).

While much indigenous media research has focused on the doings of leaders, activists and organizations, this dissertation developed a multi-sited project to

study the cultural politics of community members' day-to-day engagements with mobile media. To my knowledge this project is the first to combine political economy analysis of mobile media industries with situated research on indigenous peoples' mobile appropriations. I designed a multi-sited project that juxtaposes the perspectives of communication activists, app developers, rural basic phone users, and urban smartphone users. Furthermore, I adopted a critical approach by adding two elements to Marcus' formulation of multi-sited ethnography: self-reflexivity and participant collaboration (as discussed at 5. *Methodology*).

The juxtaposition of research scales that seemed "worlds apart" (Marcus, 1995, p. 102) furthered discursive, empirical and institutional understandings on the variegated factors that influence meaningful inclusion in mobile media. Discursively, it allowed for consideration of the contextual factors that shape the contestation and reproduction of discourses on traditional culture (as discussed below at 8.3.1 *The 'culture' problem*) and indigenous ICT users (as discussed at 7.1. *Indigenous mobile inclusion*; see also Publication 1) across disparate domains. Empirically, it enabled connections and comparisons that furthered understanding on the intertwining of factors like the streamlining of services with user demotivation or experiences of cultural agency with relevant digital skills (as discussed at 7.3. *Decolonizing mobile media*). Institutionally, it exposed points of disruption and disconnection between stakeholders with shared intentions and the

institutional arrangements that reinforce such disconnections.[28] While the construction of research sites in this project reflected contextually specific decisions (see 5.2. *Research design*), my findings show the value of juxtaposing industry level and community level research which I suggest will be an important approach to further examine mobile media in indigenous contexts.

The following section considers the methods I used at one scale of this multi-sited project, which perhaps formed the most significant methodological contribution of this dissertation.

8.1.2. Political economy analysis

Political economy research on the mobile telephony sector has been particularly valuable for outlining the influence of regulatory contexts on the accessibility of ICTs. Methods have combined policy analysis with the analysis of service costs and economic indicators to identify factors that reproduce digital inequalities (e.g. Barrantes & Galperin, 2008; Rajabiun, Ellis, & Middleton, 2016; see also Viecens & Callorda, 2016). The widespread adoption of mobile Internet and proliferation of mobile media has opened new kinds of political economy issues in the mobile sector (see also Goggin, 2011, p. 5). Studies have examined links between consumer behaviours and providers' policies (e.g. Burroughs, 2017; Jenkins et al., 2013; Zittrain, 2008) surveyed the relation between industry actors (Basole & Karla, 2011;

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[28] For example (as discussed at 7.1. *Indigenous mobile inclusion*), Bolivian app developers expressed interest in developing locally relevant solutions and saw indigenous groups as a potential target but the mediation of this market by NGOs had distanced the few examples of indigenous oriented apps from the actual interests of the target groups. In another example, indigenous communication activists in Argentina reproduced discourses on culture and language revitalization while such speak was considered counterproductive by community informants in Argentina (see discussion below at 8.3.1. *The 'culture' problem*).

Goggin, 2011; Kathuria & Srivastav, 2014; Nieborg, 2016), and analyzed the implications of public policy on mobile media market structures (Foster & Heeks, 2016; Miroro & Adera, 2014). However, a key player in mobile media industries–app development firms–has received surprisingly little academic attention.

My initial analysis of the mobile media industries in Argentina and Bolivia followed previous political economy work: I surveyed public policies, mobile network operator's policies, platform providers' policies, institutional relations between key players, ICT adoption statistics and, where available, statistics on the most popular platforms, publishers and apps (findings are summarized in Publication 2). Yet, these data did not evidence the geographical and social orientation of the app industries in Argentina and Bolivia. I developed a mixed-methods approach to generate hypotheses on the social, economic and political conditions that connect or disconnect app developers and the interests of local user groups. This method has two main parts (as discussed in Publication 2, *Methods* section): (a) quantitative content analysis of app develpment firms' corporate websites across five dimensions; and, (b) semi-structured qualitative interviews on app developers' activities and perspectives.

This two-part method proved effective to develop evidence-based understanding on the orientation of the industries and, moreover, to provide insight on the structural factors that shape app developers' activities. While participants idealized the development of apps directly for end users, the majority of apps produced in Argentina and Bolivia were marketing or business solutions for corporate clients. Perhaps most significantly, I was able to identify the role of international app distribution channels in disconnecting app developers from in-country user groups.

Political economy analysis has received growing attention from development aid agencies to identify potential barriers to social development and to provide focus for their activities (Cammack, 2016; DFID, 2009). The political economy method developed for this dissertation, as a mode to identify factors that orient commercial app production, could be of particular interest to mobile communication and development researchers.

8.2. Empirical Contributions

8.2.1. New evidence on understudied areas

Decolonization of communication

Research on decolonizing movements has tended to focus on indigenous peoples' claims to territories, resources and education services.[29] In comparison to this vast array of literature, few studies have gathered empirical data on indigenous peoples' decolonizing work on communication services. The political and legal battles involved in indigenous takeovers of communication services have received some attention (Bell, 2008; Budka, 2015; Magallanes-Blanco & Ramos Rodríguez, 2016; McMahon, 2011; O'Donnell et al., 2013; Rodríguez, 2001; P. Wilson & Stewart, 2008) including a few studies on the particular claims put forth by indigenous peoples in Argentina leading up to the Audiovisual Communication Service Law of 2009 (Basanta, 2013; Guzmán, 2011; Mignoli, 2010). Previous studies have characterized indigenous interests in owning mobile networks, television and radio frequencies, or web services as a means to an end: to expand network coverage

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[29] Examples of such research with the Guaraní in Argentina and Bolivia include Delgadillo et al., 2008; Gordillo et al., 2011; Wahren, 2012b, 2012a.

(Magallanes-Blanco & Rodriguez-Medina, 2016), to increase the local relevance of the service (Budka, 2015; McMahon, Gurstein, Beaton, O'Donnel, & Whiteduck, 2014), to counterbalance the influence of mainstream media contents (Alia, 2009; Butler, 2018; Knopf, 2010; Latimore et al., 2017) or to facilitate self-representation on social and political issues (Basanta, 2013; Landzelius, 2006; Muñoz, 2010). Findings in this dissertation showed that the ownership and management of communication services, as an act of self-determination, can be considered an end in itself (as discussed at 7.3.1. *Decolonizing strategies*).

Furthermore, the focus of this research on user appropriations speaks to an understudied area in indigenous media research (see 3.4. *ICT appropriations and cultural practices*). What has lacked particular empirical attention is the aspects of communication services that recreate cultural marginalities and the processes by which indigenous peoples negotiate these aspects. This line of research has been explored in respect to indigenous knowledge structures (Duarte & Belarde-Lewis, 2015; Srinivasan, 2012a; Srinivasan et al., 2009; van Gelderen & Guthadjaka, 2017). Some counterexamples that consider communication services are Soriano's (Soriano, 2012) work on the negotiations of online communications by indigenous organizations in the Philippines and Rodriguez's (Rodríguez & El Gazi, 2007) look at the features of radio communication that generated issues of cultural concern for indigenous leaders in Colombia.

This dissertation produced initial findings on the cultural and political negotiations of mobile media services among Guaraní. Furthermore, I developed a new research angle within decolonizing studies by focusing on community members' everyday communication practices. The activities of leaders and organizations have been the

focus of decolonizing research on communication media whether from a policy angle (Magallanes-Blanco and Ramos Rodríguez, 2016; McMahon, 2011) or appropriation angle (Soriano, 2012). Findings in this dissertation showed that the architectures of day-to-day communications with family and friends have political and cultural significance and deserve attention from a decolonizing perspective.

Cultural orientation of commercial mobile app industries

The sociocultural orientation of commercial mobile media industries is often overlooked in research and in policy (see Publication 2) while television and radio services have received the host of attention.[30] This is a significant gap considering the pervasiveness of mobile applications. Studies have considered the implications of providers' policies for consumer rights and principles of network neutrality (e.g. Carrillo, 2016; Wu, 2007) and have explored the socioeconomic impacts of apps produced by nongovernmental and non-profit sectors (see Kumar & Svensson, 2012; Niang et al., 2014; Zacarias & Wamala-Larsson, 2016). Furthermore, some studies have considered the social development potential of commercially produced mobile banking apps (Hellström, 2010; Ngugi et al., 2010) and there is a growing body of research with interest in commercial health apps (e.g. Jake-Schoffman et al., 2017; Rivera et al., 2016). What has received little attention is the political economy of commercial mobile media industries and the particular factors that orient mobile media industries towards (or away from) local social and cultural interests. Counterexamples include a report on the

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[30] Elsewhere (Wagner, 2014b) I survey communication media policy aimed at social and cultural inclusion across nine Latin American countries and argue that there is a double standard between 'old' media like television and radio and 'new' media like Internet and mobile media when it comes to regulations on localization.

social and cultural orientation of the Indian app ecosystem (Kathuria & Srivastav, 2014) and Foster and Heeks' (2016) work on policies that foster inclusive innovation in the Kenyan mobile service sector.

To my knowledge, this dissertation contributed initial findings on the political economy of the mobile media industries in Argentina and Bolivia. Furthermore, I opened a new research angle by focusing on the activities and motivations of app developers as a window onto the orientation of mobile media industries. This approach proved effective to identify the factors that shape the geographical and social orientation of app development in Argentina and Bolivia (as discussed at 8.1. *Methodological contributions*).

Cultural and political underpinnings to communication media choices and non-use

Communication technology non-use gained some research traction in the early 2000s (Selwyn, 2003; Wyatt, 2003). The focus of such research has evolved from the economic and digital literacy barriers that encumber ICT use to the social and behavioural aspects that guide communication media choices (Madianou, 2014; Madianou & Miller, 2013). Findings in this dissertation confirm other studies that breakdown the presumption of a binary divide between users and non-users (Fernández-Ardèvol, 2014; A. Leavitt, 2014) in showing that ICT non-use is often situational, momentary and dependent on variegated contextual factors. While interest has grown in exploring the agentive underpinnings to non-use (Magee, Agosto, Forte, & Dickard, 2014; Neves, de Matos, Rente, & Martins, 2015), there remains little research on how 'choiceful' non-use—or what I have termed 'ICT contestations'—reflect interests in exhibiting identity or cultural affiliations. Counterexamples that consider identity exhibition include a study on young non-

users of Facebook (Neves et al., 2015) and a study on mobile telephony non-use among older adults (Fernández-Ardèvol, 2016, p. 58). Findings in this research showed that contestations of mobile Internet not only can be a way to exhibit cultural identity but also can play a role in intracommunity politics (Publication 4).

A few studies have explored the implications of ICT use/non-use in contexts where face-to-face communication has significant cultural value with divergent findings (cf. Featherstone, 2013; Slater, 2013). Findings in this dissertation showed how delimitations put on mobile communication can be characterized actively, as a way to use mobile telephony to achieve face-to-face communication (Publication 3) or reactively, as a way to manage the cultural threat mobile communication poses to face-to-face communication (Publication 4). Considering these contexts side-by-side enabled reflection on the sociopolitical contexts that shape mobile contestations, where relevant digital skills level was found to be an important factor (as discussed at 7.3.2. *Malleability and user engagement*). Furthermore, findings showed how the streamlining of mobile media services can play a role in culturally motivated contestations of mobile media (Publication 4, *Media flows and cultural continuity* section).

8.2.2. Counterevidence to common assumptions

As with much development research and practice in general, a host of ICT projects in indigenous communities have been motivated by Eurocentric ideals (see section 3.3. *ICTs and cultural revitalization*). Assumptions about indigenous peoples' digital technology needs and wants can exasperate the marginalized position of

indigenous groups by overriding their actual claims and concerns about digital communications. Ginsburg (2008) explains,

> Although its [the term 'digital divide'] users want to express well-intentioned concern about such inequities, the term invokes neodevelopmentalist language that assumes that less privileged cultural enclaves with little or no access to digital resources... are simply waiting, endlessly, to catch up to the privileged West (p. 290).

Ginsburg goes on to outline some of the variegated concerns that indigenous peoples have raised about ICTs, including issues of knowledge ownership, commodification, and economic values embedded in ICT architectures. These concerns, she argues, have been silenced in digital inclusion debates due to a general focus on supporting the digitally impoverished to catch up.

This dissertation has contributed to a growing body of studies (Ginsburg, 2008; Kral, 2014; Rodríguez & El Gazi, 2007) that breakdown assumptions on the digital technology 'problem' for indigenous people. Drawing attention to contexts of ICT use that contrast the usual findings, I suggest, is important to destabilize pervasive speak on the unequivocal utility of ICTs (e.g. United Nations, 2015, target 9.c.). In what follows I outline how findings in this dissertation complexify two common assumptions about ICTs in indigenous contexts.

Common assumption: ICT service expansion in indigenous contexts is needed and wanted

Many indigenous groups around the world experience barriers to ICT use due to lacking infrastructure in their locality, the dearth of relevant digital skills and/or insufficient buying power (see section 3.2.2. *ICT access and use in indigenous communities*) and interests have accrued in expanding ICT services to indigenous

communities (Diego Soto et al., 2018; McMahon et al., 2014; Rennie et al., 2016). Studies often account the positive aspects of mobile telephony and Internet use in indigenous contexts. A host of research (see Dyson et al., 2016, 2007; Ormond-Parker et al., 2013; A. Wilson et al., 2017; P. Wilson & Stewart, 2008) has shown the value of communication technologies in indigenous contexts to mobilize political action, call attention to injustices or safeguard cultural knowledge. Similar findings on political mobilization were found in this research: the leader in the Glew community, Argentina, found Facebook an effective way to connect with other leaders and advance political agendas, while community and regional leaders in Tarija Department, Bolivia considered mobiles important for coordinating political activities. Counter-examples have accounted indigenous contexts where ICTs are unwanted (Rodríguez & El Gazi, 2007) or have exasperated feelings of exclusion (Bernal Camargo & Murillo Paredes, 2012).

Findings in this dissertation revealed much diversity within communities in respect to the utility and relevance of particular services. Three sorts of results spoke to the complexity of ICT uptake at the community level. First, the value individuals attach to particular mobile services can reflect a myriad of issues. This included relevant digital skills level (as discussed at 7.3.2 *Malleability and user engagement*), communicative norms and expectations (as discussed at Publication 3, *Mobiles and mobilities* section and Publication 4, *Communicative architectures and community cohesion* section), the cultural value attached to certain types of communicative spaces (as discussed at 7.2. *Communicative practice and cultural expression*) and the congruency of the service with the local role assigned to mobile

telephony.[31] Second, findings showed how the 'want' for ICTs can be intertwined with social pressure or feelings of inevitability (see Publication 4, *Communicative architectures and community cohesion* section and Publication 5, *Alejandro's story*). Likewise, ICT training may only be considered relevant for certain subsections of communities (Publication 3, *ICTs and cultural change* section). Third, the introduction of new services can bring unintended consequences. In this research, the leader's community Wi-Fi project in Glew, Argentina, shifted intracommunity communications practices in ways that countered his long-term cultural aims (Publication 4).

Such findings show that even in contexts where communication technologies are generally considered beneficial and sought out by leaders, ICT services can generate cultural and political issues within communities that require local negotiation.

Common assumption: Traditional culture and language contents is what makes ICTs locally relevant for indigenous peoples

Many indigenous groups have sought ways to safeguard their cultural knowledge using digital technologies. While issues have arisen over the ownership and management of cultural databases (see Gumbula et al., 2013; Singleton et al., 2009, p. 405) and over the harmonization of technical architectures with indigenous

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[31] In the Villamontes communities, mobile telephony had become an effective tool for coordination. Per second call rating was wanted among many informants as it would support this function of mobile telephony (as discussed in Publication 3). Meanwhile among some informants in the Glew community who, like many in the Villamontes communities, felt that mobile telephony could not mediate true communication, social networking apps challenged the role they had assigned to mobile telephony by enabling cost-free, constant contact between neighbours. This meant mobile Internet in particular was perceived as a cultural threat for some informants (as discussed in Publication 4).

epistemologies (Oppenneer, 2009; Srinivasan, 2012a; van Gelderen & Guthadjaka, 2017), numerous studies have accounted the effective use of ICTs for safeguarding or transmitting cultural knowledge (e.g. Iseke, 2011; Verran & Christie, 2007; see also, Ormond-Parker et al., 2013). Given such findings and the pervasive speak on culture and heritage revitalization (see section 3.3. *ICTs and cultural revitalization*), the cultural orientation of media contents has been a central site of concern in indigenous media research (as established at 3. *Indigenous media research*). Likewise, the production and dissemination of digitized indigenous culture and language content is often promoted and presumed beneficial for indigenous peoples (e.g. Greyling & McNulty, 2011; Owiny et al., 2014; SanNicolas-Rocca & Parrish, 2013; Villacrés Roca, 2016).

Findings in this dissertation showed that such approaches, while well intended, may be not only misguided but also counterproductive in some contexts. First, the orientation of media contents was not a significant issue for most informants in both research contexts. A central site of cultural negotiation, rather, was the ways ICTs restructured communication practices (as discussed at 7.2. *Communicative practice and cultural expression*). Second, the propagation of traditional cultural contents was experienced as a source of marginalization among those in the Glew community (as discussed in Publication 4 and below at 8.3.1. *The 'culture' problem*). Other studies have argued that the focus on cultural revitalization in many ICT interventions has overridden contemporary interests and rights to self-representation (Otenyo, 2017) and that the abundance of arts and crafts teachings in indigenous education has detracted attention from the conditions of oppression (Kaomea, 2007; St. Denis, 2005). This research showed that pervasive speak on

traditional culture can also be considered by indigenous community members themselves a cause of the discrimination they experience.

8.2.3. Practical findings for partnering organizations

The research I conducted with Guaraní communities was designed collaboratively with leaders and aimed to develop findings that would also contribute to their projects (as discussed at 5.3. *Collaborative research*).

Departmental leaders of the Asamblea del Pueblo Guaraní based in Tarija, Bolivia wanted to gather information on communication technology services in the communities to inform planning for Internet centers. The research surveyed the available services in each of the 12 communities in the Villamontes Zone and collected community members' perspectives on communication technologies. I identified specific issues in each community as well as commonly shared issues such as the exclusion of community interests at the local schools and the cost and travel burden for youth to carry out school projects at commercial Internet centers. Findings identified five communities where the Asamblea del Pueblo Guaraní could petition for community Internet centers given the available infrastructure at the school and the Bolivian government's Programa Nacional de Telecomunicaciones de Inclusión Social (PRONTIS) which was mandated to install community Internet centers in rural areas. In addition, findings suggested it would be important to support community delegates to gain influence over planning decisions in the schools and wider communities and to develop targeted digital literacy training programs for community delegates and school-aged youth that attended schools

without computer classes. These findings were presented to departmental leaders in Tarija upon conclusion of the research.

The leader of the Glew community in Argentina was involved in the Communication with Identity movement and was working on projects aimed at decolonizing communication. Findings revealed that discrimination was a major issue for community members which I witnessed at the school, hospital and social welfare office during my homestay in the community. Community members were positive about the prospects of the radio project to ameliorate the discrimination they experienced. They felt it would increase the self-esteem of youth and would inform others in Glew about their community. Findings such as these were compiled into a short report that the leader used in a funding application for radio equipment. Research also explored the issue of non-engagement that the community leader was having with his social media projects. My findings suggested that the community webpages would be more relevant across community members' interests if they were not on mainstream social media platforms like Facebook, if they did not provide space for public comments, and if they did not have a title focused on Guaraní culture. My analysis was shared with the leader and other interested community members throughout the research period and was discussed at a group meeting upon conclusion of the research.

8.3. Theoretical Contributions

8.3.1. The 'culture' problem

Within European schools of thought, the study of human cultures arose alongside colonization, where explorers and missionaries began describing the customs and

appearances of cultural 'others' (see Clair, 2003). Edward Tylor's 1871 definition of culture was influential on cultural anthropology: "That complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man (*sic*) as a member of society" (qtd. in Clair, 2003, p. 7). Anthropologists treated culture as a given, almost biological property well into the 20th Century in Latin America, where the lowland 'cultures' of the Chaco were particularly characterized as 'barbaric' and 'primitive' (Combes, Villar, & Lowrey, 2009; Gordillo & Hirsch, 2003; see section 2, *Guaraní in Argentina and Bolivia*).

While definitions of culture are numerous (see Kroeber & Kluckhohn, 1954), the past couple of decades has seen some consensus in how culture should *not* be portrayed: a bounded, shared, objectively describable and comparable property of peoples (see Holliday, Hyde, & Kullman, 2010; Nakayama & Halualani, 2011), which, as Appadurai (1996, pp. 12–13) has pointed out, is misleadingly a noun. That speak about 'culture' lends itself to stereotypes, value judgements and the concealment of power struggles (see Appadurai, 1996, pp. 12–13; Nakayama & Halualani, 2011, p. 6) has incited debate on whether the culture concept should be used in research at all (e.g. Fox & King, 2002). Appadurai (1996) suggests that the adjectival form, 'cultural', is more appropriate as it portrays 'culture' as a dimension rather than a substance. Conversely, Ota (2002) argues that researchers should not shy away from the noun form of 'culture' as the objectification of culture has been an important political tool for minority groups.

My analysis in this dissertation found both perspectives pertinent. Guaraní in Villamontes, Bolivia spoke about culture as an object and as a shifting dimension of their daily activities. They objectified traditional culture to advance political goals.

They also tactically managed changing group practices to upkeep what they considered important Guaraní values. The noun form of 'culture' was also important for members of the Glew community in Argentina, but for different reasons. The propagation of traditional culture was seen as a political risk. Europeanization in Argentina had othered indigenous peoples (as discussed at 2.2., *Contemporary politics*) and informants did not want to reinforce the opinion of indigenous peoples as outside of modern society by calling attention to traditional culture. Self-conscious awareness of the culture concept (Ota, 2002, pp. 69–72), its legacy and its implications for local politics, was evident in both research contexts. Both the celebration (in Villamontes) and censure (in the Glew community) of traditional culture were significant ways to advance local goals.

My analysis of 'culture' in this dissertation thus developed along two lines: (a) informants' self-conscious interactions with culture as a political concept, and (b) informants' experiences of cultural change. I drew on Alvarsson's (2007) observations on the ethnoregenesis of Weenhayek peoples who also reside in the Villamontes area to develop a distinction between these two ways of approaching culture (Publication 3). Alvarsson observed public displays of (re)invented cultural symbols alongside the continuity of covert practices like speaking in the Weenhayek language while at home. Guaraní in Villamontes also put on public displays of cultural products and activities responding to a political context supportive of indigenous cultural displays. These symbolic displays were a contextually specific strategy and, while politically significant, should not be presumed the main indicator of cultural resurgence. That members of the Glew community were not keen to put on displays of traditional culture did not indicate cultural loss, but

rather a contextually relevant strategy for cultural revitalization given the political climate in Argentina.

My analysis in this dissertation thus reoriented common understandings of cultural revitalization. International agreements and much development-oriented work account indigenous cultural revitalization in terms of indigenous language use and the display of traditional activities and material products (as discussed at 3.3. *ICTs and cultural revitalization*). While the promotion of traditional practices has been a locally endorsed strategy in many indigenous contexts, the presumption that this substantiates cultural revitalization creates a context where policymakers can suffice cultural inclusivity requirements without consulting local groups. This can be, for example, by including indigenous language classes or teachings about traditional indigenous dress in the schools, which in the context of this research, were found to be locally irrelevant or even problematic.[32] Such initiatives and much speak about cultural revitalization in general I suggest is rooted in 'culture', the misnomer—the supposed ahistorical property or "unchanging spirit" (St. Denis, 2005, p. 167) of peoples that has generated controversy (see Appadurai, 1990; Fox & King, 2002; Holliday et al., 2010; Nakayama & Halualani, 2011). My approach to cultural revitalization considered contextually specific strategies for negotiating

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[32] Most of the schools in the Villamontes area included some Guaraní language classes as per the national government's 2010 bicultural education law, Avelino Siñani-Elizardo Pérez (see section 2.3. *Contemporary politics*). However, informants complained that many of the teachers were from Brazil and that they were not teaching the dialect of Guaraní that was locally used. In the Glew community, informants explained that teachings on the historical cultures of indigenous peoples reconfirmed ideas about indigenous peoples as primitive, exotic, and no longer present in contemporary society. This was associated with the discrimination that youth had experienced at the school.

changing group practices and values, where the culture concept itself was one factor that generated issues or opportunities within these strategies.

The twofold theorization of culture I employed in this dissertation allowed for discussion on the cultural significance informants attached to changing group practices alongside the political implications that resulted from reifying the cultural nature of group practices. This theoretical approach I suggest is a relevant starting point for research in indigenous contexts where the culture concept itself is likely to play an important role in negotiations of cultural change given the legacy of this concept in indigenous politics.

8.3.2. Digital inclusion

Much of the conceptual work of this dissertation contributes to digital inclusion research. The digital divide concept has long since prompted debate (e.g. DiMaggio & Hargittai, 2001) for characterizing digital inequalities as a binary divide between those with access and those without access. More comprehensive understandings of digital inclusion have been developed, which draw attention to the variegated factors that reproduce inequalities in ICT use (as discussed at section 3.2.1. *Digital inequalities and digital inclusion*). Particularly significant is the recent chapter on Media and Communications of the International Panel on Social Progress (Couldry, Rodríguez, Göran Bolin, et al., 2018). Couldry and colleagues argue that "effective access" to communication media is pivotal to social progress. They not only call for participatory governance over media infrastructures to ensure the diversity and inclusivity of services but also emphasize that "the design of media infrastructures and digital platforms needs to be pertinent to diverse language communities,

individuals with different ability levels, learning styles, and financial resources" (section 13.8).

For this research I also found it important to consider the quality of ICT use in respect to service structures and their governance as well as individuals' cultural standpoints and digital skills. Much digital inclusion research presumes increased ICT use is a good thing (A. J. A. M. van Deursen & Helsper, 2015, n. 1). While recent speak about the third-level digital divide shifts the attention to inequalities in the outcomes of ICT use (Scheerder et al., 2017; A. J. A. M. van Deursen & Helsper, 2015), there remains an underlying assumption that all individuals should be using and obtaining successes from digital technologies. My findings in this dissertation substantiate a shift in focus from the intensity of ICT use to the politics surrounding ICT service provision. That is, in the contexts of this research, I argue digital inclusion would not be about increasing or enhancing ICT use but rather about enabling local agency over the ways communications are digitized. This includes abilities to reject, remove or transform unwanted services (see also discussion at 8.2.2. *Counterevidence to common assumptions*).

My analysis of the modes by which mobile media services could become more locally and culturally meaningful among Guaraní in Argentina and Bolivia arrived at four contributions to digital inclusion theory, which were built up as follows.

First, research showed the significance of the *cultural relevance* of the *communicative structures* of mobile media services. In mobile communication and development studies the cultural orientation of commercial services has received little attention (see Publication 2 and section 8.2.1. *New evidence on understudied areas*). Furthermore, much digital inclusion work has focused on ICT access

and/or users' abilities and has not considered the quality or local relevance of services (as discussed in Publication 1). Where concerns have arisen about the local relevance of mobile media in indigenous contexts they tend to be concerned with the nature of the contents (see 8.2.2. *Counterevidence to common assumptions*). Research in this dissertation drew attention to indigenous leaders' claims for "Communication with Identity" which not only had concern with media contents but also with the ways communication practices are restructured by technologies (Publication 1).

Second, my analysis described how *digital imaginaries* based on the *readily available services* have important consequences for the meaningful use of ICTs. The motivation to use ICTs has been recognized as an important consideration in digital inclusion research as it has been found to influence digital skills obtainment and technology appropriation (Dey et al., 2011; van Dijk, 2005, p. 43). Findings in this dissertation showed how users' motivation levels were intertwined with the perceived local relevance of services. Apathy about ICTs meant users were not interested in transforming services or finding alternative services even when they did not like the services they used (as discussed in Publication 4). My analysis showed that the readily available mobile apps were a key factor in the apathy I witnessed among users. Community informants had an imaginary of the Internet based on their use of a few mobile apps and this demotivated them from further engagements with the Internet. I developed a visual representation of the cyclical relation between service dissatisfaction and user demotivation (Figure 1 of Publication 4). That the readily available services played a role in perpetuating this cycle points to the need for a wider understanding of digital inclusion which takes

into consideration the mechanisms of influence between user groups and service providers.

Third, my analysis extended beyond individuals' interactions with technologies to consider the positioning of users within wider mediatization processes, or what I termed their '*digitization citizenship'* (see section 7.3. *Decolonizing mobile media*). Some research work has considered the tactics community organizations have employed to manage the introduction of new communication technologies (e.g. Sawchuk, 2013; Soriano, 2012). I differentiated these kinds of tactics from the tactics employed by users when they individually appropriate technologies (see Publication 5). While ICT appropriation requires relevant digital technology skills, digitization citizenship requires critical awareness of pertinent policies and governance processes. This kind of awareness enabled the community leader in Glew to create spaces of influence in ICT service planning and provision (as discussed in Publication 1).

Fourth, my analysis outlined how digital inclusion involves the creation of spaces both *in* ICT governance and *away from* ICT service providers' restrictions. This approach to digital inclusion calls for a change of thinking to the techno-optimism inherent in much digital inequality work. That is, the research in this dissertation led me to an understanding of digital inclusion that is not about access ("first-level digital divide"), usage ("second-level digital divide") or gains ("third-level digital divide") (see Scheerder et al., 2017), but rather about civic abilities to influence the ways societies and localities become mediatized. I developed a framework that shows the interconnections between what I consider four arenas of digital inclusion: digitization citizenship, inclusive innovation systems, the malleability of

technologies, and the engagement of users (see Figure 5 above). In this way, I characterize meaningful ICT access as a product of the interrelations between users' abilities to influence services and transform technologies on the one hand, and the level of openness of the available ICT services and their planning and management processes on the other hand. While this framework specifically reflects the experiences of informants in this research, it forges connections between some key factors that can influence levels of agency over mobile media services among marginalized groups.

9

Limitations and
scope for further research

This research began with interest in the social and political positioning of Guaraní peoples in the rapid expansion of mobile phones and mobile Internet services. Following much indigenous media research, my initial interest was in the representational politics of (mobile) media consumption and production. Listening to indigenous leaders' claims and observing and discussing mobile media practices in Guaraní communities shifted my attention to the structuring of interpersonal communication. My analysis contended that, among many informants in this research, the spatial structuring of everyday interpersonal communications was the primary site of cultural negotiation in ICT use. This finding runs counter to the focus of much indigenous media research on the nature of contents. This, however, is not to say that interpersonal communication structures should be the new focus of indigenous media studies but, rather, that they *could* be an important, and potentially overlooked, consideration in some research contexts.

Findings in this dissertation expressly reflect the particular experiences of informants and, moreover, the ways these experiences were explored and analyzed. As in any multi-sited ethnography (Fortun, 2016, p. 82), my research results by design are incomplete. They do not intend to provide a comprehensive account of the process of obtaining autonomy over mobile media but rather to develop some

insight into this problem based on findings from four research scales. The choices of these scales proved significant: my empirical results challenged pervasive assumptions about ICTs and indigenous peoples and led the way to new theoretical outlooks for digital inclusion studies (as described in the previous section, 8. *Conclusions*). That being said, there are important ways that this project could be expanded both temporally and spatially which would contribute to the research aims of this dissertation.

A longitudinal approach would be valuable. The opportunities that arose in this research to consider the social and cultural contexts of mobile media use before and after the adoption of a new service particularly enriched the analysis (see Publication 4, *Communicative architectures* section). Where many informants in the Glew community lacked agency in their initial uses of mobile Internet, follow-up research would allow for understanding on the evolution of factors that shape mobile media literacies.

Research at additional scales would also enhance this project. Speak on traditional culture revitalization was pervasive among indigenous leaders in Argentina and Bolivia including those, like the Glew community leader, who also felt such speak was detrimental to their contemporary situation. The discursive history of the concept of heritage revitalization that now permeates international agendas would provide an interesting angle to further examine the ways in which cultural revitalization as a concept results in contradictions and challenges at the local level. An analysis of policy transfer (see Sarikakis & Ganter, 2013) could be one approach to trace the evolution of cultural revitalization discourses across regional, national

and international agendas, and to consider how they have been taken up in communication media policies in Argentina and Bolivia.

Beyond the specific focus of this dissertation, my results point to some important areas for further research. In what follows I outline how three findings in particular could be built on to advance knowledge on mobile media inclusion.

First: regulatory strategies for mobile app distribution platforms. App developers in this research were challenged to find ways to market their solutions to local mobile users. While international app stores have become the standard for app distribution, it was not feasible for developers to target in-country users via these platforms. Further research could consider how regulatory strategies for other media platforms, like film and television, that are aimed at localization (see for example, Baughn & Buchanan, 2001) could be applied to the mobile app sector. This for example could involve the setting of quotas for locally developed apps on the national portals of platform providers' stores.

Second: the relation between service diversity, digital imaginaries and digital inequalities. This research described how imaginaries about communication technologies can demotivate users from gaining effective digital skills and thus further their digitally excluded position. In the contexts of this research, the readily available mobile apps played a central role in informants' ideas about the Internet in general. This suggests that regulations on preloaded and defaulted services insofar as they influence the diversity of the readily available services also influence user motivation levels. Further research could consider how ICT industry practices and regulatory contexts shape the diversity of the readily available services and in turn imaginaries about technologies.

Third: the social production of day-to-day communicative spaces. Research in this dissertation showed that the spatial structuring of mundane, everyday interpersonal communications can have cultural and political significance. Further research could consider the ways that institutional arrangements and digital interfaces influence the (re-)making of such communicative spaces in other contexts. Applications of Henri Lefebvre's (1991) work on the social production of space could be of interest to understand how interpersonal communicative spaces are conceived, perceived and lived. While there has been growing interest in the politics of communicative spaces, this usually concerns opportunities for public voice (e.g. Spitulnik, 2017). The present research suggests the need for further explorations of the cultural politics of everyday, interpersonal communication structures, an issue that could be particularly pertinent among marginalized and vulnerable populations.

Closing words

In the words of the cover page photo, the decolonization of mobile media in this research was about making mobile communication Guaraní territory too. This involved having the right kinds of digital skills and literacies and a political acuity to advance commercial partnerships and lobby government bodies. It also involved negotiating pervasive presumptions that indigenous peoples are traditional and technologically averse.

To conclude this report, I turn to two telling comments on societal expectations for indigenous communication. As these informants explain, indigenous peoples are often presented with a false dichotomy between modernity and indigeneity.

 In their words,

> From my point of view, it's important to have the new technologies even more so for us because we are indigenous peoples. [...] Traditionally, they say indigenous peoples communicated via smoke, it's a lie, smoke! [laughter]... Many think that

the indigenous need to return to the way they lived before, that they need to have their culture with their mist here [gesturing smoking], but no. So it's one thing to maintain the culture, and also, to be on top of this technology, to use and to be part of that.

- *Guaraní leader in Tarija, Bolivia*

I don't think [communication] technologies were produced with us in mind. They are made for other things. But we use them. Before, they used to say indigenous people [indios] communicated through smoke signals, but now we have cell phones in our pockets. There is always this kind of talk that indigenous people [indios] can't use technologies and still be indigenous [indios].

- *Guaraní community member in Glew, Argentina*

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Original publications

A multi-sited ethnography of the decolonization of mobile media among Guaraní
List of publications

Publication 1

Wagner, S. (2015). The politics of mobile media inclusion in Argentina. In C. Wamala-Larrson, C. Scharff and J. Hellström (Eds.), *Mobile Participation: Action, Interaction and Practices* (pp. 99-124). Newcastle, U.K.: Cambridge Scholars Publishing.

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