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# Cothrom air suirbhidhean coimheadachd cànain gus data air cleachdadh na Gàidhlig a chruinneachadh

AITHISG DHEIREANNACH

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Redacted Version*

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*This version of the report has been redacted to preserve the anonymity of the participants in this research project and those living in the communities where the research was undertaken. Where information has been redacted, the text has been marked accordingly. In general terms, absolute numbers and statistics that would identify specific locations have been redacted to ensure personal attributes cannot be linked to individuals (given some of the small datasets). In order to ensure compliance with data protection laws, redactions are based on the guidance provided in the Information Commissioner's Code of Practice on Anonymity. Those wishing to access a full version of the report for research purposes only can apply to Bord na Gaidhlig.

## Geàrr-chunntas / Summary

### Co-theacsa teòiridheach

Tha a' Ghàidhlig air ainmeachadh mar 'chànan dha-rìribh ann an cunnart' a rèir *Atlas of the World's Languages in Danger* aig UNESCO (Moseley, 2010). Chan ann ùr a tha an suidheachadh seo, le gluasad cànain bhon a' Ghàidhlig gu Beurla ann an Alba air tachairt thairis air na linntean a chaidh seachad. Tha iomadh factar air gluasad cànain adhbharachadh. Tha Fishman (1991) air aithneachadh gu bheil e duilich am pròiseas seo a thuigsinn.

'S e lùghdachadh àireamh luchd-labhairt na Gàidhlig aon de na toraidhean as follaisiche de ghluasad cànain ann an Alba. 'S e àireamh luchd-labhairt aon de na slatan-tomhais ann an measadh beòthalachd cànain, le cuid de dh'eòlaichean cànanach a' moladh gu bheil feum aig cànan air co-dhiù 100,000 luchd-labhairt airson a bhith "sàbhailte" (Krauss, 1992). Tha beachdachadh acadaimigeach mu àireamh luchd-labhairt cànain air a bhith stèidhichte air an ro-bheachd gu bheil a h-uile neach-labhairt a' cleachdadh a' chànain. Chaidh aithneachadh le Munro (2011) ged-thà gu bheil na cunntasan sluaigh air fiosrachadh a chruinneachadh a thaobh comasan cànain sluagh na h-Albann ach chan ann mu dheidhinn ìre de chomasan no cleachdaidh agus mar sin cha ghabh measadh a dhèanamh air fìor ìre de chleachdadh cànain. Tha fiosrachadh a thaobh cleachdadh na Gàidhlig air a chruinneachadh tro phròiseactan rannsachaidh eile. B' ann stèidhichte ann an sgìre Comhairle nan Eilean Siar, an sgìre as làidire a thaobh a' chànain (a rèir a' chunntais-shluaigh), a bha a' mhòr-chuid dhiubh.

### Theoretical context

Gaelic has been categorised as 'definitely endangered' in the UNESCO Atlas of the World's Languages in Danger (Moseley, 2010). This language shift has been ongoing for a number of centuries with many factors contributing to the process, which has led Fishman (1991) to recognise that it is difficult to understand this process fully.

One of the clearest indicators of language shift from Gaelic to English is the decline in Gaelic speakers in Scotland. The speaker numbers are one of the indicators used to assess the vitality of a language, with some minority language expert suggesting that a language needs at least 100,000 speakers to be "safe" (Krauss, 1992). The notion of speaker numbers as a language vitality indicator is based on the principle that all speakers are users of the language. Munro (2011) has, however, recognised that although the census has collected data pertaining to language competences in Gaelic, no information has been collected about the level of competency or level of language use and that, therefore, this data cannot be used to evaluate the extent to which the language is used by those who report to speak it. Information pertaining to the use of Gaelic has been collected through various research projects. These projects have mainly been focussed on Comhairle nan Eilean Siar, the local authority with the highest self-reported level of Gaelic competence in the national census.

Tha an rannsachadh seo air sealltainn gu bheil ìre cleachdadh cànain air lùghdachadh ann an iomadh àrainn, ach gu sònraichte anns an fheadhainn ceangailte ri '*Gemeinschaft*' – dlùth-choimhearsnachd (teaghlach, clann agus coimhearsnachd) (Fishman, 1991), gu sònraichte le luchd-còmhnaidh as òige na sgìre seo.

Aig an aon àm tha e coltach gu bheil dòighean gus an cànan a thogail air atharrachadh – bho thar-chur thar ghinealaichean gu siostam an fhoghlaim, le iomairtean gus a' Ghàidhlig a neartachadh stèidhichte air foghlam, na meadhanan agus stiùireadh cànain (McLeod, 2010).

'S ann co-dhiù dà-chànanach a tha gach neach-labhairt na Gàidhlig (R. Dunbar, 2011), agus tha seo a' ciallachadh gu bheil feum aig luchd-labhairt na Gàidhlig taghadh cànain a dhèanamh anns gach conaltradh. Tha an taghadh seo stèidhichte air iomadh factar eadar-dhealaichte, a' gabhail a-steach comasan cànain (mothaichte) aig na com-pàirtichean eile sa chonaltradh cho math ri ideòlasan agus cleachdaidhean cànain gu ruige seo. Tha modailean air an cruthachadh gus am pròiseas de thaghadh cànain a mhìneachadh, le Myers-Scotton (1988) air moladh gu bheil còd (no cànain) neo-chomharraichte ann – cànan a thèid a chleachdadh gu nàdarra agus gun bhun-smaoin sònraichte a thaobh a chleachdadh aig an luchd-labhairt. Ann an suidheachaidhean anns nach eil an còd cleachdaidh air a stèidheachadh co-dhiù tha feum air co-dheasbad, stèidhichte air comharran sònraichte (J. J. Gumperz, 1964) mar suidheachadh sòisealta, dàimh eadar an luchd-labhairt, adhbharan a' chonaltraidh agus ideòlasan.

This research has shown that the extent to which Gaelic is being used has declined across many domains, but especially those associated with *Gemeinschaft* or intimate community (home, family and community) (Fishman, 1991), especially with the younger members of the population in the area.

At the same time it would appear that the way in which the language is acquired is changing, from intergenerational transmission to the education system, with initiatives to promote the use of Gaelic in education, the media and language management (McLeod, 2010).

All Gaelic speakers are at least bilingual (Dunbar, 2011), and this means that speakers of Gaelic need to make a choice over which language to use in each conversation. This language choice is based on a number of different factors, including (perceived) linguistic competences of the other participants in the interaction as well as language ideologies and current language use. Different models have been constructed to provide an explanation to this language choice, with Myers-Scotton (1988) suggesting that there is an unmarked code (or language) – a language which is used naturally and without thought by the speakers in the community. In situations where there has not been an established code there is a need for negotiation of these language norms based on specific markers (J. J. Gumperz, 1964), for example in the social situation, the relationship between speakers, and the reasons for the interaction as well as the ideologies associated with the language.

Tha rannsachadh ann an Alba air sealltainn (Munro, Armstrong, & Mac an Tàilleir, 2011; NicAoidh, 2006) gu bheil a' Bheurla na cànain neo-chomharraichte ann an iomadh suidheachadh sòisealta, fiù ma bhios fhios gun gabh a' Ghàidhlig a chleachdadh. Tha rannsachadh aig Birnie (2018) a' sealltainn gur ann stèidhichte air eòlas a thaobh comasan cànain cho math ri ideòlasan a tha cleachdadh na Gàidhlig agus cuideachd gu bheil 'gleus tàmhachd taghadh cànain' (Spolsky & Cooper, 1991) a' ciallachadh nach toir àrainn no suidheachadh buaidh air taghadh còd stèidhichte agus, mar sin, ma ghabhas cleachdadh cànain a mheasadh ann an aon àrainn dh'fhaodadh seo a bhith air a chleachdadh mar chomharra cleachdadh cànain ann an àrainnean eile.

## Sgrùdadh air dòighean measadh cleachdadh cànain

A bharrachd air toraidhean nan cunntasan sluaigh, a tha airson fiosrachadh a thoirt a thaobh àireamh luchd le comasan Gàidhlig agus na sgìrean anns a bheil iad a' fuireach, tha iomadh pròiseact rannsachaidh air suidheachadh agus cleachdadh na Gàidhlig ann an coimhearsnachd a mheasadh. Tha a' mhòr-chuid den rannsachadh seo air a dhèanamh ann an sgìre Comhairle nan Eilean Siar. Tha na pròiseactan rannsachaidh cha mhòr uile stèidhichte air dòighean rannsachaidh fèin-aithris – ceisteachain agus agallamhan, an dà chuid le luchd-labhairt na Gàidhlig agus cuideachd le luchd-còmhnaidh na sgìre gun (mòran) chomasan sa chànan.

Research in Scotland (Munro et al., 2011; NicAoidh, 2006) has shown that English has become the unmarked code-choice in many social situations, even where there is an acknowledgement that Gaelic can be used. Research by Birnie (2018) has shown that the choice of code is often based on prior knowledge about the linguistic competences of the speakers as well as ideologies towards the use of the language and also that 'the inertia condition of language choice' (Spolsky & Cooper, 1991) means that the location or situation does not affect the choice of code and that, therefore, the measurement of language use in one domain can be used as an indicator for the use of that language in other domains or spaces.

## Evaluation of methodologies to evaluate language use

In addition to the census data, which has provided information on the number of Gaelic speakers and the areas in which they are resident, there have been a number of research project which have aimed to evaluate the state and use of Gaelic in the community. The majority of these studies have been based in the Comhairle nan Eilean Siar area. These research studies have, by and large, been based on self-reporting methods – questionnaires and interviews, both with speakers and those resident in the area without (many) competences in the language.

’S ann luachmhor a tha na pròiseactan rannsachaidh seo, ach a rèir Urla (2013) agus Hill (2008) tha cunnart ann gum bi com-pàirtichean nam pròiseactan rannsachaidh seo a’ cuimhneachadh chonaltraidhean anns an robh a’ Ghàidhlig ga cleachdadh nas trice na conaltraidhean anns a’ Bheurla, dìreach air sgàth ’s gun robh iad nas neo-àbhaistiche, nas neo-cumanta na conaltraidhean anns a’ mhòr-chànain. Mar sin, tha aithneachadh ann gum faodadh dòighean rannsachaidh eile a bhith air an cur air dòigh gus fìor chleachdadh cànain a mheasadh. Tha rannsachadh de leithid air a dhèanamh le Smith-Christmas (2016) anns an deach conaltraidhean ann an taigh teaghlach le Gàidhlig a chlàradh, ach cuideachd rannsachadh mar ‘choiseachd-ri-chèile’ far an coisich an neach-rannsachaidh le neach gus cleachdadh cànain a sgrùdadh agus a chlàradh tron latha. Ann am Montréal chaidh conaltraidhean bhuidhnean den òigridh air an sgrùdadh tro choimheadachd le luchd-rannsachaidh, ann an dòigh-obrach a chaidh a chleachdadh le Ní Dhúda (2011) anns an rannsachadh aice ann an Èireann cuideachd.

These research studies have been very valuable but, according to Urla (2013) and Hill (2008), there is a danger that the participants in these projects have recalled the use of Gaelic more frequently than the conversations in English, because these were more unusual and less common than the conversations in the majority language. As such, there is an acknowledgement that other research methodologies need to be used to evaluate the *de facto* language use. Research of this type has been conducted by Smith-Christmas (2016). In this study the conversations taking place within a Gaelic speaking home were recorded throughout the day and analysed. Other methodologies, such as the ‘walk-along’, where a researcher accompanies a participant to record the language use have also been used. In Montréal the conversations of groups of young people was observed covertly, a methodology also used by Ní Dhúda (2011) in her research in Ireland.

’S ann luachmhor a tha na dòighean rannsachaidh seo ach ’s dòcha gu bheil an dòigh rannsachaidh a tha air a bhith air a cleachdadh ann an Dùthaich nam Basgach nas siostamataigiche. Bho na h-80an thathar air suirbhidhean cànanach a dhèanamh ann an sràidean ann an coimhearsnachdan Dùthaich nam Basgach air a bheil *Kale Neurkata*. ’S ann stèidhichte air coimheadachd de chonaltraidhean ann an àitichean poblach, sràidean gu sònraichte, a tha an rannsachadh seo.

The methodology applied in the Basque Country to evaluate language use has, however, been more systematic. From the 80s onwards language surveys have been conducted in the streets of the different communities in the Basque Country, the *Kale Neurkata*. These surveys are based on observations of conversations which are conducted in public spaces, especially the streets.

Tha an rannsachadh seo air cleachdadh cànain ann an conaltraidhean a chlàradh gu siostamataigeach air clàr cho math ri fiosrachadh a thaobh luchd-labhairt no com-pàirtichean anns na conaltraidhean seo.

Chaidh an dòigh rannsachaidh a chleachdadh ann an Alba cuideachd le Birnie (2018a) ach a-staigh ann an àitichean poblach – nas freagarraiche airson suidheachadh ann an Alba. Tha an t-inneal rannsachaidh cha mhòr co-ionann ann an rannsachadh aig Birnie (stèidhichte ann an Steòrnabhagh) agus ann an Dùthaich nam Basgach, ach anns an rannsachadh ann an Steòrnabhagh chaidh cuideachd fiosrachadh a chruinneachadh a thaobh adhbhar farsaing a' chonaltraidh (pearsanta no gnothach buidhne far an deach an rannsachadh a chumail) agus cuideachd "dreuchd" luchd-labhairt ann an conaltradh (neach-obrach no ball-poblach). Airson an rannsachadh paidhleit seo chaidh an dà chuid an dòigh-obrach a tha air a cleachdadh ann an Dùthaich nam Basgach agus an tè a chaidh a cleachdadh ann an rannsachadh Birnie (2018a)a sgrùdadh gus suirbhidheadh cànanach freagarrach airson coimhearsnachdan ann an Alba, agus gu sònraichte ann an sgìrean far a bheil a' Ghàidhlig nas làidire, a mheasadh.

This research systematically records the language used in a conversation on a data collection sheet, as well as information about the participants or speakers in these interactions.

This methodology has been used in Scotland as well, by Birnie (2018a)but in indoor public spaces – more suitable to the context in Scotland.  The research instrument used in Birnie's study (conducted in Stornoway) and in the Basque Country was very similar, with additional information collected on the general purpose of the interaction (personal or business) and also the designation of the participants (member of staff or member of the public). For this pilot study, the methodology employed in the Basque Country and that by Birnie (2018a) were analysed to create a survey that would be suitable for measuring the language use in the Gaelic language context, especially in the geographical areas where the language remains strongest.

## Rannsachadh

Airson an rannsachadh paidhleit seo chaidh inneal rannsachaidh ùr a chruthachadh stèidhichte air obair ann an Dùthaich nam Basgach agus cuideachd ann an Steòrnabhagh. Tha an t-inneal rannsachaidh seo air fiosrachadh a chruinneachadh a thaobh prìomh chànan a' chonaltraidh (Gàidhlig, Beurla, no eile) cho math ri fiosrachadh a thaobh com-pàirtichean ann an conaltradh. Tha am fiosrachadh seo a' gabhail a-steach gnè cho math ri diofar bhuidhnean aoise; fo aois 12, aois 12–18, aois 18–30, aois 30–60 agus aois nas sine na 60.

## Research

For this pilot study a new research instrument was created, based on the work conducted in the Basque Country and also in Stornoway. This research instrument was designed to collect information about the main language of the conversation (Gaelic, English or another language) as well as information about the participants in the conversation. This information includes the gender of the participants and the age demographic with five categories identified; under 12, 12–18, 18–30, 30–60 and over 60.

Chaidh sgrùdadh a dhèanamh gus àitichean ainmeachadh anns an gabh an rannsachadh seo a choileanadh. Tron sgrùdadh seo chaidh trì seòrsaichean àite a thaghadh; a' chiad dhà dhiubh fosgailte – àitichean poblach agus tachartasan poblach na coimhearsnachd, leis an treas seòrsa àite nan àitichean dùinte far nach fhaod am poball tighinn a-steach gu h-àbhaisteach.

Anns a' phaidhleat rannsachaidh seo chaidh tadhal air iomadh àite ann an coimhearsnachd gus dàta a chruinneachadh. Air sgàth nàdar nan coimhearsnachdan – dùthchail le taighean sgapte – bha e nas slaodaiche dàta a chruinneachadh na ann am bailtean (mar Steòrnabhagh) no fiù ann an bailtean beaga Dùthaich nam Basgach, anns a bheil suidheachadh agus beatha shòisealta na coimhearsnachd eadar-dhealaichte bho Alba. Bha dòigh-obrach shiùbhlach air a cleachdadh airson an rannsachaidh ann an àitichean poblach; cha robh mòran daoine (luchd-obrach agus luchd-poblach) anns gach àite agus mar sin bha ùine ghoirid ga toirt seachad anns gach àite mus deach an neach-rannsachadh gu àite eile. Bha ath-thadhal air gach àite air a chleachdadh gus dàta a chruinneachadh aig amannan is làithean eadar-dhealaichte. A bharrachd air sin, chaidh an t-suirbhidh a dhèanamh cuideachd aig tachartasan na coimhearsnachd. Aig na tachartasan seo bha barrachd conaltraidhean air an cruinneachadh ann an ùine ghoirid air sgàth uiread de dhaoine a bhith ann. Gabh coimeas a dhèanamh eadar an dàta ann an àitichean poblach san fharsaingeachd sa choimhearsnachd agus cleachdaidhean cànanach aig àm nan tachartasan sònraichte seo gus dealbh slàn a chruthachadh de bheòthalachd chànanach sa choimhearsnachd.

Suitable locations for this study were investigated. This identified three different types of locations; the first two types were open locations – public spaces and community events, with the third type of location identified being closed spaces to which members of the public do not usually have access.

In this pilot study different locations within the community were visited and data collected. The nature of the communities – rural with houses dispersed over a large area – meant that data collection was slower than it would have been in the towns (such as Stornoway) or even in the villages of the Basque Country, where the set-up and social circumstances are different from Scotland. A transient approach was adopted for the research in the public spaces; in each of the spaces there were a limited number of individuals (members of staff and members of the public) and therefore only a short period of time was spent in each of the locations. Each location was revisited at different times of the day and different days of the week. The surveys were also conducted at community events. During these events more conversations were recorded in a short period of time, due to the larger number of individuals present. A comparison could be made between the general public spaces and during the community events to create a complete overview of the vitality of the Gaelic language in the community.

Cha robh an dòigh rannsachadh seo cho soirbheachail ann an àitichean dùinte ged-thà; ’s ann beag a tha a’ mhòr-chuid de na h-àitichean-obrach, agus cha robh an t-inneal rannsachaidh buileach freagarrach gus atharrachadh còd no cleachdadh dà-chànanach agus na “trigearan” atharrachadh cànain ainmeachadh. B’ ann ach beag a bha an àireamh de chonaltraidhean eadar-dhealaichte a chaidh a chlàradh ach cha b’ ann gu leòr airson a bhith na sampall èifeachdach, earbsach. A bharrachd air sin, dh’fhaodte gun deach cleachdadh cànain atharrachadh air sgàth ’s gun robh an neach-rannsachaidh an làthair agus mar sin ’s dòcha gum biodh dòighean rannsachaidh eile (mar eisimpleir leabhar-latha cleachdadh cànain (De Meulder & Birnie, ri tighinn) nas freagarraiche airson ìre cleachdadh cànain ann am buidhnean beaga a mheasadh.

Ghabh an dàta cruinnichte a chleachdadh gus ìre de cleachdadh na Gàidhlig sa choimhearsnachd a mheasadh ach cuideachd cò bha ga cleachdadh agus cò leis. Tha an dàta seo air measadh a thoirt air cleachdadh na Gàidhlig thar nan ginealaichean agus mar sin ìre de thar-chur thar ghinealaichean – factar a tha air aithneachadh mar slat-tomhais chudromach ann an luachadh de bheòthalachd chànanach (Fishman, 1991).

This methodology, however, proved not to be as successful in closed spaces; the majority of workplaces were small, and the research instrument was not effective in the recording of code-switching or translanguaging and it could not be used to identify the “triggers” for a change in language. The number of different conversations that could be recorded in each of the locations sampled was not sufficient to be statistically reliable and valid. In addition to this, the language practices in these locations might well have been influenced by the overt presence of the researcher and therefore other methodologies, such as language use diaries (see De Meulder & Birnie, forthcoming), might be more suitable to evaluate the extent to which Gaelic is used in these small organisations.

The data collected through the language use surveys can be used to evaluate the overall use of Gaelic in the community but also provide an indication of who uses the language, and with whom. The data can be used to assess the extent to which Gaelic is used across the generation and can therefore be used to establish levels of intergenerational transmission, an important indicator of language vitality (Fishman, 1991).

## Molaidhean

Tha am paidhleat rannsachaidh seo a' sealltainn gun gabh an dòigh rannsachaidh seo a chleachdadh ann an Alba, chan ann a-mhàin ann am bailtean ach cuideachd anns na sgìrean dùthchail. Bheir e barrachd ùine gus dàta a tha èifeachdach agus earbsach gu staitistigeil de chleachdaidhean cànanach na coimhearsnachd a chruinneachadh. Tha tachartasan na coimhearsnachd feumail airson dàta a bharrachd a chruinneachadh; tha barrachd daoine an làthair agus mar sin gabhaidh uiread de chonaltraidhean a chruinneachadh ann an ùine ghoirid – 's ann èifeachdach a thaobh measadh fhaighinn air cleachdadh cànan na coimhearsnachd a tha na tachartasan coimhearsnachd.

Ged a bha an t-inneal rannsachaidh freagarrach, bhiodh e math caochladairean a bharrachd a chur a-steach; aon airson clann fo aois sgoile a chomharrachadh agus cuideachd dòigh gus comharrachadh dreuchd chom-pàirtichean ann an conaltradh – luchd-obrach no am poball. Tha comasan agus cleachdadh cànanach luchd-obrach a' toirt buaidh air a' chànan a tha ga chleachdadh aca ann an àitichean poblach (Birnie, 2018b). A bharrachd air sin, tha luchd-obrach stèidhichte ann an aon àite agus mar sin gan clàradh barrachd is aon triop gach turas a bhios an t-suirbhidh ga dèanamh anns an àite.

Ghabhadh an rannsachadh seo a chur ri fiosrachadh eile, mar eisimpleir bhon chunntas-sluaigh gus dealbh slàn a thogail de bheòthalachd cànain ann an coimhearsnachd.

## Recommendations

This pilot study has shown that this methodology can be used successfully in Scotland, not only in towns but also in the more rural areas. Data collection is more time-consuming in order to gather a statistically valid and reliable data set of the linguistic practices of the community. Community events can be used to gather additional data; these events have a larger number of individuals present and this therefore increases the number of conversations that can be observed in a short period of time. The community events proved to be effective in evaluating community language use.

Although the research instrument was appropriate, it would be useful to include further variables; one to indicate which conversations involve children below school age and also an indication to the designation of the participants – member of staff or member of the public. The language choices and extent of language use made by members of staff influence the use of language in the public spaces of organisations (Birnie, 2018b). Furthermore, members of staff are likely to be observed multiple times during each observation session as they are stationary within the location.

The data collected in this research can be added to other information sources, such as the national census to provide an overall indicator of the linguistic vitality of Gaelic in the community.

Mar sin, thathar a' moladh gun tèid an dòigh-obrach seo a chleachdadh gach còig bliadhna; bliadhna a' chunntas-sluaigh agus an uair sin còig bliadhna às a dhèidh. Gabhaidh an uair sin slat-tomhais a chur air chois le coimeas eadar (fèin-aithris) comasan cànain agus cleachdadh cànain anns a' choimhearsnachd – fìor chomharra de beòthalachd chànanach a rèir Crystal (2000).

Ma thèid an aon inneal rannsachaidh an uair sin a chleachdadh anns na dearbh àitichean às dèidh còig bliadhna, bidh comas ann pàtranan tar-aimsireil a stèidheachadh agus buaidh iomairtean cànain a luachadh. Gabhaidh an dòigh-obrach cuideachd a chleachdadh gus ìre de Ghàidhlig a mheasadh ann an tachartasan sònraichte ann an coimhearsnachdan sgìrean dualchasach a' chànain, ach cuideachd ann an àitichean eile mar na bailtean mòra, gus bun-loidhne de chleachdadh cànain a stèidheachadh. Leis a-sin gabhaidh measadh a dhèanamh air cor na Gàidhlig gus luachadh an gabh iomairtean cànain a chur air chois gus an cànan a neartachadh. An uair sin gabhaidh an dòigh rannsachadh seo a chleachdadh gus adhartas a mheasadh ann an ùine a bhios freagarrach don phròiseact no don tachartas.

It is recommended that a study of this kind is conducted every five years; the year in which the national census is conducted and then at the midway point to the next census. This would allow for the creation of an assessment tool to allow for a comparison between the (self-reported) competences in the language and the use of Gaelic in the community, the true indicator of language vitality according to Crystal (2000).

Were the research instrument then to be used every five years in the same locations this would allow for the creation of a longitudinal record to evaluate the language management initiatives. This methodology can also be used to evaluate the extent to which Gaelic is used in community events in the stronghold communities of the language, but also in the cities, to provide a baseline of language use. This methodology would, again, allow for an evaluation of the success of the initiatives to promote the use of Gaelic and could be repeated at intervals appropriate to the project or to the event.

## Clàr geàrr-chunntas de mholaidhean

| | Àiteachan poblach | Tachartasan na coimhearsnachd | Àitichean dùinte |
|---|---|---|---|
| Clàr inneal rannsachaidh (meatraigean) | • Cànan (Gàidhlig / Beurla / Eile)<br>• Gnè<br>• Buidheann-aoise:<br>  ○ Fo aois 3<br>  ○ 3 gu 12<br>  ○ 12 gu 17<br>  ○ 18 gu 30<br>  ○ 30 gu 60<br>  ○ > 60<br>• Dreuchd chom-pàirtichean:<br>  ○ Luchd-obrach<br>  ○ Poball<br>• Adhbhar a' chonaltraidh:<br>  ○ Pearsanta<br>  ○ Gnothachas | • Cànan (Gàidhlig / Beurla / Eile)<br>• Gnè<br>• Buidheann-aoise:<br>  ○ Fo aois 3<br>  ○ 3 gu 12<br>  ○ 12 gu 17<br>  ○ 18 gu 30<br>  ○ 30 gu 60<br>  ○ > 60 | • Cànan (Gàidhlig / Beurla / Eile)<br>• Gnè<br>• Buidheann-aoise:<br>  ○ 18 gu 30<br>  ○ 30 gu 60<br>  ○ > 60<br>• Adhbhar a' chonaltraidh:<br>  ○ Pearsanta<br>  ○ Gnothachas |
| Fiosrachadh cruinnichte | • Ìre cleachdadh na Gàidhlig<br>• Buidhnean-aoise luchd-labhairt na Gàidhlig<br>• Gnè luchd-labhairt na Gàidhlig<br>• Dreuchd chom-pàirtichean<br>• Ìre de chleachdadh na Gàidhlig thar nan ginealaichean<br>• Ìre de chleachdadh na Gàidhlig am broinn nan ginealaichean<br>• Ìre de chleachdadh cànain am measg luchd-obrach<br>• Ìre de chleachdadh cànain am measg a' phoball<br>• Ìre de chleachdadh cànain eadar luchd-obrach agus a' phoball<br>• Ìre de chleachdadh cànain ann an conaltraidhean pearsanta | • Ìre cleachdadh na Gàidhlig<br>• Buidhnean-aoise luchd-labhairt na Gàidhlig<br>• Gnè luchd-labhairt na Gàidhlig<br>• Ìre de chleachdadh na Gàidhlig thar nan ginealaichean<br>• Ìre de chleachdadh na Gàidhlig am broinn nan ginealaichean | • Ìre cleachdadh na Gàidhlig<br>• Buidhnean-aoise luchd-labhairt na Gàidhlig<br>• Gnè luchd-labhairt na Gàidhlig<br>• Ìre de chleachdadh cànain ann an conaltraidhean pearsanta<br>• Ìre de chleachdadh cànain ann an conaltraidhean gnothachais |

| | | | |
|---|---|---|---|
| | • Ìre de chleachdadh cànain ann an conaltraidhean gnothachais | | |
| Tricead | Co-dhiù gach 5 bliadhna; bliadhna a' chunntas-sluaigh agus 5 bliadhna às a dhèidh no nas trice (gach bliadhna / gach dà bhliadhna) | A rèir tricead an tachartais | Gach bliadhna no aig àm eile a bhios freagarrach, m.e. aig àm (ath)sgrìobhadh plana cànain |
| Àm sa bhliadhna | A rèir na coimhearsnachd – ach taobh a-muigh àm turasachd | Aig àm an tachartais | Àm sam bith freagarrach don bhuidheann |
| Fad an rannsachaidh | Seachdain shlàn anns gach coimhearsnachd no fada gu leòr gus an dàta a chruinneachadh. | Co-dhiù aig àm a thòisicheas an tachartas agus aig an deireadh a rèir an t-suidheachaidh fhèin | Co-dhiù seachdain shlàn anns gach buidheann |
| Cosgaisean | Mu £4,000 / coimhearsnachd<br>Mu £59,000 uile gu lèir | Mu £800 / latha no<br>Mu £2,500 / seachdain | Mu £2,500 / seachdain (suirbhidh cleachdadh cànain)<br>Mu £3,000 / seachdain (leabhraichean-latha) |
| Duilgheadasan | Cruinneachadh dàta a bhios èifeachdach agus earbsach a rèir àireamh luchd-labhairt agus luchd-còmhnaidh na coimhearsnachd.<br><br>Seachnadh buaidh làthaireachd neach-rannsachadh. | Cruinneachadh dàta a bhios èifeachdach agus earbsach a rèir àireamh luchd-labhairt agus luchd-còmhnaidh na coimhearsnachd.<br><br>Seachnadh buaidh làthaireachd neach-rannsachadh. | Cruinneachadh dàta a bhios èifeachdach agus earbsach a rèir àireamh luchd-labhairt agus luchd-obrach.<br><br>Seachnadh buaidh làthaireachd neach-rannsachadh |
| Fuasglaidhean | Cruinneachadh dàta ann an dòigh shiùbhlach, a' toirt seachad ùine bheag anns gach àite.<br><br>A' tadhal gach àite sa choimhearsnachd aig amannan agus làithean eadar-dhealaichte.<br><br>A' cleachdadh dòigh clàraidh eileagtronaigeach (ap fòn) | Cha ghabh dàta earbsachd agus èifeachdachd a chruinneachadh ach gabhaidh am fiosrachadh a chur ri dàta na coimhearsnachd gus coimeas a dhèanamh eadar cleachdadh na Gàidhlig anns na h-àitichean poblach agus tachartasan.<br><br>A' cleachdadh dòigh clàraidh eileagtronaigeach (ap fòn) | Cha ghabh dàta earbsachd agus èifeachdachd a chruinneachadh ann am buidhnean beaga, ach dh'fhaodte an dòigh rannsachadh a chleachdadh le dòighean rannsachadh eile mar leabhraichean-latha agus agallamhan.<br><br>A' cleachdadh dòigh clàraidh eileagtronaigeach (ap fòn) |

## Summary table of recommendations

| | Public spaces | Community events | Closed spaces |
|---|---|---|---|
| Research instrument (metrics) | • Language (Gaelic / English / Other)<br>• Gender<br>• Age profile<br>  ○ Under 3<br>  ○ 3 to 12<br>  ○ 12 to 17<br>  ○ 18 to 30<br>  ○ 30 to 60<br>  ○ Over 60<br>• Designation of the participants:<br>  ○ Members of staff<br>  ○ Members of the public<br>• Purpose of the interaction:<br>  ○ Personal<br>  ○ Business | • Language (Gaelic / English / Other)<br>• Gender<br>• Age profile<br>  ○ Under 3<br>  ○ 3 to 12<br>  ○ 12 to 17<br>  ○ 18 to 30<br>  ○ 30 to 60<br>  ○ Over 60 | • Language (Gaelic / English / Other)<br>• Gender<br>• Age profile<br>  ○ 18 to 30<br>  ○ 30 to 60<br>  ○ Over 60<br>• Purpose of the interaction:<br>  ○ Personal<br>  ○ Business |
| Information collected | • Level of Gaelic language use<br>• Age profile of Gaelic speakers<br>• Gender of Gaelic speakers<br>• Designation of the participants<br>• Intergenerational Gaelic language use<br>• Intragenerational Gaelic language use<br>• Level of language use amongst members of staff<br>• Level of language use amongst members of the public<br>• Level of language use amongst members of staff and members of the public<br>• Level of language use in private interactions | • Level of Gaelic language use<br>• Age profile of Gaelic speakers<br>• Gender of Gaelic speakers<br>• Designation of the participants<br>• Intergenerational Gaelic language use<br>• Intragenerational Gaelic language use | • Level of Gaelic language use<br>• Age profile of Gaelic speakers<br>• Gender of Gaelic speakers<br>• Level of language use in private interactions<br>• Level of language use in business interactions |

| | | | |
|---|---|---|---|
| | • Level of language use in business interactions | | |
| Frequency | At least every 5 years; the year of the national census and then at 5-yearly intervals or more frequently (yearly / every two years). | According to the frequency of the event. | Each year, or at another time appropriate to the organisation, e.g. when (re)writing a Gaelic Language Plan. |
| Timing | Depending on the community – but outwith the tourism season | During the community event | At a time that is suitable for the organisation. |
| Length of the research | At least a week in each of the communities selected or until sufficient data has been collected. | At least for a period at the start of the event and at the end. | At least a week in each of the organisations. |
| Costs | About £4,000 / community<br>About £59,000 in total | About £800 /day or<br>About £2,500 / week | About £2,500 / week (language use survey)<br>About £3,000 / week (language use diary) |
| Difficulties | Collecting data that is statistically valid and reliable according to the number of Gaelic speakers and size of the population.<br><br>Avoiding the observer paradox. | Collecting data that is statistically valid and reliable according to the number of Gaelic speakers and size of the population.<br><br>Avoiding the observer paradox. | Collecting data that is statistically valid and reliable according to the number of Gaelic speakers and number of employees<br><br>Avoiding the observer paradox. |
| Solutions | Collect data in a transient manner; spending a short period of time in each of the locations.<br><br>Visit each space in the community at different times and different days of the week.<br><br>Use an electronic means of data collection (phone app). | It will not be possible to collect a statistically valid and reliable sample during community events. This data can, however, be added to the data collected in the community to compare the use of Gaelic in public spaces and during community events.<br><br>Use an electronic means of data collection (phone app). | It will not be possible to collect a statistically valid and reliable sample in small organisations, but this method can be combined with other data collection methods such as language use diaries and interviews.<br><br>Use an electronic means of data collection (phone app). |

## Measadh cànain / language assessment

## Àireamh luchd-labhairt / Speaker numbers

Gaelic has been categorised as 'definitely endangered' in the UNESCO Atlas of the World's Languages in Danger (Moseley, 2010) as a result of 'runaway language shift' (MacKinnon (MacKinnon, 2011). The multi-factorial nature of language shift means that the assessment of language endangerment is complex. This assessment is important, however, as without this assessment to evaluate how much, or indeed what, support a language needs to ensure its continued use. This then leads to the question of how to assess the level of language endangerment (and thus the language vitality).

One of the main measurements used is that of number of known speakers of the language. Krauss Krauss (1992) speculated that a speaker population of 100,000 might be 'a number large enough that even under the worst political or economic conditions … it is still probable that at least some children will be learning the language as a mother tongue by the year 2100' (p. 7) If this figure of '100,000 speakers to be safe' is applied to the approximately 7,000 languages (Lewis, Simons, & Fennig, 2013), then 97% (including Gaelic) would not fall in this 'safe' category (Bernard, 1996). It should be noted that a caveat was attached to Krauss' statement of 100,000 speakers, namely that the large numbers of speakers alone did not guarantee the survival of a language but that there also had to be some form of official state recognition (Krauss, 1992).

The use of known speaker numbers in the assessment of sociolinguistic vitality can be problematic, if only because of the difficulty in verifying the absolute numbers of speakers. Gaelic is a relatively privileged and unusual position in that there is a longitudinal record of the speaker numbers from the 19th century onwards. This data has been collected through the decennial census returns which has included a question related to Gaelic since 1881. The existence of this longitudinal data means that Gaelic can be used in the creation of mathematical models describing language shift (see, for example, Kandler, 2009; Kandler, Unger, & Steele, 2010; Minett & Wang, 2008). These mathematical models, in turn, can be used to provide a theoretical framework to evaluate the various factors involved in language shift and calculate the effects of interventions on the projected trajectory of Gaelic, and other languages undergoing language shift.

Although routinely used in language assessments as the main indicator of language vitality (Crystal, 2000; Krauss, 1992; Wurm, 1991) care must be taken when considering the absolute speaker numbers. This can be exemplified by considering the case of Gaelic. The census has gathered data on Gaelic since 1881, when enumerators were asked to record the number of people in each household who were in the 'habit of making colloquial use of the Gaelic language'. The focus throughout the early part of the 20th century, until the 1971 census, remained on recording language use with

respondents asked to indicate who in the household spoke Gaelic, or Gaelic and English (Thomas, 1998). In the 1971 census the questions changed to ask respondents to report on language competences ('can you speak Gaelic'). This change of question is more than a case of semantics. The change of wording is likely to have caused the first (and last) increase in the number of speakers between the 1961 and 1971 census. Census data show that the trend observed between 1881 and 1961 continued, with each subsequent census after 1971 showing a continued decline in the number of speakers.

The change of wording in the census means that the basic measurement of the language, and one that is a prime indicator for language vitality, has altered; from providing an indication of the number of users to collecting information about linguistic competences. Competence in the language is a pre-requisite for (spoken) language use, but this does not mean that, in this case Gaelic, is an active part of an individual's linguistic repertoire. Until the 2011 census, which introduced a question to evaluate language(s) used in the home, no information was collected through the census about whether the individuals who self-reported to be able to use the language did so. Although this information provides valuable information around language use in one of the domains, and one that is potentially important for evaluating the vitality of the language as it might be taken as an indicator of potential intergenerational transmission, it does not provide information about the other domains of use, nor the frequency (Munro, 2011).

This lack of information means that it is difficult to know how many of those who have self-reported to speak the language, do, in fact, speak Gaelic. Individual competences in the language does not, by itself, result in language use. In order to use a language, there needs to be other individuals in the community (real or imagined) which also have competences in the language; 'languages need communities to live, that point is fundamental' (Crystal, 2000, p. 154). Herein lies a further challenge for Gaelic; namely identifying the communities in which Gaelic can be used. In terms of physical communities Gaelic faces many challenges, with the 2011 census data showing that language shift has not only resulted in decline in the numbers reporting to have competences in the language but also in the geographical density of these individuals. Across Scotland 1.1% of the population reported to be able to speak Gaelic, with the language very much a minority language in 31 out of the 32 local authorities and only Comhairle nan Eilean Siar (CnES) remaining where a (narrow) majority of the population, 52.2%, identified themselves as able to speak the language (National Records of Scotland, 2013). This is below the 67% identified by Ó Giollagáin, Mac Donnacha, Ní Chualáin, Ní Shéaghdha, and O'Brien (2007). in a study in Ireland as necessary to maintain a language in the community; 'the statistical evidence clearly indicate that Irish-speaking communities

yield to the pressures of language shift when the proportion of active speakers in a community falls below this threshold' (p. 10).

Further analysis of the 2011 census data shows that even at a parish level, the most detailed level for which information about Gaelic competences is available, no community has 67% of the population with spoken competences in the language, with only seven parishes[1] with a majority of the population having declared a competence in the language.

## Àrainnean cleachdadh cànain / Domains

The research of Ó Giollagáin et al. (2007). in the Gaeltacht of Ireland is based on what they described as 'active, integrated Irish speakers' (p. 10) assessed through the data collected in the Irish census which collects some information on the frequency and domains of the use of the language – information which is not collected through the census in Scotland. It cannot be assumed that all those who (self-)declare to be able to speak Gaelic at the time of the census in fact do so (Munro (Munro, 2011). The data gathered in the census around linguistic competences can, therefore, by itself not provide a full picture of the sociolinguistic position of the language, as competence need not necessarily lead to language use.

Further factors identified in the measurement of sociolinguistic position has been the level of intergenerational transmission and the domains of language use (UNESCO Ad Hoc Expert Group on Endangered Languages, 2003). These factors are interlinked, with the level of intergenerational transmission related to the use of language in the *Gemeinschaft*, or intimate community domains, which are characterised through 'spontaneous organic participation' (Oliver, 2005). Both the level of intergenerational transmission and the use of Gaelic in *Gemeinschaft* domains are more complex to assess and evaluate. No systematic data has been gathered about the use of Gaelic although a number of studies have been carried out in the CnES local authority area from the 1970s onwards. These studies have shown that the use of Gaelic in the home, family and community domains, identified by Fishman (1991) as the *sine qua non* of language revitalisation and maintenance, has significantly declined. The first of these studies, conducted by MacKinnon (1977) indicated that the use of Gaelic in the home, family and the community in parts of the CnES area could be estimated to be around 69%. The same study showed that Gaelic language use was dependent on age, with the language most frequently used by, and with, those aged 50 and over, and English 'seen to be entering into the more intimate social situations amongst younger age-groups' (p. 253). This trend continued through the later part of the 20th century and early 21st century, with a study conducted on behalf of CnES showing that English had become the dominant language in interactions involving

[1] Barvas (64.1%), Barra (62.2%), North Uist (61.5%), South Uist (60.4%), Harris (60.2%), Uig (55.5%) and Lochs (53.3%).

young people aged 18 and under. Gaelic language use was, as with the MacKinnon study three decades earlier, reported to take place when older generations, such as parents or grandparents, were involved (NicAoidh, 2006). This was also one of the main findings of the study conducted in Shawbost (Isle of Lewis) by Munro et al. (2011)– which the 2001 census indicated was one of the strongest "Gaelic communities" (General Registrar of Scotland, 2005). This study was conducted through questionnaires and interviews with the community. This study has indicated that although 66% of the community indicated that they could speak Gaelic, this was concentrated amongst those aged 50 and over, with fluency in Gaelic weakest in children under 16 Munro et al. (2011). This speaker demographic is likely to have a significant impact on the level of intergenerational transmission. However, this is difficult to assess through, for example, the census data, as no information has been collected about the language used by families in the home, nor is it able to provide an indication of the influence of Gaelic-medium pre-school education. The only age category where the influence of the education system on the language competence of young people can be (largely) excluded is in the 0–2 age-group, although it is questionable to what extent this age group can be described as being speakers of any language. Furthermore, the census only asks informants to report on the language competences of those aged 3 and over, so a full data set might not be available.

This trend of a decline of intergeneration transmission has been a concern to those involved in language maintenance, not only in Scotland but also in other minority language contexts. This concern is not only related to language acquisition but also in terms of domains of usage, especially in *Gemeinschaft* domains. The 'inertia condition of language choice' (Spolsky & Cooper, 1991, p. 146) means that once a language has been established in a given setting or situation, this remains the most likely language used in these circumstances, unless actively (re-)negotiated.

Gafaranga (2011) has referred to this notion of minority language speaking parents using the majority language with their children as 'talking language shift into being'. It should, however, be noted that the issue of home language is a complex one and likely to be dependent on individual circumstances, ideologies and (perceived) linguistic competences of all the adults present in the household (Smith-Christmas, 2014).

The limited intergenerational transmission has shifted the emphasis from the home to the education system for acquisition of the language in young people. The first initiatives to introduce Gaelic as a medium of instruction (rather than merely as a subject) were aimed at those children who already spoke the language with the purpose to 'provide for the Gaelic-speaking pupil in a fuller and more appropriate education by making as much use as is reasonable of his mother tongue' (D. J. Macleod, 2003, p. 2). This bilingual language project was intended to extend the linguistic practices already

taking place in the other domains, which was also the case when the newly established Western Isles Council, forerunner of CnES, continued the conditions in which environmental science could be taught through Gaelic to create 'situations and activities which stimulate children to use Gaelic as a natural language for the exploration and description of experience' (Murray, 1984, p. 5).

There has been a tacit acknowledgement, especially over recent years, that the education system is the prime mechanism for language acquisition in young people (Bòrd na Gàidhlig, 2012). The implicit expectation has been that the education system will create the conditions in which these young people go on to use the language as a medium of communication in their daily life. Research conducted by Dunmore (2015) into the linguistic practices of young adults who had received Gaelic Medium Education (GME) concluded that the use of Gaelic by these individuals in *Gemeinschaft* domains was limited, unless they had family links to the language, a point also identified by Birnie (Birnie, 2018b).

This shift in terms of acquisition of the language in young people from *Gemeinschaft* to *Gesellschaft* – where the interactions are not based on home, family and community interactions – is indicative of the wider changes that have been happening in terms of Gaelic language use which need to be considered when analysing the language's sociolinguistic position. McLeod (2010) has referred to these changes as the 'institutionalisation and professionalisation' of the language management initiative to indicate a gradual shift away from a focus on the home, family and community domains to the promotion of Gaelic in the education system, the media, governmental services and language development, the very areas referred to by Fishman (1991) as 'higher order props'. Oliver (2010) has suggested that the explicit intention of these initiatives is that the 'public domain can reverse what it arguably precipitated – language shift' (p. 77) This has resulted in what Smith-Christmas and Ó hIfearnáin (2015) have referred to as "reverse diglossia" where the minority language, in this instance Gaelic, is used for 'higher order' or "H"-domains such as 'higher education, national media, religion, government and the workplace' (p. 261).

M. MacLeod (2009) has suggested that the use of Gaelic in these new domains, and in particular those instances where individuals use the language in the workplace, might be 'an important means by which "Gaelic professionals" build Gaelic-speaking networks and in particular for L2 (where Gaelic is the second language) or new speakers of the language (p. 147). The use of Gaelic in these new domains could therefore be considered as a potential pre-cursor for language use in the *Gemeinschaft* domains. The use of Gaelic in *Gesellschaft* domains should form part of the wider assessment of the vitality of a language, as also suggested by the UNESCO Ad Hoc Expert Group on Endangered Languages (2003).

## Taghadh cànain / Code choice

As recognised by Mufwene (2004) and Crystal (2000) language shift rarely happens suddenly and without intermediary steps. Ultimately language shift is caused by the actions of individuals, with the cumulative outcome indicating the trajectory of a language. Therefore, in the assessment of the sociolinguistic vitality the individual choices need to be considered. The census has been able to gather data on the self-reported linguistic competences, measuring trends in the number of people who know Gaelic and can understand it. Urla and Burdick (2018) recognised that 'competency does not align with usage' (p. 79). Fishman (1991)has suggested that the oral use of a language should be considered the most critical factor in the sustained vitality and ongoing intergenerational transmission.

In the case of Gaelic, the issue of competency versus usage is complex, in the first instance because all Gaelic speakers are at least bilingual (R. Dunbar, 2011). This means that individuals have to decide for each interaction what language to use. This language choice is likely to be complex especially as bilingualism need not mean that individuals have a native-like ability in both languages (Bloomfield, 1933). The linguistic repertoire of bilinguals is likely to be asymmetrical with abilities varying according to domain: 'the bilingual is rarely equally or completely fluent in the two languages. Levels of fluency in a language will depend on the need for the language and will be extremely domain specific' (Grosjean, 1992, p. 55).

R. Dunbar (2011) has suggested that this asymmetrical bilingualism is also a contributing factor in the language choice of bilingual Gaelic / English speakers, especially L2 speakers of the language for whom:

> English … would remain the dominant language, in terms of competence (if not, always, in terms of personal preference), in virtually all domains. Also, given the nature of adult language acquisition, many L2s have a limited knowledge of registers and even vocabulary appropriate to intimate or informal L domains' (p. 155)

Individual ability to speak the language in a particular domain or situation is not the only factor which determines the choice of code. Further contributing factors include the (perceived) linguistic repertoire of the other individuals in the conversation. This is made more complex in a community where a proportion of the population is monolingual in the majority language of the community and where no obvious linguistic markers exist to identify individuals who are bilingual.

Studies on code choice in communities where two or more languages are spoken by all or a proportion of the population. Blom and Gumperz (1972) and Myers-Scotton (1998)) have shown that this is not a random phenomenon, but, instead, is based on both a practice and an ideology. 'Natural language can be characterised as a system of choices to which speakers enjoy differential levels of access' (Piller, 2017, p. 72). Fishman (1965) has suggested that in situations where all in a given

group have some competence in the language, code choice is dependent on the 'reference group membership' (p. 68), or the identification of a group to which the speaker wants to belong and seek acceptance from, situation, both physical and as function of the discourse, and, lastly, the topic of the conversation.

These studies on code-switching have led to the development of different models to explain how code choice is negotiated. One of the most influential theories is Myers-Scotton's Markedness Model. The Markedness Model assumes that there is an unmarked code which can, perhaps, be best described as the expected linguistic norm based on the interlocutor's experience, with the marked code choice an explicit action on the part of the speaker to renegotiate these norms. Myers-Scotton (1988) has acknowledged that:

> very often situations arise for which norms of behaviour are not established, or conflicting norms apply, and an unmarked choice is not clear. In such cases, community members have no communal sense of how individual participants are expected to carry out such an exchange … in such cases, both speaker and addressee recognize that any linguistic choice is exploratory, intended as a candidate to become the index of a mutually acceptable relationship – the unmarked choice (p. 155).

This Markedness Model has elicited criticism for its assumption that there is a pre-existing language norm in every instance, with Auer (1988) suggesting that speakers actively create and produce social meaning based on a particular set of circumstances. These theories assign social meaning to the use of one language over the other and imply that code choices are intentional and for a specific social purpose. Woolard (2004) on the other hand, has suggested that code choice need not be a conscious decision with a special social meaning attached.

A further model proposed suggests code-switching is based around the idea of 'contextualisation cues' or 'empirically detectable signs' (J. Gumperz, 1982, p. 42). Auer (1984) has proposed that these contextualisation clues are based around the social roles, relationships and frames for interpretation which both exist outwith and within the interaction, with the code choice being the product of the individual speaker and their attitudes and preferences, as well as the objectives in terms of the discourse. The contextualisation clues vary from language to language and in the case of Gaelic also includes any indication that the language can be used in interactions with public authorities through Gaelic Language Plans or other mechanism.

In many instances English will be the unmarked code choice, with NicAoidh's study showing that

> 'a dh' aindeoin fios a bhith aig daoine, gun urrainn dhaibh Gàidhlig a chleachdadh ann an suidheachaidhean agus ri daoine eadar-dhealaichte anns a' choimhearsnachd, gu bheil iad a' taghadh Beurla a bhruidhinn co-dhiù' *(despite people knowing that they could use Gaelic in different situations and with different individuals in the community, they choose to use English anyway – IB* (NicAoidh, 2006, p. 79).

A similar issue was identified in the study conducted by Munro et al. (2011) which indicated that the unmarked code choice of community interactions had shifted from Gaelic to English: ‘only Gaelic speakers are expected to be bilingual; they expect and are expected to use the dominant language of the majority, English’ (p. 9). This last comment is particularly interesting as the community in which the research was carried out was identified as being a strong Gaelic community where the majority of the adult population had indicated not only that they were able to speak the language but also actively do so. Even in this community it is acknowledged that English, the language that is spoken by all in the community, is the unmarked code choice in many community interactions. Birnie (2018b) has shown that Gaelic can be established or (re-)negotiated as an unmarked code choice in some public service domains but, as also identified by Heller (1983), this requires an active offer on the part of the public service or of an individual.

These studies in the CnES area have also shown that these contextualisation clues are very often based on acquaintance with the linguistic norm of the other individuals in the study, in many instances through kinship (Birnie, 2018b; Munro et al., 2011) It would appear that in these instances where Gaelic is the unmarked code choice, this linguistic norm is not necessarily a consciously negotiated action but an implicit expectation that the language is used in all or some interactions. Research by Birnie (2018b) has shown that the use of Gaelic in these circumstances is not situation specific, with the linguistic norm static regardless of where the conversation takes place, ‘the inertia condition of language choice’ (Spolsky & Cooper, 1991, p. 146) mentioned earlier. This means that if these interactions can be quantified through some measurement, these can be used as another indication of language vitality, one that goes beyond measuring language competences and focusses on who speaks the language, to whom might provide for a potentially more accurate picture of both the use of Gaelic in different domains and the level of intergenerational transmission of the language.

## Sgrùdadh air dòighean measadh cleachdadh cànain / Evaluation of language use measurement methods

### Ro-ràdh / Introduction

As stated before, the decennial census provides a valuable longitudinal record of those who have self-reported competences in the language; their demographic profile and geographic density, which, by itself, can provide an indication of the likely physical communities where Gaelic might be used in some linguistic domains. As mentioned before, there have been several studies conducted in the CnES area since the 1970s to assess language use. These studies focussed on evaluating the language use in a different number of domains in the community. The methodology used in these studies has been very similar; questionnaires and structured interviews with individuals in the community, both speakers and non-speakers of the language. This allowed the use of Gaelic in the various domains to be identified, typically on a Likert scale ranging from 'not at all' to 'all the time'. Woolard (1989) has suggested, however, that after years, or in the case of Gaelic centuries, of planning and policy initiatives to encourage assimilation with the dominant language, English in this instance, the use of the minority language is likely to be limited in public domains especially. This, in turn, might have implications for the way that language use is (self-)reported. This means that in circumstances where only an emblematic word or phrase is used, these are more likely to be remembered by speakers and non-speakers alike than conversations conducted in English (Hill, 2008). This 'reporting bias' or 'phenomenon of misplaced scale' (Urla, 2013) means that respondents to questionnaires or interview questions are likely to overreport the use of the minority language. The conversations in the minority language, Gaelic, are more likely to stand out as they are sufficiently "unusual" to stand out and be recalled to having happened more often than has actually been the case. Some evidence of this was seen in the study conducted by Birnie (2018b) which asked participants to complete a language use diary of their daily interactions. Where participants in this study reported on their written use of language, Gaelic was more frequently reported than the use of English. In the follow-up interview with participants to the study, they indicated that they would record when they use Gaelic in written interactions when completing their daily language use diaries, whereas the English written communications were so frequent that these were not recalled. Participants also indicated that they wanted to emphasise their use of Gaelic in as wide a series of domains and circumstances as possible. This issue was also identified by Bourhis and Sachdev (1984), who stated that the political and social circumstances might influence how speakers report on the language, which might lead to either an over- or under-estimation of the language use. In the study conducted by Birnie (2018b) this was not only evident in the post-diary interviews but also in the preliminary conversations: a number of individuals were keen to report on their linguistic

practices in a period where they knew they were going to have a larger than average number of Gaelic interactions, as they were aware that the focus of the research was to evaluate Gaelic language use in a wide range of domains. It is difficult to evaluate the extent of this reporting bias in the results of the various studies.

## Dòighean-rannsachaidh / Research methodologies

There have been different types of studies conducted in a number of bilingual communities to assess the linguistic practices of individuals, in different domains, in order to evaluate the sociolinguistic vitality of a language in a manner which seeks to avoid the reporting bias.

The most common methodology which does not rely on self-reporting, either through questionnaires (including the census) or through interviews, is based on researcher observation. There have been a number of approaches to this. The first of these, 'walk-alongs', involve the researcher accompanying individuals as they go about their daily practices, with an aim to 'actively explore their subjects' stream of experiences and practices as they move through, and interact with, their physical and social environment' (Kusenbach, 2003, p. 463). This methodology is a variation on the 'hanging out' – where researchers spend time with an individual, either as an active participant or as a passive observer. This research method allows the researcher access to a variety of different environments and allows for observations to be made in a number of domains as they happen. This does, however, raise the question of how much of what is observed is due to 'naturally occurring behaviour' and how much has been caused or changed by the researcher being present, the 'observer paradox' (Becker, 1958).

A modern-day version of this type of research would involve asking the participants to carry recording devices as they go about their daily business. This would, however, require some major ethical considerations as participation in the research by those recorded, either directly interacting with the participant in the research or those incidental to the study, would have to be negotiated. Some small-scale studies of this type have been conducted, including in the Gaelic context, often involving young people and in a specific setting – such as the education system (Nance, 2018 – private communication).

This methodology would allow for the language choices made by Gaelic / English bilinguals to be tracked as they go about their daily routine, but it would require a large number of individuals to ensure that the data gathered is statistically valid and would allow the results to be extrapolated to the wider community.

A further approach that has been used in Montréal, but also more recently in Ireland, is that of 'listening in'. In this study researchers aimed to assess how different languages are used by young Montrealers in a variety of settings, geographical zones and social networks. Covert observations

were made by the researcher, with each session lasting between fifteen minutes and an hour, with data recorded, retrospectively, on the characteristics of those involved in the conversation. Ní Dhúda (2011) in her study of a bilingual Irish / English community, used a similar methodology, using qualitative descriptors of the observed interactions. This allowed for the collection of a rich, but not necessarily systematic, dataset of all the conversations in a particular space.

Both these studies raise questions around the criteria applied for inclusion and exclusion of conversations, and therefore how representative these interactions are of the wider linguistic practices of individuals and the community as a whole.

A similar methodology to that applied in the cases of Ireland and Montréal, focussing on quantitative rather than qualitative data, is the methodology developed in the Basque Country for the *Kale Neurkata*, or street surveys of the Basque language. This method was developed in recognition that 'the census was an inadequate instrument for capturing some of what they [= grassroots movement – IB] happening, namely that the number of "speakers" could be growing while usage remained stagnant' (Urla & Burdick, 2018, p. 74). This methodology also relies on observations made by the researcher, but unlike the Irish and Montréal studies, these aim to create a systematic record of the linguistic practices of particular spaces.

These surveys have focussed on collecting large scale quantitative data on the level of Basque language use vis-à-vis Spanish or French in all municipalities of the Basque Country (both in Spain and in France). These surveys have been successful, not only in documenting the extent to which the Basque language is used in conversations in the street (the public linguistic soundscape) but also in gathering information about the demographic profile of those involved in the interactions. The focus of the *Kale Neurkata* has been on evaluating the use of the Basque language by young people especially.

The methodology has also been adapted to gather information on the linguistic practices in closed spaces, such as work environments, and, more recently, to evaluate the linguistic practices in particular open space environments such as markets in the Basque Country (Van der Worp, 2017 – private communication). The methodology developed for the *Kale Neurkata* has also been used in Scotland, albeit on a much smaller scale, both as a pilot in a small semi-closed environment and, on a larger scale, to assess the linguistic practices in public spaces with a view to evaluate the influence of language management initiatives on the code choice of members of staff and members of the public. The different focus of this study, which was conducted in Stornoway, also meant a different locus for data collection, with surveys conducted in enclosed public spaces rather than streets. The research instrument was adapted to take into account the different circumstances and variables.

In this section the *Kale Neurkata* and Stornoway study will be discussed in detail and information and the following section will evaluate the two main studies, the *Kale Neurkata* and the Stornoway study, and provide information on the similarities and differences in the two studies.

## Caochladairean / Variables

### *Slat tomhais / Unit of measurement*

In both the *Kale Neurkata* and the Stornoway studies the unit of measurement was chosen to be 'a conversation'. This requires a clear definition of what constitutes a conversation. The definition applied varied across the studies. In the *Kale Neurkata* a conversation is defined as a verbal interaction between individuals. Initially this was taken to mean those interactions where all the participants were present and could be observed by the researchers, but in more recent surveys any interactions recorded on mobile phones have also been included. In recording the mobile phone conversations only one of the participants in the interaction can be noted on the research instrument, namely the person observed by the researcher, but not who the person is speaking to, and this is therefore categorised as a 'single person interaction'.

In the Stornoway study, a conversation was defined as a face-to-face interaction involving two or more individuals which extends beyond an initial greeting. In this study it was decided only to include face-to-face interactions in which all the details of the participants could be observed and recorded. The pilot study had also identified that an initial greeting might take place in one language (mainly the minority language, i.e. Gaelic) with the remainder of the conversation conducted in the other (the majority language, i.e. English), and therefore it could not be assumed that the language used in the greeting is also the language of the remainder of the conversation. This issue was particularly pertinent to those locations selected for the Stornoway study which had a Gaelic Language Plan which promoted the use of a Gaelic greeting on the initial contact between the organisation and members of the public.

Both the *Kale Neurkata* and Stornoway studies delineated the conversations by a change in language and a change in participants in the interaction. This meant that if the language of the conversation changed, then this was recorded as a new interaction. Limited intrasentential code-switching was not recorded, although if this made up a significant part of the conversation this was recorded as two separate entries linked on the observation record sheet. Intersentential code-switching was recorded as two separate conversations, with a note on the record sheet to indicate that these conversations involved the same participants. When individuals joined or left the conversation and the interaction continued, this was considered to be the start of a new conversation and recorded as such. In the Stornoway study, conversations were also delineated according to the purpose of the interaction. Interactions were categorised as being either business transactions or private

interactions, and it was hypothesised that this might influence the code choice, and therefore a change in the purpose was therefore recorded as a new conversation.

Observations of individual conversations were kept to a minimum required to note down all the information on the research instrument and the length of the conversation was not considered a variable, with the assumption (both in the *Kale Neurkata* and Stornoway studies) that the language used was not affected by the length of the interaction. Long and short interactions were, therefore, given equal weighting in the analysis of the data. It should, however, be noted that the language use surveys are a snapshot of linguistic practices at a particular moment in time, and that any of the delineating variables to the conversation might have changed during the interaction, with this change unnoticed by the researcher recording the conversation.

### *Cànanan / Languages*

The main purpose of the language observation surveys is to establish the extent to which the minority language, whether that be Basque or Gaelic, is used in public domains and to what extent the language(s) are included in the linguistic soundscape of the space in which the survey has been conducted. This gives some raw data in terms of the number of conversations which have taken place in each of the languages which were included on the research instrument which can be used to work out the percentage of conversations which have taken place in each of the languages.

The absolute and percentage use needs to be placed in the wider context of the community in which the survey has been conducted. Both in the case of Basque and Gaelic, not all individuals in the community can speak the language. Furthermore, all speakers of Basque and Gaelic also speak the majority language of the community (Spanish and English respectively). This individual bilingualism means that every Basque and Gaelic speaker has to make a choice of which language to use in which interaction. This code choice is complex and driven by a number of factors. One of these factors is the (perceived) linguistic repertoire of the other participants involved in the conversation. To conduct a conversation in a language it needs to be assumed that all those involved in the interaction can speak the language. This is the principle on which the language use survey methodologies are based; in the short period of time required for the observation, not all individuals can be observed speaking and therefore it is assumed that all the participants in the conversation can use the language used by the speaker at the time of the observation.

To conduct a conversation in the minority language all of the participants need to be able to understand and speak the language. The bigger the group size the larger the chance that one of the participants is not able to speak the language and that therefore the language of the interaction will be the majority language.

There is a further complicating factor and that is that there are no clear (linguistic or other) markers to indicate which individuals in the community speak the minority language. This means that even where two minority language speakers meet, unless they are acquainted with the linguistic repertoire of the other person, they are likely to use the majority language. Acquaintance with the linguistic repertoire of the other participants need not necessarily lead to use of the minority language; other factors, personal or societal, might influence the code choice of individuals. Considering these factors, the statistically expected, or isotropic, language use can be calculated, and this compared to the level of language use observed during the language use surveys.

This consideration of the various factors which influence the choice of language in a group and the calculation of the statistically expected level of language use is particularly important in the case of Gaelic where no longitudinal data is available. Therefore, any initial study sets out the baseline for future results and comparisons but cannot provide an indication whether the current level of Gaelic language use is what would be expected in that particular community.

### *Deamografaig luchd-còmhraidh / Participant demographic*

Both the *Kale Neurkata* and the Stornoway studies collected information about speaker demographic. This speaker demographic included gender and age profile and this allowed the data on language use to be analysed according to these variables.

The speaker demographic data collected in the *Kale Neurkata* is focussed on age of the speakers and their gender. The focus of this Basque study has been on evaluating the use of the language by young people and this has, therefore, been reflected in the research instrument which identifies four age categories; age 2–14, age 15–24, age 25–64 and age 65 and over, as well as the gender of the participants in the interaction. On the *Kale Neurkata* research instrument there was the possibility to indicate whether the young people were observed to be speaking in the conversation at the time of the observation.

In the Stornoway study the age profile categories were different from those applied to the *Kale Neurkata* study, with the most important difference the exclusion of young people under the age of 16 (where individuals 16 and over are considered to be adults for the purpose of the study). There were multiple reasons for excluding young people from this particular study, namely ethics approval for this study which did not include children. One of the organisations in which the language use survey was conducted gave approval on the basis that conversations including children were not recorded. The locations selected and the timings of the study did not lend themselves to the recording of interactions involving those aged under 16, and therefore it is unlikely that this would have provided a statistically valid sample of conversations to allow meaningful conclusions to be drawn based on the dataset.

In addition to the exclusion of young people under the age of 18, the other age categories in this particular study in Stornoway were also different to those used in the Basque Country, with three age categories identified; 16–30, 30–60 and over 60. There was a sociolinguistic reason for selecting these age categories; the 16 to 30 age category being the group most likely to have received some form of Gaelic input in their education, either through Gaelic Medium Education or through Gaelic as a subject. The over 60 age category was identified as being the most likely to have acquired Gaelic as a L1 in the family home, but also, conversely, the group that might have been actively discouraged from using the language in public spaces. The 30–60 age category was thought to sit (literally and metaphorically) between the other two categories; with the language most likely to have been acquired (if at all) through intergenerational transmission, but this at a time when language shift was starting to significantly impact on the levels of Gaelic language use in the community. The 30–60 age category is also the most likely to not have transmitted Gaelic as the mother tongue to their children.

### *Adhbharan an conaltraidh / Purpose of the interaction*

As a result of the Stornoway study adding the participant profile as a variable it was recognised that the conversations themselves could have a variety of purposes which could be broadly categorised as either business conversations, in which the interaction related to the goods and services provided by the organisation, or private interactions in which this was not the case. This categorisation of the interactions was first explored in the pilot study as it was initially thought that conversations required to be observed for a longer period of time than might be the case if only the language and the participant characteristics were noted. This was found not to be the case, with the analysis of the purpose of the interacting relying not only on verbal clues but also on visual ones – examples of this included an exchange of money or goods between individuals. The categorisation of the conversations according to purpose could, by the definition applied, only relate to conversations involving at least one member of staff, either in conversations with other members of staff or in conversations with members of the public; conversations involving members of the public could only relate to private matters.

There were a number of reasons for applying this distinction in the purpose of the interactions – one hypothesis was that prior acquaintance between individuals was more likely to lead to the use of Gaelic. In these interactions, the participants would be familiar with the preferred linguistic norms of the other individuals in the conversations, with a code choice (where applicable), consciously or unconsciously, agreed. This was most obviously the case in (almost) all conversations between members of the public – in these conversations it was assumed that the participants were previously acquainted in order to be conversing with each other. This, of course, does not necessarily mean

that if the linguistic repertoire of the participants in the conversation includes Gaelic that the language is also used. The choice of language in this situation will be dependent on a number of factors, in addition to the linguistic repertoire, including the ideologies of all the individual participants. But it also depends on group dynamics and expectation, as well as the 'inertia condition of language choice' (Spolsky & Cooper, 1991).

In interactions involving only members of staff, it might be assumed that the participants are acquainted with the linguistic repertoire of the other individuals in the conversation. But, again, it is likely that language choice is complex and multi-factorial – not only dependent on individual ideology and group dynamic but also on any institutional policy – and the code choice, it was hypothesised, might also be dependent on the purpose of the interaction.

The purpose of the interaction was also deemed to be a relevant variable in mixed participant interactions. In single participant group interactions, it might be assumed that the individuals are acquainted with the linguistic repertoire or preferred code choice of the other participants, but this was not a given in mixed participant interactions. The nature of this study did not allow for information to be collected from those involved in the conversations, and it could not be established through observation alone whether these individuals were previously acquainted and therefore a linguistic norm established. One of the markers that was used to suggest this prior acquaintance, without obtaining additional information, was to evaluate the purpose of the interaction. It was assumed that in order to conduct a private interaction, one that was not related to the business of the organisation in which the language use survey was taking place, there had to be some level of prior acquaintance between the individuals. In a community like Stornoway, although relatively large with around 12,500 individuals living in the parish, it is small enough for some level of acquaintance between members of the public and those responsible for providing the services. This is more pertinent the smaller the community is, and it is likely that the boundaries between private and business transactions are more blurred in these circumstances. In smaller communities it might be assumed that prior acquaintance, at whatever level and however cursory, is a given.

In the Stornoway study, prior acquaintance could neither be presumed nor excluded in mixed participant conversations categorised as business transactions.

### *Àiteachan agus amannan / Locations and timings*

The *Kale Neurkata* surveys are conducted on the streets of the municipalities of the Basque Country. In order to get as true a representation of the linguistic practices of a community, routes are created, normally in the areas with the greatest footfall. The route might cover a number of streets or a particular geographical space (for example a square or station) and are specified to be large enough for the researchers to be inconspicuous (where possible) whilst still having similar

demographic characteristics throughout. Each of the *Kale Neurkata* survey sessions normally lasts two hours each, during which pairs of researchers move along the route and try and note as many observations during that period of time – either electronically through an app or on a language observation record sheet (available in a booklet format). Multiple survey sessions are conducted in each location according to a schedule. This schedule must consider the number of conversations that are likely to be recorded and the demographic of the community in which the survey is conducted. This means that observation sessions are conducted at different days and different times of the day in order to capture any different activities that might be taking place in these spaces. The language use surveys are conducted every five years across a five-week period in September and early October, with the last one conducted in 2016 (and the results published early 2017).

The Stornoway study was organised in a different manner from the *Kale Neurkata*. One of the main differences between the two studies was the decision not to conduct observations in outdoor spaces. This was partially a pragmatic decision; the location selected for the study does not have the same 'street culture' as in the Basque Country, with both the weather and cultural factors contributing to a more limited number of conversations taking place on the streets. The focus of the Stornoway study had also been different; whereas the *Kale Neurkata* focusses on the overall use of language in the streets as the ultimate public domain, the prime objective of the Stornoway was on creating a measure of evaluating the effect of language management initiatives on *de facto* spoken language use. This meant that locations were selected to include spaces with and without formal language management initiatives. All the spaces selected for this study were publicly accessible and enclosed. The *Kale Neurkata* study used fixed times for conducting the surveys, viz. two-hourly slots, but in the Stornoway study this was deemed to not be practical. In some of the locations surveyed there were 'peak periods' when there would be a (relatively) large presence of individuals engaged in conversations, but where, at other times, there were not many, if any, individuals present. An example of this was one of the locations selected in the Stornoway study, the ferry terminal building. This location would be busy in the hour or so before departure and then in the fifteen minutes before the arrival of a ferry, but in the intervening periods it would be very quiet, with just the occasional member of the public accessing the services. The definition applied to the unit of measurement (the conversation) means that interactions involving the same participants, for the same purpose and in the same language, is only recorded once during each observation session. This definition means, therefore, that interactions involving one particular group of individuals would only be recorded once (unless there was a change of language or a change of purpose) – this issue was particularly pertinent in the case of the more 'static' locations selected in the Stornoway study. The nature of the *Kale Neurkata* study meant that individuals would be transient, moving through

the space, rather than be fixed to one particular location. In spaces such as cafés or restaurants there would be a relatively large amount of people present at any one time, but these individuals tended to remain in the space for a period of time, limiting the conversations that could be recorded. In a typical example, an individual might order a meal with a member of staff, then (continue to) engage with any other individuals they were with, followed, maybe, by another conversation with the member of staff providing the food and drinks. This example would result in three conversations being recorded on the survey record sheet (assuming that there were two different members of staff – one taking the order and the other serving the food and drinks), but the individuals might remain present for a period of time, which meant no new conversations could be recorded. This necessitated longer individual survey observations as well as multiple surveys at different times of the day and different days of the week to obtain a statistically valid sample in those locations. In the Stornoway study it was decided to vary the duration of each conversation observation session and focus instead on the number of conversations recorded, with multiples of twenty conversations recorded in each observation session, regardless of the length it took to gather those conversations. This resulted in surveys sessions varying from thirty minutes to four hours, depending on the circumstances of the particular location.

The most successful locations in terms of efficiency of data collection were those where neither members of staff nor members of the public were stationary, but instead in motion, mirroring the situation of data collection in the Basque Country.

One further issue that needs to be considered is the timing of the data collection. As previously stated, in both the *Kale Neurkata* and Stornoway studies data was collected at different days of the week and different times of the week to gather information around as wide a cross-section of the population as possible. The *Kale Neurkata* surveys are conducted in September and October, although it is not immediately clear why this particular time is chosen (a query regarding this is outstanding with the Soziolinguistika Klusterra, who are responsible for the administration and data analysis of the *Kale Neurkata* in the Basque Country). The Stornoway study was conducted in the early part of 2015 (January–May). This particular period was selected to exclude, as far as possible, the likelihood of the results of the survey being influenced by the presence of tourists.

## Earbsachd & èifeachd / Reliability & validity

Both the *Kale Neurkata* studies and the language use observations in Stornoway tried to capture as wide a range of the demographic in the community as possible. In the *Kale Neurkata* this involved taking measurements in the streets of all municipalities during particular two-hourly timeframes during the day and early evening. In the study conducted in Stornoway it was decided not to use the street for survey locations – mainly due to the different community dynamic, which does not include

what might be described as a “street culture”. An initial evaluation was made of the possibilities for conducting a language use observation survey in the street, but it was decided that this approach was unlikely to yield sufficient data to be representative of the community. In selecting indoor locations for this study, consideration had to be given to the demographic profile of the individuals using the services offered by the organisation in which the language observation survey was taking place. The design of the Stornoway study selected a wide range of different locations, with language observation surveys conducted at various different times of the day and week, in order to capture as wide a range of different demographic profiles as possible. It is not possible to capture the linguistic practices of all the individuals in a community during these linguistic soundscape surveys, and therefore care needs to be taken that the data collected is a representative sample of that particular community. The validity of the sample size and the reliability of the findings can be assessed using the Soziolinguistika Klusterra online tool (www.soziolinguistika.eus/lagina/eskaera/kale-erabilera).
For a study to be valid and reliable the norm in (sociolinguistic) research is to have a maximum error margin of 5% (giving a 95% reliability) – in general the larger the sample the more reliable the results will be. In the Basque study a total of around 200,000 conversations are noted, whereas in Stornoway the sample size was 2,000. The sample size for Stornoway, although significantly smaller than the *Kale Neurkata* still provided a statistically valid sample for the size of community. The validity and reliability calculations consider the size of the community, together with the declared level of bilingualism in the community and the number of observed conversations. The same instrument also allows the validity and reliability to be set and the number of conversations required in a particular community to be calculated.
In order to be able to observe a statistically reliable and valid sample of conversations in a community, careful consideration needs to be given to the type of locations where language use surveys are conducted. It is assumed that, as with the Stornoway study, there are limited possibilities to collect data in the streets of other communities with a significant size of bilingual population. These communities with a significant bilingual population are all situated in the Western Isles but tend not to have, unlike Stornoway, any urban characteristics. This means that there might not necessarily be an outside space where a significant sample of conversations can be recorded and, therefore, other public domain spaces need to be considered.
The *Kale Neurkata* gather the large sample size through a continually changing presence of individuals on the street – with most individuals observed in the conversations passing by and not remaining static.

# Rannsachadh / Research study

## Inneal rannsachaidh / Research instrument

Previous studies have used similar research instruments, with variations in the specific variables for which information was collected. This study created a research instrument based on discussions with the Soziolinguistika Klusterra in the Basque Country, researchers from the Basque University as well as experience and knowledge obtained through the Stornoway linguistic soundscape study. This research instrument allowed for the recording of the main language used in the conversation, with Gaelic and English being allocated their own columns and the use of other languages noted through the 'other' column on the survey. Where a language other than English or Gaelic was used the language itself was added as a separate note on the form.

Analysis of the 2011 National Census data (National Records of Scotland, 2015), as well as other studies (e.g. (Munro et al., 2011; NicAoidh, 2006) have suggested that language shift is still ongoing, with Gaelic Medium Education (GME) contributing to the acquisition of Gaelic by young people. This study, therefore, aimed to capture this potential influence on Gaelic competence through the organisation of the categories of the participant demographic. The age categories for this survey were delineated as follows:

- Under 12 (children) – this covered young people under the age of 12 (approximately primary school age). This is the age category most likely to be exposed to Gaelic on a daily basis in the education system through GME / Gaelic pre-school provision.
- Age 12 to 18 (young people) – this age category is most likely to have been exposed to Gaelic in pre-school or GME and might still be receiving some Gaelic input (Gaelic / Gàidhlig as a subject or some form of Gaelic Medium provision in the form of subjects taught through the language) in the education system.
- Age 18 to 30 (young adults) – this age category is likely to have been exposed to some form of Gaelic provision in their formal education.
- Age 30 to 60 (adults) – participants in this age category might have acquired Gaelic in the *Gemeinschaft* domains but with little or no active teaching of the language in the (formal) education system
- Over 60 (older adults) – the age category where participants are most likely to have acquired Gaelic through intergenerational transmission.

Participants in the conversations were also delineated according to observed gender.

## Obair làraich / Fieldwork

The fieldwork for this pilot study was completed in October and November of 2018. This period was selected to coincide with the off-peak tourist season. All data was recorded based on observations only, with no information elicited from those observed. During the linguistic soundscape survey, any conversation which involved the research was not included in the survey. In the *Kale Neurkata* study a total of 225,000 interactions are recorded by over a hundred fieldworkers in all the municipalities of the Basque Country (Larrea – private communication). This particular study was designed as a pilot to assess whether this methodological approach could be used in Scotland, and if so, what information might be collected through this type of language use survey.

Different locations were selected for this study to assess, in the first instance, the possibility of conducting observational language use surveys. In the Basque Country, where these surveys have been conducted for over 25 years, the surveys have been conducted in the streets (hence the name *Kale Neurkata* – Basque for Street Survey). Scotland, and in particular the CnES area where around a quarter of all Gaelic speakers reside (National Records of Scotland, 2015) there is not a similar 'street culture'. The population density in the CnES is low, which means that replicating the exact methodology applied in the Basque Country was unlikely to yield sufficient data to provide a statistically significant sample of conversations to allow for an analysis of linguistic practices. This was also considered when the Stornoway study was designed. The Stornoway study had a slightly different focus, namely, to evaluate the use of spoken Gaelic in locations with and without a Gaelic Language Plan which informed both the design and the locations selected. This study's aims were more closely aligned with the *Kale Neurkata* and rather than looking at individual locations within a particular community, the purpose was to evaluate the overall linguistic practices of the community. This meant that a more 'transitory' approach was applied to the data collection – with only limited time spent in each space.

The previous Stornoway study indicated that this type of language observation survey can be conducted in an "urban" environment and that study also identified that a more 'transitory' approach might be a more effective way to collect data. The majority of communities in the CnES, but also in other areas with (relatively) high self-reported competences of spoken Gaelic are, however, not urban but typically consist of smaller townships, villages or crofts. A lack of a clear (commercial) centre meant that data collection was more complex as the numbers of individuals in each of these locations was small and therefore the number of interactions that could be collected in any space was limited. Furthermore, the large distances between the various rural locations, compared to a more urban settings, meant that collecting sufficient data to provide a statistically valid sample to provide an indication of the communal language practices. The nature of these

communities meant that it was decided to separate the various elements of the data collection as follows:

- Open access public spaces
- (Community) events open to members of the public
- Closed spaces

Typically, the data collected in each of the open access public spaces was limited due to the nature of the communities in which the language use survey was conducted. However, enough data was collected over the course of the fieldwork period to provide a valid sample for statistical analysis in each of the communities. Over the course of the fieldwork there were a number of community events which were open to member of the public. A number of these were selected, where possible to allow for comparison between the different communities. During these community events there would typically be a larger number of individuals present than in the other public spaces which meant that the overall dynamic was very different than in other spaces. Some data was also collected in closed spaces – these were places of work and were not freely accessible to members of the public. Collecting data (as will be discussed later) in closed spaces was more complex, for a variety of reasons, and it was not always possible to gather a statistically significant number of interactions to provide a clear indication of language use.

## Sgrùdadh dòigh-obrach / Evaluation of the methodology

### Àiteachan poblach le inntrigeadh fosgailte / Open access public spaces

As with previous studies this methodology was used to assess the language use in open access public spaces. These spaces were defined as any space with the community to which members of the public have access and can freely enter and leave. These were taken to include shops, cafés, restaurants, public transport hubs and streets. As indicated previously, the communities in which this pilot study was conducted were relatively small and this meant that the numbers of individuals present in any such space at any time was limited. The data gathered through the linguistic soundscape surveys is situational and it is not possible to replicate the exact same circumstances and individuals meeting and interacting, and this is why it is important to get a statistically valid sample which is a representation and reflection of the community.

In order to obtain a statistically valid sample, multiple visits were made to the various spaces selected for this study and the spaces visited through a transitory approach where the researcher would not spend long periods of time in any one location. The multiple visits, at different times of the day (where appropriate) and different days of the week, also allowed for a cross-section of the different users of that space to be included. The nature of this methodology and the communities in which the pilot study was conducted means that individuals might have been observed as participants in the conversations more than once, in the same space or in multiple spaces. Where individuals in these conversations were (at least) bilingual, they would have had to have made a decision on which language to use in each individual interaction. This code choice would have been driven by a complex set of factors, including individual ideology, (perceived) competence in the language and awareness of the linguistic preferences of the other interlocuters in the interaction. It should, therefore, be noted that any linguistic soundscape result is not a reflection of the individual linguistic competences or even practices but those of the community in public domain interactions. Members of staff present in the locations selected were most likely to be observed multiple times, not only over the course of a single survey session but also during repeat visits to the location. This does not in any way invalidate the study or the data collected as in each of these interactions the individuals concerned had to make a (new) linguistic choice based on a number of factors, such as prior acquaintance with the linguistic norms of the other interlocutors, and personal ideology and (perceived) language competence.

The research instrument used in Stornoway by Birnie (2018b) had included separate columns to allow for the separate identification of conversations involving members of staff. That particular study also indicated that the linguistic soundscape created by members of staff was a significant contributor to the overall use of the language, including those service interactions with members of

the public. The inclusion of separate columns in the previous Stornoway study to identify interactions involving members of staff had also resulted in a further variable being included, namely the purpose of the interaction (business or private). It is likely in small(er) communities that individuals are acquainted with each other and that therefore the distinction between members of staff and members of the public is more nominal than in a large(r) community such as Stornoway. In locations such as Stornoway individuals might not be familiar with the linguistic practices of members of staff working in the public spaces where the surveys were conducted, whereas this might not be the case in smaller communities. The inclusion of this variable in future studies would allow a level of recognition of the multiple observations of members of staff and provide a measure to evaluate how these linguistic practices affect the wider linguistic practices in a particular space.

## Tachartasan na coimhearsnachd / Community events

The nature of the communities in which the pilot study was set meant that the number of conversations that could be recorded in any one single location during a survey session was limited – with the number of individuals present at any time small. The inclusion of these community events in the pilot study, although not initially anticipated when planning the fieldwork visit, was decided upon to evaluate how this methodology would work in an enclosed space.

In the locations selected for the linguistic soundscape study a number of community events had been organised during the fieldwork visits. One of the features of these events was that they tended to attract significant support from the community, although the timings of these events (weekday evenings) might have limited further participation. These community events were not only an opportunity to attend a (music) performance but also for members of the public to meet up and exchange news and pleasantries. These events were all openly accessible to all members of the public with paid entry. None of the events were marketed as being 'Gaelic' events or included the language explicitly in their marketing. There was, therefore, no expectation on anyone present to use the language.

The number of conversations that could be included in the language use survey during these events was relatively small; limited by the various possible participant groupings. The unit of measurement was also defined as an interaction beyond an initial greeting, which, therefore, excluded some of the shorter interactions where only a greeting was exchanged. It should also be noted that although the "density" of individuals was greater than in any of the open access public spaces, not all individuals spoke to all other individuals. Ethnographic observations would suggest that individuals will typically interact with others for a significant period of time, with the start and finish of the event being particularly good for collecting data in an efficient manner as the conversations tend to be shorter than during the break where the interactions tended to be longer and sustained.

These events were very much social events, and it is likely that the linguistic practices which were observed were the unmarked code choice and would have been the same if these participants had encountered each other socially at another location within the community.

As stated earlier, the nature and timing of the event meant that the demographic of those present might not reflect the overall demographic of the wider community – if the study was to be repeated it would be important to conduct linguistic soundscape surveys in a wide variety of events with a varying demographic, or, alternatively, community events which attract this wider demographic – examples of these might be community ceilidhs and fairs.

## Àitichean dùinte / Closed spaces

### *Geàrr-chunntas / Evaluation*

In the Basque Country this type of methodological approach has been used to assess the use of language in closed spaces, i.e. spaces which are not open to members of the public and typically are places of work. This pilot study aimed to evaluate the possibility of conducting language use observation surveys in the Gaelic context of closed spaces. This proved to be challenging in a number of ways. Typically, organisations or workplaces in the Gaelic 'heartland' have a relatively small workforce, or, in instances where the workforce is larger, employees tend to be located in smaller offices. This resulted in a small number of individuals present in each of the locations, which, in turn, limited the number of different conversations that could be included in the language observation survey. The manner in which a conversation was defined for this study, namely a 'face-to-face interaction involving two or more individuals, delineated by a change in language or a change in participants' further limited the number of interactions that could be included. The previous Stornoway study had also delineated conversations by change in topic (business / private interactions), a variable which was not included in the research instrument for this study.

In one location, CS01,[2] for example, five individuals were present [redacted]. The total number of different participant permutations in conversations in these circumstances was 21 (ten 2-participant interactions, six 3-participant interactions, four 4-participant interactions and one interaction involving five participants). In this organisation all individuals were (at least) bilingual in English and Gaelic which means that a total number of possible 42 conversations could have been included in the survey (based on the employees present and excluding any visitors).

In practice, however, the number of conversations (as per the definition applied in this survey) were significantly smaller, with large periods of time where members of staff worked independently and with limited or no interactions between members of staff, except at particular points, at the start

[2] To preserve confidentiality the locations of the closed space element linguistic soundscape study have been fully pseudonymised so that individuals and organisations are not identified in this report.

and finish of the working day and at lunch and break times. Interactions tended to be confined to the same participant groupings and use the same language (in this instance Gaelic). The choice of language did not appear to vary, with the occasional inclusion of English words or phrases – as also reported by McEwan-Fujita (2008) in her discussion of the use of Gaelic in the workplace.

All of the organisations were very small, with three or four employees present. The linguistic practices varied according to the organisation and its function. Several of the organisations within this location had a very clearly defined Gaelic remit and this was reflected in the observed linguistic practices which used (mainly) Gaelic. In the organisations without Gaelic specific remit the use of Gaelic was more limited, if present at all. Where employees from the different organisations met, the language in the majority of circumstances was English It should, again, be noted that the number of conversations that was observed in each of these organisations was very limited and, as with location CS01, might have been influenced by the presence of the researcher. These locations were small spaces and are therefore likely to have been influenced by the 'observer paradox', with the presence of the researcher drawing attention to the linguistic practices and this might have resulted in individuals becoming 'hyper-aware' of their language choice(s). The data collected might therefore not be representative of the wider linguistic practices

The observational language use surveys can be used in closed spaces, such as spaces of work, but might be adapted to ensure that the observer paradox is minimised, either by having the researcher spending a significant period of time in the location or by having the data collected internally by a member of staff. This last approach would potentially raise issues around the impartiality of the data collected and how this might be influenced by language ideologies of either the member of staff or the organisation. One potential approach would be to ask members of staff to use a language use diary and report on their linguistic practices in their place of employment over the course of a day. The language diaries from the different members of staff could then be cross-referenced, and this followed up through interviews to allow members of staff to reflect on their linguistic practices (see de Meulder & Birnie, forthcoming).

## Caochladairean / Variables

The main variable in the language use observation survey was the language of the interaction. As conversations were only observed for a very short period of time it was not possible, in all circumstances, to identify instances of code-switching, either intra- or inter-sentential. Where code-switching was observed this was indicated by recording the conversations as two separate entries and linking the two.

The data collected can be analysed for overall language use, expressed as a percentage of the total number of interactions. This percentage would indicate the extent to which Gaelic, English and other

languages are present in the linguistic soundscape of the community. In order to evaluate the results in the wider sociolinguistic context of the community further information needs to be taken from the language observation survey data to calculate the isotropic or expected level of language use. As stated earlier (see Cànanan / Languages), this involved considering the number of participants in the conversation, the level of Gaelic / English bilingualism in the community and the 'language loyalty' or as Birnie (2018b) described it, the 'individual language usage index' – 'the frequency that Gaelic speakers use the language with other Gaelic speakers' (p. 107). In the absence of information relating to the frequency of usage of Gaelic by Gaelic speakers in these communities this is taken to be '1' (which means that Gaelic speakers speak the language to all other Gaelic speakers) – previous research (see, for example, Munro et al., 2011; NicAoidh, 2006) has shown this not to be the case and the value obtained should be considered as the maximum statistical percentage of conversations which could use the language.

The data collected through the surveys can also be analysed according to the participant demographic and language use. The first one of these would be the number of participants in Gaelic and English interactions. It should be acknowledged that 'spoken use of a language is by nature a collective matter. Oral use of a language does not depend on the individual but on the group' (Altuna & Basurto, 2013, p. 74). This means that individual competences in the language are not the main driver for actual spoken use of the language and therefore the number of individuals involved in the Gaelic interactions in itself might not be a particularly useful measure, although it can be used to give an indication of which participant demographic was most likely to have been observed using Gaelic (male / female and which of the age categories). The data on individuals involved in Gaelic interactions can, however, be compared to the information collected through the census which also provides an age profile of speakers. This could be used to provide a measure of how the level of (self-reported) competence versus observed language use in public domains. Where any gaps between competence and observed usage exist, this could then be followed up by further research to establish contributing factors and followed up by specific (policy) initiative to encourage and support the use of the language.

The language use surveys can, over time, can be used to provide an indication of how the use of the language in public domains is evolving, this is particularly pertinent in view of the provisions of the Gaelic Act and the National Gaelic Language Plan to develop 'more situations where Gaelic can be used. It involves using Gaelic in situation where it has not been used previously and the increased use of Gaelic in daily life' thus contributing to the overall aim that 'Gaelic is used more often, by more people and in a wider range of situations' (Bòrd na Gàidhlig, 2018, pp. 16, 15).

It will also be able to be used as a measure to assess the language usage index and correlate this to the data collected in the census – where it should be noted that individual competences in the language are of themselves not an indicator of language vitality – with the UNESCO Ad Hoc Expert Group on Endangered Languages (2003) using the speaker numbers as a language vitality indicator where it is assumed that these are active users of the language. The observational language surveys can be used to provide an indication of the active users of Gaelic in the community and thus provide an evaluation of the sociolinguistic vitality of the language, and in particular in the "heartland" communities of the language where a study of this type is most likely to yield meaningful results.
The data collected can also be used to analyse the demographic composition of the participants in the conversation – in particular the age profile of the interlocutors. It should be noted that the nature of the research means that no all individuals present in the group might have been observed speaking – it is, therefore, assumed that all those present in the group were able to speak the main language of the interaction. This would assume 'etiquette of accommodation' (McEwan-Fujita, 2010, p. 27)– that is where one person in the interaction was unable to speak a language (most likely Gaelic) then the language most likely to be used would the unmarked choice of the community (most likely English). An exception to this might be interactions involving infants or very young children, who might be not be considered to be active participants in the interaction.
This issue of 'etiquette of accommodation' is likely to be linked to group size – the larger the group size, the greater the statistical possibility that at least one person in the conversation does not speak Gaelic and that, therefore, the language of interaction will be English, a language spoken by all in the community. This can be mitigated by the size and composition of the community – it is likely that many of the individuals who were observed in the course of the linguistic soundscape study are, at least at some level, acquainted with each other and therefore have previously established linguistic norms (whether this is English or Gaelic). >>>>>
The group composition could also be used to determine the extent to which the language is used in intra- and inter-generational conversations. This is particularly pertinent in the sociolinguistic discourse surrounding minority languages in which intergenerational transmission is stated as an important feature of language vitality (Fishman, 1991; UNESCO Ad Hoc Expert Group, 2003). Studies in the Basque Country (Altuna & Basurto, 2013) have indicated that conversations were more likely to use Basque of young children were present, and although Birnie's study (Birnie, 2018; 2018a) did not include conversations involving young people, there was evidence to suggest that Gaelic is mainly used by the older generations and primarily in interactions involving others in the same age category. These inter- and intra-conversational interactions and the language used would be important indicators of the future trajectory of the language in that particular community.

# Molaidhean / Recommendations

## Àrd-shealladh / Overview

This pilot study aimed to evaluate the potential of using language observations to collect data on the use of Gaelic as a further measure to evaluate the linguistic vitality of the language. Other language vitality measures are available, one of which is the decennial national census which collects data on competences in the language as well as (since 2011) and qualitative and quantitative research methods which have been conducted in especially in the traditional heartland of the language. Locations selected included open access public spaces, open access events and closed spaces in different communities. During this pilot study a statistically significant number of conversations was observed in the open access spaces which could be analysed for language use and demographic profile of individual participants as well as the group composition.

## Àitichean / Locations

The previous Stornoway study indicated that a study of this type could be conducted in an urban setting. That is also the context in which the *Kale Neurkata* has been conducted and also studies in Galway (Stiofán Seoighe – personal communication). The traditional heartland of the language has very few urban settlements where this type of research could be conducted, with the majority of communities being smaller with fewer (public) services available. This necessitated a more transitory approach to data collection, selecting spaces in each of the locations in which individuals are likely to be present and use the services (including shops, cafés, restaurants and public transport hubs). The number of individuals present in these spaces was smaller than it would have been in urban spaces (where there is a larger density of people), this meant that data collection was not as efficient as different spaces needed to be visited, each for a short period of time, to gather enough data. The number of observed conversations that makes up a statistically valid sample is dependent on a number of variables (as discussed in Earbsachd & èifeachd / Reliability & validity), with the size of the community being a significant contributing factor, together with the level of bilingualism in the community (http://www.soziolinguistika.eus/lagina/eskaera/kale-erabilera). It would be important to establish the minimum number of conversations required to be observed in order to provide a statistically valid sample (here the assumption has been that the maximum error would need to be 5% with a confidence level of at least 95%). Consideration also needs to be given to the spaces selected for the research and where the individuals using these spaces would be coming from and consider this as part of the validity and reliability calculations.

During the pilot study it was decided to also include (as a separate data set) community events – although the number of conversations collected during these events was not statistically significant, it was an opportunity to observe communal linguistic practices on a larger scale. These events also

proved to be effective in data collection; with a relatively high numbers of individuals present and with a greater opportunity to observe a wider selection of conversations. It is, therefore, suggested that any future studies also include these community events as spaces for linguistic soundscape surveys to add to the data collected in the other public spaces to provide an additional measure of language vitality.

The pilot study has indicated that a study of this kind can be conducted in a non-urban setting. A prerequisite would be a space used by a cross-section of the community, for example a café, a shop or community centre and a clearly delineated demographic user group. Other pre-requisites would be a relatively high level of Gaelic language competence in the community – although the exact level which would make a study of this kind viable would depend on other influences as well, such as the size of the community. Examples of locations which could be included in future studies would be Lewis (based around Stornoway as a centre and additional data collected across the villages), Harris, Uist (due to the nature of the community this would incorporate North and South Uist as well as Benbecula and Berneray), Barra (Barra and Vatersay), Sleat and Broadford, Portree and Staffin, Ullapool and Fort William. In other locations (such as Inverness, Glasgow and Edinburgh for example) or during specific events (for example the Royal National Mòd), this methodology could be adapted to measure the linguistic soundscape at events aimed at supporting the use of Gaelic with a view to strengthening the spoken use of the language over time and using this as a measure to assess progress towards these aims.

The nature of the closed spaces in the selected locations, which were small with a limited number of individuals present at any time, means that it was not possible to get a sufficient data set to allow for meaningful analysis (see also Àitichean dùinte / Closed spaces). Other data collection methods might prove to be more effective to assess the extent to which Gaelic is used in these smaller spaces (for example, language use diaries). The language use surveys would, however, be viable in organisations with larger staff numbers or during, for example, organisational meetings where members of staff from different locations come together. It should be noted that in these circumstances the language use survey could be supported by other ethnographic observations to identify any particular triggers for code choice or code-switching. Organisational language use surveys might also be particularly helpful when preparing Gaelic language plans to evaluate the current use of Gaelic and identify areas where the language is (already) used and how this might be developed through the planning mechanism.

## Caochladairean / Variables

The research instrument for this pilot study (see Eàrr-ràdh 1 Inneal rannsachaidh / Appendix 1 Research Instrument) allowed for data to be collected on language used (English, Gaelic and other) and also for the participant demographic to be noted. This allowed for an analysis of the data according to overall language use and language use according to participant demographic as well as the group demographic. The different age categories selected were relatively broad, in part to (further) ensure anonymity and confidentiality in a small community. Consideration could be given to adding a further age category, namely 0–3, in addition to the age categories currently used. Adding this additional age category would allow for the (potential) influence of the education system on the use of the language to be evaluated. It would also recognise the specific language competences of very young children and, for very young children, the often passive nature of their participation in conversations.

A further recommendation would be to provide an option to indicate if members of staff were involved in the interaction – members of staff are more likely to have been participants in multiple, different conversations. Previous research (Birnie, 2018b; Heller, 1983) has indicated that members of staff are instrumental in creating the conditions for members of the public to use the minority language. Where members of staff do not speak Gaelic, the etiquette of accommodation(McEwan-Fujita, 2010) (McEwan-Fujita, 2010) might result in members of the public using English with other participants (even excluding the members of staff) in that particular location, even where they might otherwise have used Gaelic.

## Dùbhlain / Challenges

The nature of many communities in the traditional heartland of the Gaelic language means that there are some challenges in data collection. The main challenge that had been anticipated is collecting sufficient data to provide a reliable and valid sample of the linguistic practices of the wider community. In the communities where the pilot study was conducted the various locations were visited and information gathered about approximate number of individuals present and the suitability of the location for the linguistic soundscape survey. Some smaller spaces were visited but only a small number of individuals were present, and this influenced the number of conversations that could be observed. Care was taken to visit locations multiple times; during different times of the day and during different days of the week to get, as far as possible, a cross-section of the individuals visiting and using these spaces. Approximately a week was spent in each of the locations in order to collect sufficient data for analysis. The timing of the fieldwork was carefully selected to be in the low-season for tourism – although the nature of the study means that it cannot be ascertained that all individuals observed were residents of the locations of the study.

The information was collected manually – using pen and paper methods. This data was then checked and transcribed before analysis. This proved to be the most time-consuming element of the study – with over 1,000 entries collected. Discussions with the Soziolinguistika Klusterra and researchers from Bangor University (Wales) and Afûk (Friesland) (who also have an interest in running this type of study in their respective contexts) have suggested that were this research to become a regular feature of the assessment of the sociolinguistic vitality of Gaelic, that information is gathered electronically. The *Kale Neurkata* allows researchers to use a mobile phone app to record the data. Using electronic data collection methods would eliminate the need to manually transfer the data, thus reducing the possibility of errors in transmissions and speeding up the data analysis process. If electronic data collection methods were to be introduced care must be taken to ensure that other data collection methods remain available, in case technical issues (lack of phone reception for example) prevent data from being stored. The nature of the study means that the data is situational and that the exact circumstances cannot be replicated. This means that there will be variations in the data collected – this should however provide an overview of the linguistic practices of the community in the various locations and the inclusion of as wide a variety of different spaces as well as survey collection timings.

## Tomhas-ama & tricead rannsachaidh / Timing & frequency

The pilot study, together with previous qualitative and quantitative studies (Munro et al., 2011; NicAoidh, 2006) have indicated that self-reported competence need not be synonymous with active use of the language in all or some domains, with Munro (2011) suggesting that 'it is impossible to know how, and even if, those who self-report to have Gaelic are actually using Gaelic during those ten years' (Munro, 2011, p. 165). Munro followed this up by suggesting that the Census results are of 'limited ideological or practical use in language policy formation' (*ibid*). The Census data has been a valuable longitudinal source of data which has provided a clear indication of the trends in language use (until 1971) and language competence (from 1971 onwards) which can be used in mathematical modelling (Abrams & Strogatz, 2003; Kandler et al., 2010) of language shift.

To provide a clear link between language competence and language use in the community the linguistic soundscape survey should ideally be conducted once every five years, once in the year of the national census and once at the midpoint between two census collection periods. This follows the recent practice in the Basque Country and should allow for a correlation between the census and the linguistic soundscape data. A follow-up linguistic soundscape survey in the same communities after five years could be used to show how the use of the language in public spaces has changed (if at all) in the intervening years. It would be suggested that data is collected in as many community spaces as possible to reflect the communal linguistic practices. Data collection should consider the

nature of the community and be conducted outside the main tourist season which can significantly affect linguistic make-up of the community as it might reasonably be surmised that the majority of visitors to these communities will not be Gaelic speakers. The pilot study indicated that enough data could be gathered in each community a relatively short period of time – a period of five days. The survey can either be conducted during a specific period or conducted through sampling at different times of the off-peak tourism season and collated to provide a single data set for that community. Care must be taken in the design of the study that the issue of reporting bias or 'false positives' is avoided, especially in small communities. It was noted on a number of occasions that when individuals were encountered which were familiar with the researcher and the study, the linguistic practices changed. This can be avoided by ensuring that the researcher(s) do not have a personal affiliation with the location which might result in reporting bias or the linguistic practices of those present in the communal public spaces.

This methodology described in this report could also be used to collect data on language use during specific community events, for example those organised by organisations involved in supporting Gaelic use and revitalisation. This data could be compared to the wider linguistic practices of the community, where appropriate, and also serve as a baseline to evaluate the effect of any interventions made to support and strengthen the language. The timeframe for the surveys could be altered to reflect the specific needs of the organisation or event.

## Cosgaisean / Costs

The main costs associated with conducting a study according to the proposals outlined above is the time required to collect a sufficiently large data set *in situ*. Expansion of the research study into community-based events, which of themselves will not be able to provide a large data sample but can be used to explore the wider communal practices, might, depending on the timing of the surveys, be included in the main survey or might be conducted with a focus of evaluating language use as a result of Gaelic language management initiatives. As described above, the transcription and analysis of the dataset can be time-consuming, although this could be considerably shortened if a digital means of data collection (such as an app used in the Basque Country) was used.

The language use surveys could be conducted by trained fieldworkers and these same fieldworkers could be responsible for transcribing their data to a digital format. Analysis and reporting on individual locations as well as overall findings, together with overseeing the project would be a researcher. The overall cost associated with the project would depend on the size and scale but would require a fieldworker, a researcher, travel and subsistence costs and would, based on 2019 Strathclyde Academic rates, work out as follows:

| | | |
|---|---|---|
| Fieldworker (Grade 6) – surveying & transcribing | 10 days @ £ 175.70 / day | £1,757.00 |
| Researcher (Grade 8) – data analysis & evaluation | 2 days @ 294.02 / day | £588.04 |
| Travel and subsistence | | £1,200.00 |
| Incidentals | | £200.00 |
| TOTAL | | **£3,745.04** |

This would provide a total cost per location surveyed at £3,745.04 per location with fieldworkers collecting the data over a period of approximately seven days and then transcribe the data. Assuming that eight locations were selected for this study across the various communities, this research itself would cost £29,960.32. There would be additional costs associated with data analysis and report writing, as well as training for fieldworkers to conduct the surveys:

| | | |
|---|---|---|
| Fieldworker (x 8) 1-day training | 8 fieldworkers @ £ 175.70 / day | £1,405.60 |
| Researcher (Grade 8) – training | 1 day @ 294.02 / day | £294.02 |
| Researcher (Grade 8) – data analysis & report | 10 days @ 294.02 / day | £2,940.20 |
| Incidentals | | £500.00 |
| TOTAL | | **£5,139.82** |

This would bring the total estimated cost to conduct a linguistic soundscape survey across eight different communities to £35,100.14 based on 2019 rates and excluding any overheads that might be charged by an academic institution for a project such as these. An estimate of these would come to £23,633, and therefore the total project value would be approximately 58,733.13.
The costings for community events and closed spaces could be worked on a *per diem* principle (as the cost would depend on the type of event or location and the expected data to be collected).

| | | |
|---|---|---|
| Fieldworker (Grade 6) – surveying & transcribing | 1 ½ days @ £ 175.70 / day | £263.55 |
| Researcher (Grade 8) – data analysis & evaluation | 1 day @ 294.02 / day | £294.02 |
| Travel and subsistence | | £250.00 |
| TOTAL | | **£807.57** |

The estimate provided here would assume travel to and from a one-day event and the subsequent data analysis. Community events might be included as part of the wider linguistic soundscape study and there might well be specific events which last for a longer period of time and this would mean that the costs for the fieldworker would increase proportionately with the duration, but the costs for the data analysis and evaluation would remain constant after the first two days, so a five day event would work out as follows:

| | | |
|---|---|---|
| Fieldworker (Grade 6) – surveying | 5 days @ £ 175.70 / day | £878.50 |
| Fieldworker (Grade 6) - transcribing | 1 day @ £ 175.70 /day | £175.70 |
| Researcher (Grade 8) – data analysis & evaluation | 2 days @ 294.02 / day | £588.04 |
| Travel and subsistence | | £800.00 |
| TOTAL | | **£2,442.24** |

In closed spaces the proposal was made to (also) use language use diaries. These diaries would require the cooperation of those present within the location and would not require a half day introduction by the research to the participants, followed by data analysis of the contents and interviews and focus group meeting based on the diary entries:

| | | |
|---|---|---|
| Researcher (Grade 8) – meeting with participants | ½ day @ £ 294.02 / day | £147.01 |
| Researcher (Grade 8) – interview / focus groups | 2 days @ £ 294.02 / day | £588.04 |
| Researcher (Grade 8) – data analysis & evaluation | 6 days £ 294.02 / day | £1,764.12 |
| Travel and subsistence | | £400.00 |
| TOTAL | | **£2,899.17** |

## Eàrr-ràdh 1 Inneal rannsachaidh / Appendix 1 Research Instrument

Observation session information

| Location code: | | |
|---|---|---|
| Date: | Start time: | Finish time: |

Survey

| | Language | | | Speaker demographic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Male | | | | | Female | | | | |
| | Gaelic | English | Other | Under 12 | 12 -18 | 18-30 | 30 -60 | Over 60 | Under 12 | 12 - 18 | 18 - 30 | 30 - 60 | Over 60 |
| 01 | | | | | | | | | | | | | |
| 02 | | | | | | | | | | | | | |
| 03 | | | | | | | | | | | | | |
| 04 | | | | | | | | | | | | | |
| 05 | | | | | | | | | | | | | |
| 06 | | | | | | | | | | | | | |
| 07 | | | | | | | | | | | | | |
| 08 | | | | | | | | | | | | | |
| 09 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | |

## Eàrr-ràdh 2 Geàrr-chunntas de mheatraigean / Summary of metrics

The data collected with the research instrument can be used to provide data about the following:

- Overall Gaelic use versus English language use in public spaces – this can be compared to the statistically expected level of Gaelic language use
- Demographic profile of the Gaelic (and English) speakers

Gender

Age profile of the speaker

Demographic profile of the participants in the conversation

Inter-generational conversations

Intra-generational conversations

With the following changes suggested to the research instrument (the inclusion of an additional age category (0–3) and a further categorisation of the participant designation (member of staff or member of the public), the following additional information can be obtained:

Conversations specifically involving very young children (pre-education) in Gaelic / English

Demographic profile of the participants in conversations involving very young children

Active or passive participation of these very young children in these conversations

Language use according to participant designation

Language use according to participant designation groups (members of staff, members of the public and mixed participant interactions)

Were the participant designation to be added to the research instrument, a further variable could be added, namely that of the general purpose of the interaction – business or private – this would give the following information:

Language use according to the purpose of the interaction

Language use according to the purpose of the interaction and the participant groupings (members of staff and mixed participant interactions)

## Eàrr-ràdh 3a Eisimpleirean de àitichean poblach fosgailte / Examples of open access public spaces

The following examples are provided as an indication only of the relationship between the population size, level of bilingualism and number of observations required to provide a statistically valid sample.

Stornoway

- Population 12,635
- Level of bilingualism 43.4%
- 5% confidence and 5% error margin
- ~ 378 conversations required

If Stornoway is taken to be representative of Lewis (covering the four parishes)

- Population (12,635 + 1,762 + 3,173 + 1,576) 19,146
- Level of bilingualism (870 + 5,484 + 939 + 2,034 = 9.327) 48.7%
- 5% confidence and 5% error margin
- ~ 384 conversations required

Barra

- Population 1,222
- Level of bilingualism 62.2%
- 5% confidence and 5% error margin
- ~ 384 conversations required

North & South Uist

- Population (3,122 + 1,443) 4,565
- Level of bilingualism (61.5% and 60.4%) 60.6%
- 5% confidence and 5% error margin
- ~ 384 conversations required

## Eàrr-ràdh 3b Eisimpleirean àitichean dùinte / Examples of closed spaces

The number of conversations required is calculated using the online tool created by the Soziolinguistika Klusterra - http://www.soziolinguistika.eus/lagina/eskaera/kale-erabilera. This is the same tool that can be used to calculate the size of sample required in closed spaces such as places of work.

CS01

- Number of employees present = 5
- Level of bilingualism = 100%
- 5% confidence and 5% error margin
- ~ 526 conversations

CS02

- Number of employees present = 9
- Level of bilingualism = 66.7%
- 5% confidence and 5% error margin
- ~ 2580 conversations

## Eàrr-ràdh 4 - Barraigh is Bhatarsaigh / Barra and Vatersay

### Overview

One of the locations selected for this study was the civil parish of Barra. This parish, with a population of approximately 1,200, covers the islands of Barra and Vatersay. These islands, the most southerly inhabited islands of Comhairle nan Eilean Siar (CnES) are connected by causeway. Public services are concentrated in Castlebay, the largest settlement in the parish, and include the local authority offices and an adult learning centre, supermarket, leisure centre, library, tourist accommodation and some smaller shops and businesses. Primary education is provided in two locations in the parish, Eoligarry and Castlebay. Nursery and secondary school education are provided in Castlebay, with Gaelic-medium education available at all stages (Galloway, 2019)(Galloway, 2017). Barra is connected to Glasgow by daily flights, with a ferry service providing a connection to the mainland as well as Uist. The economy is based around fishing, with the fish and shellfish processing plant the largest private employer on the island, with other key employers being the public sector, tourism, offshore energy production and transport services.

Barra has historically reported high levels of Gaelic language competences. The New Statistical Account of Scotland (1831–1845) (as quoted in Duwe, 2005) reported that 'Gaelic is the language universally spoken, and it is very pure and still unmixed with many English words. The English language has made little or no progress, because schools have been wanting'. This statement implies that intergenerational transmission was the main mechanism of language acquisition in children and also suggests that Gaelic was the main language of the home, the family and the community. This report in the Statistical Accounts is supported by the results of the first national census to collect information relating to Gaelic, conducted in 1881. The results of this census indicated that 89.6% of the population, 1,937 out of 2,161 individuals, were 'habitually speaking Gaelic' (Census Office Scotland, 1883).

Ten years later the census indicated that 93.2% of the population could speak the language (Census Office Scotland, 1893),with 57.0% of the population monolingual Gaelic speakers. Duwe (2005) has suggested that the only individuals not speaking Gaelic at this time were incomers, with Castlebay the only "anglicised" part of Barra where 'merchants, hotel keepers and harbour masters dominated the sociological balance' whereas in 'more remote places the language was universally spoken apart from the odd elementary teachers who by definition did not speak the language of her scholars' (pp. 6 - 7)

The 20th century saw a sharp reduction in the population of Barra, from 2,545 in 1901 to 1,090 in 1971 as a result of economic difficulties and significant out-migration (Duwe, 2005). The use of Gaelic over this period remained high over this period – most likely because the age-groups with the

highest incidence of Gaelic speakers at the time, the young and the elderly, were not economically active. Intergenerational transmission would have been the main mechanism for language acquisition, with Gaelic being the preferred language of 84.4% of the primary age and 94.6% of the junior secondary school children in 1961 (Scottish Council for Research in Education, 1961). The census data from 1971 to 1991, before the introduction of Gaelic-medium education (GME) in Barra, show that there was an overall decline in the spoken competences. The decline was greatest in the 3 to 4 and 5 to 24 age categories, suggesting a significant shift in the transmission and language use patterns during this period. This decline continued in these age categories despite the availability of GME in the community (K. MacLeod, 2017).

## Communal linguistic soundscape study

### Data collection

The main data for this study were collected over the course of a week at the beginning of October 2018, with supplementary data collected in November of the same year. The period of fieldwork was selected to coincide with the off-peak season for tourism although the nature of the study means that the inclusion of individuals not habitually resident on Barra cannot be fully excluded. The linguistic soundscape observations were conducted in a variety of different public spaces in the community, at different times of the day and different days of the week, including the weekend. The spaces sampled include the local supermarket, ferry terminal and airport café, as well as local shops and other community facilities. The main fieldwork yielded [redacted] conversations in twelve different public locations. The locations were selected to provide, as far as possible, a cross-section of the public spaces and population of Barra. In this study a conversation was defined as a face-to-face interaction involving two or more individuals beyond an initial greeting.[3] The conversation was delineated by a change in language, participants, or change of topic. The research instrument used was based on those used in the *Kale Neurkata* and the Stornoway study conducted by (Birnie, 2018b) The research instrument allowed for the identification of the broad demographic profile of the participants in the conversations; this included the age profile and gender as well as the language of the interaction.

[3] Earlier studies by (Birnie, 2018b) indicated that the language of the greeting may not be the language in which the remainder of the conversation is conducted. This is especially the case where Gaelic is used as a greeting in a bilingual community which involves stock phrases.

## Validity and reliability

The choice of locations aimed to provide a representative overview of the wider community and the linguistic practices. The validity and reliability of the data collected during the main fieldwork visit in October can be assessed through estimating the total number of interactions that can take place in the public spaces where the surveys are being conducted. To provide this estimate of the possible interactions, the relationship between the individuals involved in the observed conversations needs to be considered. In many of the interactions observed, especially in a relatively small community, there will be a level of acquaintance between the individuals involved in the interactions. The number of acquaintances that an individual is able to sustain in a personal network is given by Dunbar's number (Robin Dunbar, 1992) and is around 150 on average.

A further element in the assessment of the reliability and validity of this study is the language competence. The number of interactions that can take place in a given language depends on the competences of the individuals involved in the conversation. In Barra, as in all other communities with significant proportions of Gaelic speakers, all the individuals observed would have been able to conduct a conversation in English (R. Dunbar, 2011). A proportion of the observed individuals will also have been able to speak Gaelic. As these individuals will be bilingual in Gaelic and English, this group of individuals will have to decide for each interaction which language to use. To analyse the validity and reliability of the study data it is assumed that the size of the bilingual population is 62.2%, the same proportion as those individuals who self-reported to be able to speak Gaelic in Barra in the 2011 National Census (National Records of Scotland, 2013).

Using the mathematical model created by Yurramendi (2009) which considers the level of bilingualism in a community, the size of the population and the number of conversations recorded during the linguistic soundscape study, the data gathered in this element of the study has a 95% confidence level with a 4% error.

## Expected language use versus *de facto* language use

This study was the first time that observational language use surveys have been used in this particular community, and this means that there is no comparable data set available to compare the results of this study against. The discourse around Gaelic speaker numbers has focussed on the data gathered through the decennial census, where there has been a tacit assumption that the linguistic competences are synonymous with active language use in all or some domains. This would, likely, have been the case until 1961 when the question was framed around active use of the language ('Do you speak Gaelic'), whereas after that date the census question focussed on competences ('Can you speak Gaelic?'). Thomas (1998) has suggested that the change in which the question is phrased might have had a significant impact on the way individuals perceived the census question on Gaelic. The most influential factor in assessing the statistically expected level of Gaelic language use in the community is the overall level of competence in the language. The higher the level of Gaelic competence in the community, the greater, statistically speaking, the chance that the language can be used. The 2011 census indicated that 62.2% of the population of Barra self-reported to be able to speak, which means that 37.8% consider themselves to have no, or limited, spoken competences in Gaelic. This balance between English (monolinguals[4]) and Gaelic / English (bilinguals) means that those who are bilingual need to make a language choice (or code choice) for each of the interactions they are involved in. This code choice is likely to be complex and governed by multiple factors, including language ideology and established linguistic norms. A conversation, by definition, includes two or more individuals, and for communication to take place these individuals need to speak the same language. This means that the larger the group size, the greater the chance that one member of the group will not be able to speak Gaelic, and that, therefore, the conversation will be conducted in English. Although it is assumed that there is some level of acquaintance between all individuals in an interaction, a larger group size also increases the chance that not all of the individuals are aware of the linguistic repertoire of the other individuals, which, in turn, will increase the likelihood that English, the unmarked code choice (Myers-Scotton, 1988) will be used.

Analysis of the date collected in the *Kale Neurkata* surveys from the early 1980s onwards has shown that the majority of interactions take place between two individuals, with conversations involving three or more less likely to occur (Yurramendi, 2009)

[4] This study focussed on the use of Gaelic especially and therefore linguistic competences of the individuals in the community focussed on Gaelic and English. Where other languages were spoken this was recorded on the language use survey (as "other" with a note added). Participants in the conversations might well have competences in other languages beyond Gaelic and English, but that was beyond the scope of this study.

The initial fieldwork in Barra yielded [redacted] conversations and this followed the same patterns as identified by Yurramendi (2009) with the majority of interactions involving two participants (see Figure 1).

| Number of participants in the interaction | Observed conversations as a percentage of the overall number of interactions |
|---|---|
| 2 | 73.0% |
| 3 | 18.0% |
| 4 | 6.2% |
| 5 | 1.8% |
| 6 | 1.0% |
| **TOTAL** | **100%** |

*Figure 1: Number of participants in each of the observed conversations, both in absolute terms and as a percentage of the total number of observed interactions in Barra [Absolute numbers have been redacted]*

It is assumed that the use of Gaelic in this community is a random occurrence which can happen anywhere in the public spaces and at any time. This isotropic distribution also assumes that the relationship between all those observed are randomly distributed across the various locations surveyed.

The mathematical model created by Txillardegi is given by:

$$p_g = m_g (w_2e_x^2 + w_3e_x^3 + w_4e_x^4 + \ldots)$$

Where:

$p_g$ = the isotropic or expected level of Gaelic language use

$m_g$ = the loyalty of Gaelic speakers to the language

$e_x$ = the proportion of bilinguals

$w_x$ = weight of the group containing 'x' participants

Applying this model to the Barra fieldwork data, using the proportion of bilinguals as per the 2011 census (62.2%) (National Records of Scotland, 2013) and assuming a language loyalty factor of "1",[5] this would result in an expected or isotropic language use of 33.8% of all the interactions observed (around 203 conversations). It is important to note that the language loyalty factor makes a significant contribution to the isotropic language use and that, in this calculation, it is assumed that all Gaelic speakers use the language all of the time with other Gaelic speakers. This is unlikely to be the case for the conversations observed, with a complex set of factors determining the choice of language. Furthermore, as identified by Munro (2011), little is known about the linguistic competences or frequency of language use by those that self-declare to be able to speak the

[5] This would assume that Gaelic speakers would speak Gaelic all the time to other Gaelic speakers.

language in the census. This means that the isotropic language use is the theoretical 'best case scenario' and any comparison with the *de facto* language use needs to be placed in the wider context of the sociolinguistic situation of the language in this particular community.

## Results

### *De facto* language use

It should be noted that the nature of the data collection means that this data is only a 'snap-shot' of the linguistic practices at a particular time and place. The linguistic soundscape survey can be repeated in the same places, but the exact circumstances of each of the interactions cannot. This means that it is not possible to provide a repeat measurement of the interaction. The main fieldwork visit resulted in [redacted] observed conversations in the public domain. The majority of the conversations, 565, were conducted in English, with Gaelic used in [redacted] conversations and [redacted] (see Figure 2).

*Figure 2: Language use in public spaces in Barra [Redacted]*

This would suggest that every individual with self-reported spoken competences in Gaelic speaks the language to another Gaelic speaker in approximately one in 6 interactions.

### Participant profile

Across the linguistic soundscape surveys conducted in Barra, a total of 1,438 participants were observed. The total population of Barra is around 1,200 and therefore there will be a number of participants who would have been observed multiple times, in different conversations and / or different locations. These participants would have been required to make a (new) linguistic choice for every interaction in which they were involved. No additional information was collected about the participants in the conversations, except the information collected through the linguistic soundscape survey, age profile and gender, and therefore the linguistic competences – beyond those observed – of those individuals observed were not known.

The dataset can be analysed to provide an overview of the linguistic practices of the individuals observed (the 'participants' in the interaction). This analysis shows that [redacted] out of the [redacted] participants were observed in Gaelic interactions, <10% of all observed individuals. The number of participants speaking English was 1,355, or 94.2% of all those observed. [Redacted], were observed speaking a language other than English or Gaelic (see Figure 3).

| Language of the interaction | Participants | Percentage of participants |
|---|---|---|
| English | 1355 | 94.2% |
| Gaelic | [redacted] | <10% |
| Other | [redacted] | <10% |
| TOTAL | [redacted] | 100 % |

*Figure 3: Number of participants in English and Gaelic interactions in Barra*

One of the variables recorded in the linguistic soundscape was that of the gender of the participants. Analysis of the census data has shown that there is a gender gap in the self-reported level of Gaelic in the Western Isles of around 5% between males and females with males more likely to have self-reported that they speak the language (National Records of Scotland, 2013). In Barra 1.18 times more females ([redacted]) than males ([redacted]) were observed. If the null-hypothesis is assumed (implying no statistical correlation between the gender of the participant and the language use) than this ratio would also be expected in the results for language use; this was, however, not the case. Gender was found to be a strong indicator for the use of Gaelic (with $\chi^2$ (1) = 6.112, $p \leq 0.05$) – with males 1.5 times more likely to have been observed using Gaelic than woman in this sample (see Figure 4).

| Gender | % of total participants | % of participants in English interactions | % of participants in Gaelic interactions |
|---|---|---|---|
| Male | 45.1% | 45.2% | 60.5% |
| Female | 54.9% | 54.8% | 39.5% |
| TOTAL | 100% | 100% | 100% |

*Figure 4: Gender of the participants and language use in Barra [Absolute numbers have been redacted]*

A further demographic variable included in the study was that of age profile. In this study participants were categorised according to one of five different age groups; under 12, 12 to 18, 18 to 30, 30 to 60 and over 60. Across the study the largest group of participants, with 51%, were individuals aged 30 to 60. However, this age category only made up 1.6% of the individuals speaking Gaelic. Statistical analysis shows that there is a very strong correlation between the age profile of the participants and the use of Gaelic (with $\chi^2$ (4) = 226.658, $p \leq 0.05$). Gaelic language use, in general, increased with age, with those aged over 60 significantly more likely to use the language than younger participants. [Redacted].

*Figure 5: Participant demographic and participation in Gaelic and English conversations [Redacted]*

The two variables discussed above, age category and gender, can be combined to form a demographic profile for Gaelic language use (see Figure 6). Analysis of this demographic data has shown a clear correlation between the demographic profile of the observed participants and the use of Gaelic (with $\chi^2$ (9) = 243.346, $p \leq 0.05$).

*Figure 6: Percentage Gaelic language use and participant demographic (age and gender) [Redacted]*

## Participant designation

Some of these participants will have been observed multiple times – as interlocutors in different interactions – and, where these individuals are bilingual in Gaelic and English, having to make a language choice for each conversation. This was particularly the case in locations where individuals were present over a prolonged period of time – for example, employees of the spaces where the linguistic soundscape survey was conducted. The research design had initially not accounted for this, but during the early stages of the fieldwork it was decided to indicate which individuals might be present for a prolonged period of time within a particular space. These individuals might contribute to the overall linguistic soundscape of a particular location, and thus affect the language choices made by those accessing the services in a particular space (where applicable). The distinction between those who might be habitually present in a location ("members of staff"), and thus have the linguistic practices observed multiple times, only applied to those aged 18 and over.

Analysis of the results indicate that Gaelic was used by both groups of participants, members of staff and members of the public, but that there was a clear correlation (with $\chi^2$ = 8.242 (1), $p \leq 0.05$) between participant designation and use of Gaelic with members of the public 2.1 times higher than that used by members of staff (see Figure 7).

| Participant designation | % of total adult participants | % of participants in English interactions | % of participants in Gaelic interactions |
|---|---|---|---|
| Member of staff | 29.8 % | 96.0% | 4.0 % |
| Member of the public | 70.2 % | 91.7% | 8.3 % |
| TOTAL | 100 % | 93.0 % | 7.0% |

*Figure 7: Participant designation and language use [Absolute numbers redacted]*

The use of Gaelic by members of staff and that by members of the public can also be analysed according to participant demographic – in particular, the age profile.[6] This analysis shows a similar pattern to the data set as a whole; Gaelic language use is more likely to be observed in those aged 60 and over. Overall, the use of Gaelic by members of staff was lower than by members of the pubic.

*Figure 8: Percentage language use by age group and gender for members of staff and (adult) members of the public [Redacted]*

Across the dataset, regardless of the age profile or gender, members of the public were more likely to speak Gaelic than members of staff. Regardless of the participant designation, the older the participants in the conversations, the more likely they were to have been observed using Gaelic (see Figure 9).

*Figure 9: Percentage Gaelic use of adults by demographic profile and participant designation [Redacted]*

## Group composition

Until this point the analysis of language use has focussed on individuals and their language choice, but as stated by Altuna and Basurto (2013):

> 'spoken use of a language is by nature a collective matter … Oral use of the language does not depend on the individual, but on the group. Knowledge of the language, on the other hand, is a matter for the individual' (p. 74):

This means that the group composition needs to be analysed – this will allow for an evaluation of the contexts in which Gaelic is used. In this study participants in the conversations were designed to be members of staff and members of the public. This, therefore, means there were three possible combinations; conversations which involve members of staff only, conversations which involve members of the public only, and 'mixed participant' interactions, with at least one member of staff and one member of the public.

Analysis of the language used according to these three categories shows that Gaelic was used in all three types of interactions, but that there is no statistical correlation between the use of Gaelic and the group of participants (with $\chi^2$ (3) = 4.859, p = 0.088) (see Figure 10).

*Figure 10: Groups of participants and language use [Redacted]*

These findings are, perhaps, not surprising. Barra is a relatively small community, and this means that all the participants involved in the interaction are likely to be acquainted, at whatever level, and that, therefore, the choice of language used is not dependent on the designation of the participants in the conversation.

[6] For comparison purposes, children and young people under 18 are excluded.

## Group size

A further factor that might influence the choice of language is that of group size. All Gaelic speakers are bilingual in Gaelic and English, and therefore it is likely that if one of the participants in the conversation does not speak Gaelic the language of the interaction will be English ("language accommodation") *(Munro et al., 2011).* have suggested that this is the result of a process of unidirectional bilingualism – where 'Gaelic speakers are expected to be bilingual; they expect, and are expected to use, the dominant language of the majority, English' *(p. 9)*

Assuming that all those observed came from the reference population (Barra), and assuming that the level of bilingualism at the time of the study was 62.2% (National Records of Scotland, 2013), this means that the statistical chance that any given individual observed during the study could speak Gaelic is 0.622. The larger the group size, the greater the statistical chance will be that at least one individual is not bilingual and that, therefore, the language of the interaction will be English.

The statistically expected number of Gaelic conversations in the dataset of [redacted] conversations can be calculated as follows:

$$E(l)_x = m_x c(l)^x$$

Where

$E(l)_x$ = Expected number of interactions in language l with x participants

$m_x$ = total number of interactions involving x participants

c (l) = chance of one individual speaking language l

x = number of participants

*Figure 11: Number of interactions according to group size and language used [Redacted]*

## Purpose of the interaction

The categorisation of participants into member of staff and members of the public necessitated the incorporation of a further variable, namely that of the purpose of the interaction. Different categories of participants might have a different purpose for the interaction, either to obtain goods and services associated with the particular location or space (business transactions) or conversations which did not relate to the particular space (private interactions). The definitions applied to this categorisation means that business transactions always required the involvement of at least one member of staff, either in an interaction with another member of staff or with a member of the public (mixed interactions). Interactions involving members of the public only were, by definition, always categorised as private conversations. Although it was hypothesised that the purpose of the interaction would influence the choice of language, analysis of the data indicated that there was no correlation between these two variables (with $\chi^2$ (3) = 2.782, p = 0.095) (see Figure 12).

| Purpose of the conversation | % of English conversations | % of participants in Gaelic conversations |
|---|---|---|
| Business | 27.8% | 14.7% |
| Private | 72.2% | 85.3% |
| TOTAL | 100% | 100% |

*Figure 12: Language and purpose of the interaction [Absolute numbers redacted]*

This data can be further analysed according to the participant groupings. This analysis shows that the participant groupings do not necessarily determine the purpose of the interaction; it would have been expected that conversations involving at least one member of staff would have a high proportion categorised as business transactions. This was, however, not the case, with conversations fairly evenly distributed between business transactions and private interactions (see Figure 13). This is, perhaps, indicative of the nature of the community in which the linguistic soundscape was conducted. The small size is likely to mean that the distinction between members of staff and members of the public is likely to be less pronounced than in other, larger communities.

| Participant Groups | % business transactions | % private interactions |
|---|---|---|
| Members of staff only | 36.0% | 64.0% |
| Members of the public only | n/a | 100% |
| Mixed participants | 53.5% | 46.5% |
| TOTAL | 27.0% | 73.0% |

*Figure 13: Participants and purpose of the interaction [Absolute numbers redacted.]*

Further analysis of this data according to language used in the interaction further supports this notion, where there is no statistical correlation between the use of the language and the purpose of the interaction in conversations involving at least one member of staff ($\chi^2$ (3) = 1.304, p = 0.728).

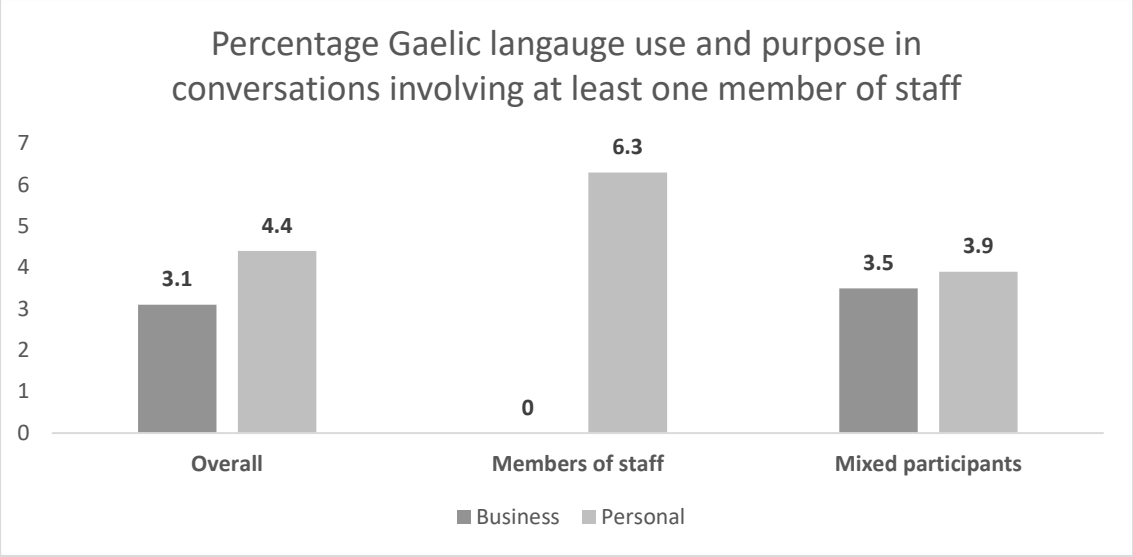


*Figure 14: Percentage Gaelic language use by purpose of the interaction for conversations involving at least one member of staff*

The analysis of the language used by the participant group and the purpose of the interaction would suggest that Gaelic in this community is not used for a particular function, whether for H or L language functions. Again, it is likely that the size and make-up of this community has affected the language use patterns; with the distinction between domains not as pronounced as it might be in other (larger) communities.

## Intergenerational and intragenerational language use

The designation of the participants and the age profile are indicators for Gaelic language use in Barra. A further factor that can be analysed from the data gathered through the linguistic soundscape surveys is that of the age profile of all the participants in the conversation. The initial analysis by age profile indicated that Gaelic is significantly more frequently used by those aged 60 and over. This then raises the question of how Gaelic both within and across the generations. Analysis of the data shows that Gaelic was used both in intragenerational conversations, where all participants were categorised to be in the same age group, and in intergenerational conversations, where the participants were categorised in two or more age groups. The composition of the group, in terms of age profile, did not significantly influence the choice of language (with $\chi^2$ (1) = 1.213, p = 0.271).

| | % English | % Gaelic |
|---|---|---|
| Intragenerational language use | 93.1% | 6.9% |
| Intergenerational language use | 95.9% | 4.1% |
| | | |

*Figure 15: Language use according to composition of participants (inter- and intra-generational conversations) [Absolute numbers redacted.]*

### *Intragenerational conversations*

Analysis of the intragenerational conversations shows clear language use patterns across the generations. In conversations involving only children, young people and young adults (individuals aged 30 and under) no conversations were observed in Gaelic. It should be noted that at the time of the study some children and young people might have been away – the so-called "Barra holiday" at the start of the autumn break, with a number of children participating in the Mòd. This would have affected especially the children and young people receiving Gaelic-medium education or who might be Gaelic speakers (and their parents / carers). A small number of conversations in Gaelic (1.6%) were observed in the 30 to 60 age category, but the majority of intragenerational Gaelic conversations, 86.3%, involved participants aged 60 and over (see Figure 16).

*Figure 16: Participants in intragenerational conversations and language use [Redacted]*

### *Intergenerational conversations*

The majority of intergenerational conversations involved two age categories ([redacted] out of [redacted] conversations, 96.6% of all intergenerational conversations). In intergenerational conversations involving children and young people, Gaelic was only used in two instances – in both cases involving an interaction between children under 12 and adults aged 18–30. It should be noted that the extent of these conversations was quite limited, initiated by the adult who asked, "What is this in Gaelic", which elicited a Gaelic response from the child. It could be argued that this is not a true Gaelic conversation due to the power relationship between the child and the young adult. In this instance Gaelic could be said to be the 'marked code choice' used consciously rather than unmarked code choice.

The numbers involved in the Gaelic intergenerational conversations are very small, and not sufficient to analyse this data in a meaningful statistical manner. However, taken together with the data for intragenerational language use, it can be suggested that there is a clear trend in language use in Barra; with the language (mainly) used for unmarked code choice interactions in older age groups, and especially amongst those aged 60 and over. Spontaneous Gaelic interactions were not observed

in interaction involving children, young people and young adults only. In the Gaelic interaction involving a young adult (18–30), this also involved an adult aged 60 or over.[

This would suggest that intergenerational language use, one of the factors identified in the UNESCO Language vitality index, has all but disappeared on Barra. These findings are in line with MacLeod study:

> Very few parents under 30 years old have acquired enough Gaelic in childhood to be able to transmit the language to their child in the home. The vast majority of these parents under 30 and brought up in Barra are English monolinguals or use English exclusively (K. MacLeod, 2017, p. 69)

MacLeod continues her discussion by stating:

> Language shift has resulted in island life being increasingly English dominated, with very few spaces where Gaelic is used at a community level. Gaelic use is often confined to conversations with well-known acquaintances or family. Gaelic has become less necessary in daily life in Barra and opportunities for Gaelic use are increasingly restricted (K. MacLeod, 2017, p. 69).

This hypothesis was tested through a secondary data collection, a (paid) event in the community, where data on a further 70 conversations was collected.

*Figure 17: Participants in intragenerational conversations and language use [Redacted]*

## Barra community event

### Overview

In the main study the linguistic soundscape observations were conducted in a variety of public spaces around Barra. The number of conversations that could be recorded in each of these locations at a particular time was limited. The aim was for this data to be collected as inconspicuously as possible, in order not to influence the linguistic choices by the participants in the conversations and, therefore, the time the research could spend in any of these places was limited and depended on the specific circumstances of each of the locations. The size and composition of the community also meant that the number of individuals present in a particular place at a particular time was small, which limited the number of conversations that could be recorded.

To get a further overview of the wider linguistic practices of this community, a further linguistic soundscape survey was conducted during an event where there was an opportunity for a larger number of individuals to gather and interact. The particular event was chosen for pragmatic reasons; it coincided with a period of fieldwork on the neighbouring island of Uist. The event, a concert, was part of a wider tour of the Western Isles and its timing meant that data could be collected during both the Barra concert as the concert held in South Uist (the next evening). This data, in addition to providing further information about the communal practices in Barra, also allows for a direct comparison with the event in Uist, which has a similar self-reported level of Gaelic competence in the community (around 60.4% in South Uist and 61.5% in North Uist – the two parishes that cover Uist, Benbecula, Eriskay and Berneray (National Records of Scotland, 2013).

The event had been advertised at various points in the community and also through social media. The poster used, in both instances, was in English only, outlining the dates of the tour. No explicit indication was given that the event would be bilingual or include Gaelic. It should be noted, however, that the six performers involved in the concert, as well as their linguistic competences, might well have been known to some individuals attending the concert, both in Barra as in Uist. The event was open to the public, but attendance in both these locations, however, would have been based on self-selection; it can, therefore, not be considered a true representative sample of the wider community of either Barra or Uist. The event was compered by the performers, some of whom were Gaelic speakers. During both evenings the concert would start bilingually, with the introduction in Gaelic first, followed by English. Throughout the first half of the concert Gaelic and English were used, depending on the item performed. The second half of the concert was introduced in English only. The performers interacted with the audience both before and after the concert, and during the interval, and both English and Gaelic (where this was part of the linguistic competence of the individual) was used.

In both Barra and Uist members of the public would arrive before the event and use this as an opportunity to greet each other and engage in conversation, and again during the interval and at the end of the concert. This made the linguistic soundscape study more complex, as individuals might have been observed multiple times – in different conversations (as previously delineated) or in the same conversation but at a different stage of the event.

The event took place in the evening on a weekday in one of the village halls, Northbay. This event had approximately 60 individuals in attendance. The majority of individuals (80%) categorised as being age 60 or over, with only a small number of children (under 12) and young people (those aged 12–17) – which is, perhaps, to be expected for a midweek event during term time.

## Results

### *Overview*

The linguistic soundscape survey collected data of 70 conversations during this event. The level of Gaelic was 44.3% (31 out of 70). The level of Gaelic observed during this event was therefore 7.9 times greater than observed in the community. As for the main study, the expected, or isotropic, level of language use can be calculated using the mathematical model created by Txillardegi:

$$p_g = m_g (w_2 e_x^2 + w_3 e_x^3 + w_4 e_x^4 + \ldots)$$

| Number of participants in the interaction | Observed conversations as a percentage of the overall number of interactions |
|---|---|
| 2 | 81.4% |
| 3 | 15.7% |
| 4 | 2.9% |
| **TOTAL** | **100%** |

*Figure 18: Number in participants and observed interactions – Barra event*

The expected, or isotropic, level of Gaelic during this event was 55.5%, 1.25 times greater than the observed level of 44.3%. The level of Gaelic used in the linguistic soundscape of this event was much closer to the expected level of language use than in the communal linguistic soundscape (where the isotropic level was 33.8% versus an observed level of 5.7% Gaelic language use). The interactions during the event all took place in one space which, although open to all members of the public, could perhaps be best described as “closed” once the event started. This limited the number of interactions that could take place, but also created a “concentrated” linguistic soundscape with the code choices made (consciously or unconsciously) audible to other individuals present. This might

have influenced the choice of language and, in the case of Gaelic, established the language as an accepted linguistic norm within the space.

Analysis of the data from the communal linguistic soundscape indicated that the demographic profile of the individuals in the conversation was a significant factor in the choice of language. In the conversations observed during the event the majority, 72.3%, were female, and although in the communal soundscape males were more likely to be involved in Gaelic interactions than females, in the linguistic soundscape of the event there was no significant correlation between the gender of the participants and the use of Gaelic (with $\chi^2$ (1) = 1.442, p = 0.230).

| Gender | % of total participants | % of participants in English interactions | % of participants in Gaelic interactions |
|---|---|---|---|
| Male | 27.7% | 31.5% | 22.7% |
| Female | 72.3% | 68.5% | 77.3% |
| TOTAL | 100% | 100% | 100% |

*Figure 19: Gender and language use – Barra event [Absolute numbers redacted]*

Analysis of the participant age profile and participation in the interactions according to language (see Figure 20) shows that Gaelic was not used by those aged 18 or younger – mirroring the data from the communal linguistic soundscape study (see Figure 5, in which only a very small number of children were observed using Gaelic). In the main study, young adults (18 to 30) made up [redacted]% of the participants in Gaelic interactions, but during the event this was [redacted] times greater, 25.7%. These interactions would, in many instances, have involved at least one of the performers.

As in the communal linguistic soundscape, those aged 60 and over were most likely to have been observed using Gaelic during the event (see Figure 20) – with this age category using Gaelic more frequently than English. A further significant difference between the communal and event linguistic soundscape was the use of Gaelic by those individuals categorised as being 30 to 60 years of age. In the communal linguistic soundscape study this age group used Gaelic in [redacted] of instances, compared to 44.7% of the event interactions ([redacted] times more frequently).

| Age category | % of total participants | % of participants in English conversations | % of participant in Gaelic interactions |
|---|---|---|---|
| < 12 | <10% | 100% | - |
| 12–18 | <10% | 100% | - |
| 18–30 | 20.6% | 46.9% | 53.1% |
| 30–60 | 31.6% | 65.3% | 44.7% |
| > 60 | 36.7% | 43.9% | 56.1% |
| Total | 100% | 57.4% | 42.6% |

*Figure 20: Participant demographic and participation in Gaelic and English conversations during Barra event [Absolute numbers redacted]*

Whereas the communal linguistic soundscape study showed that there was a statistical correlation between the age profile of the participants and the use of Gaelic, during this event there was no statistical correlation between those using Gaelic and the age profile (with $\chi^2$ (2) = 5.327, p = 0.70), excluding children and young people under the age of 18.

### *Participant groups*

As previously identified, a conversation involves two or more individuals. The composition of the group involved in the interaction, in terms of gender and age demographic, proved to be a significant factor in the use of Gaelic in the communal linguistic soundscape study. In the linguistic soundscape study of the event the number of interactions in Gaelic involving inter- and intra-generational participants was very similar (see Figure 21) with no statistically significant different in the use of the language ($\chi^2$ (1) = 0.09, p = 0.924).

| | % English | % Gaelic |
|---|---|---|
| Intragenerational language use | 55.3% | 44.7% |
| Intergenerational language use | 56.5% | 43.5% |
| | 55.7% | 44.3% |

*Figure 21: Inter- and intra-generational conversations and language use Barra event [Absolute numbers redacted]*

The majority of the interactions observed during the event, 47 out of 70, could be categorised as having taken place between participants in the same age category (intragenerational interactions). Gaelic was not used in interactions involving young people and children under the age of 18. Across the other three age categories, Gaelic was used in all instances without a correlation between the age category and use of the language ($\chi^2$ (2) = 2.833, p = 0.243) – unlike in the communal linguistic soundscape (see Figure 16) where intragenerational Gaelic conversations were only observed by those aged 30 and over. A major contributing factor to the use of Gaelic in conversations involving young adults was the individuals involved in the performance itself, but this also included members of the public in the same age category.

*Figure 22: Participants in intragenerational conversations – Barra event [Redacted]*

The use of Gaelic by adults over the age 30 was higher during the event than it was in the communal linguistic soundscape study, especially in the 30 to 60 age category, where it was 27.3% (versus 1.6%) of all intragenerational transactions involving this age group.

*Figure 23: Participants in intergenerational conversations – Barra event [Redacted]*

It should be noted that the number of interactions (both in the inter- and intra-generational conversations) are limited and that therefore no statistical correlation can be inferred from the data. It should be noted, however, that all the intergenerational conversation in Gaelic observed during the event involved at least one participant aged 60 and over. As with the communal linguistic soundscape study, there were only a small number of children observed during the event, and therefore the number of intergenerational (as well as intragenerational) conversations involving this age group. [Redacted]. Altuna and Basurto (2013) have identified that in a study of this kind, which is based on observations, not all of the participants in the conversation might have been speaking as the conversation was registered. It is assumed that all participants in the conversation would have competences in the language being used including any children or young people involved, but this need not have been the case.

## Conclusions

Barra has one of the highest self-reported levels of spoken Gaelic competence in Scotland. The community was also awarded 'Gaelic Community of the Year in the Highlands and Islands' in 2012 for highlighting 'everyday use of the language and also a raft of Gaelic events' ("Barra and Vatersay are Gaelic Community of the Year," 2012) with a representative of the community stating that 'Gaelic is at the heart of all that we do from the nursery, to the school, to the workplace and to public services … the language is also highly visible throughout the community with Gaelic signs to be seen in places such as shops, offices, hotels, restaurants and even on the golf course' (*ibid*). Results from the linguistic soundscape study in the public spaces of this community has indicated that the situation of the language is more complex than the data from the census and community self-evaluation would suggest.

The communal linguistic soundscape data in these public spaces have suggested that English is the unmarked code choice of most interactions in public spaces, with the observed use of Gaelic in the linguistic soundscape being less than 10% of all interactions observed significantly lower than the isotropic level of 33.8% in the sample of the [redacted] conversations. This data would suggest that approximately one in every six conversations between those with (theoretical) competences in the language used Gaelic. Analysis of these conversations has indicated that Gaelic was most frequently

used in interactions where at least one of the participants was aged 60 and over. Gaelic was not frequently used in interactions involving children (under 18) and young adults (under 30) – with the only observed interaction in Gaelic involving "prompting" by the adult involved rather than the production of spontaneous speech. Although it is beyond the scope of this study, it is likely that the unmarked code choice [redacted] involved in this conversation in most, if not all, other interactions would be English. [Redacted.] These deductions cannot be ascertained as no information was solicited from those observed as participants in the interactions.

It should also be noted that the number of interactions involving children and young people (all those aged under 18) was limited, partly due to the timing of the fieldwork and also, perhaps, of the selection of public spaces. The public spaces selected for this study were not necessarily locations where children and young people might congregate, whilst the timing of the fieldwork means that some individuals and their parents / carers might not have been present on Barra. The event during which the linguistic soundscape observations were conducted was held in the evening during a school night and therefore, again, the presence of children and young people was limited. The limitations of this particular field work notwithstanding, the findings support previous research conducted by K. MacLeod (2017) in Barra which identified that the use of Gaelic in families with children was very limited, with Gaelic-medium education as the medium of language acquisition. MacLeod's study also identified that parents / carers might both be Gaelic speakers but that English might have been established as the language of the home and that, therefore, any children were most likely to have been socialised through English.

The results from the communal linguistic soundscape study show that the demographic profile of the participants is significant indicator for the use of Gaelic; with Gaelic most frequently used by those participants aged 60 and over, especially males. In the younger age categories Gaelic was slightly more likely to be used by females (see Figure 6). This data supports the notion by K. MacLeod (2017) that 'Gaelic is mostly confined to conversations between older speakers amongst themselves' (p. 61) and also the perception from within the community.

Over the course of the linguistic soundscape data collection period, informal conversations took place between the researcher and various members of the community in Barra. In these conversations it was repeatedly mentioned that typically only the older generation, or children in Gaelic-medium education, would speak Gaelic and that the language did not feature significantly in the linguistic soundscape of the public spaces of the community. Locations were mentioned where Gaelic could be heard, again associated with these two particular age categories (the care home and the school). Individuals within specific locations were also indicated, with a tacit acknowledgement that there were many individuals in the community who could speak Gaelic.

In many of the locations sampled there was a very strong presence of Gaelic in the linguistic landscape, with bilingual signs and notices. But there appeared to be no correlation between the spoken and written use of the language. In a number of the locations where Gaelic had been observed as the language of the interactions involving members of staff, there appeared to be no presence of the language in the linguistic soundscape. This, therefore, raises a question around the use of Gaelic in these locations – it is likely that Gaelic was used as a result of prior acquaintance with the linguistic norms of the participants, especially in a (relatively) small community such as Barra. Another possibility here was that the linguistic soundscape created by the members of staff present created the conditions in which individuals perceived Gaelic to be an unmarked code choice and therefore used the language.

Barra is a small community, and it is therefore likely that many of the linguistic norms between participants in the interactions have previously been established – this is unlikely to be influenced by the location or the context in which the interaction takes place, as evidenced by the lack of statistical correlation between the use of Gaelic and the purpose of the interaction.

Although the Census data would indicate that there is a high level of bilingualism in the community, this is not universal and falls below the proportion suggested for the use of a minority language to be sustainable in the community (Ó Giollagáin et al., 2007). Social accommodation means, as identified by Munro et al. (2011), that the language of many of the community interactions are likely to be in English, with the use of Gaelic limited to a specific set of circumstances.

Evidence for this came from the linguistic soundscape data gathered during the evening event where the level of Gaelic was significantly higher than that observed in the communal linguistic soundscape. This can be attributed to a number of factors. The first of these is the nature of the event. Although Gaelic did not feature in the advertising of this event, some of the performers were known in the Gaelic community and had previously performed on Barra. A further feature was that this was a mid-week evening event and the demographic of the attendees was reflected in this with mostly adults, especially those categorised as being 60 and over. This might have created a “critical mass” of individuals, and more specifically an environment with enough individuals for whom Gaelic was the established linguistic norm and, therefore, contributed to the (relatively) high level of Gaelic used in the linguistic soundscape. The linguistic soundscape created by the performers at the reception might also have been a contributing factor to the use of Gaelic by young(er) members of the audience, who were observed to use Gaelic more frequently than in the communal linguistic soundscape. This event could, therefore, be described as a ‘physical breathing space’ for the language (Fishman, 1991, p. 58) – creating a linguistic soundscape that is atypical vis-à-vis the wider communal practices.

## Implications

The 2011 Census data recorded the second highest level of self-reported linguistic spoken competences in Barra, 62.2% (National Records of Scotland, 2013). What this linguistic soundscape study has shown is that there is a clear distinction between linguistic competence and *de facto* spoken use of the language. The UNESCO Atlas of the World's Languages in Danger, in which Gaelic has been categorised as definitely endangered, identifies the proportion of speakers within the total reference population as one of the factors on which its vitality assessment is based (Moseley, 2010). Taking the data from Barra alone, and assuming that all those who reported linguistic competences in the language at the time of the 2011 census were active Gaelic speakers, this would suggest that the language on Barra is 'definitely endangered' with a majority speaking the language. If the linguistic soundscape data is taken as evidence of active language use rather than self-reported linguistic competences, then Gaelic could be described as 'critically endangered' in the public linguistic soundscape. The observed conversations in the public domain can be considered as an indicator of language use in other domains, especially private domain interactions. McEwan-Fujita (2010) has suggested that social accommodation is likely to have contributed to the choice of language in public domains, but the 'inertia condition of language use' (Spolsky & Cooper, 1991, p. 146) would suggest that once a language is established as the linguistic norm between individuals, future conversations are likely to be conducted in the same language, regardless of the domain. In the communal linguistic soundscape study, 45.3% of all the interactions involved members of the public only (see Figure 10). It is highly unlikely that in these interactions the individuals would have been consciously aware of the presence of an outsider and changed their linguistic practices to accommodate what they might have presumed the language competences of that individual were. The conversations between members of the public especially were conducted in what was for the individuals a familiar setting and did not include any individual with whom they might not have been familiar beforehand. This would suggest that the language of the conversation recorded in the public domain in these interactions is likely to have been the same were the conversation to have taken place in another situation, such as the private domain. This, therefore, has very significant implications for the way in which language vitality in Barra is imagined – not only in terms of the proportion of 'active speakers', which is, perhaps, what the UNESCO Ad Hoc Expert Group on Endangered Languages (2003) implied with the 'proportion of speakers within the reference population', but also when considering a further factor of language vitality; intergenerational transmission of the language. Intergenerational transmission has been described in the UNESCO Language Vitality Assessment as the extent to which the language is being transmitted from one generation to the other. The data from both the communal linguistic soundscape study as well as

the linguistic soundscape information gathered during the event indicated that Gaelic is most frequently used in interactions involving the older generation, in particular the over 60 age group who were involved in all the Gaelic intergenerational interactions in the communal linguistic soundscape. No spontaneous Gaelic interactions were observed involving young children – [redacted].

The limited use of Gaelic in public spaces would suggest that children are not exposed to the language in the day-to-day linguistic soundscape of the community. This means that the (spoken) use of the language in the community is not normalised and that young people are not socialised, at a community level, in the language. The linguistic practices observed in the public domain, and in particular those conversations which were categorised as private interactions, are likely to be a reflection of the wider *Gemeinschaft*, or intimate community, domains (Fishman, 1991). This home, family and community domain has been identified by Fishman (1991) as the *sine qua non* of any language revitalisation efforts, and its apparent absence in Barra will have significant implications for the vitality of the language, especially in future years when the older generation will no longer be there to speak Gaelic and initiate and support the use of the language with the younger generations.

## Eàrr-ràdh 5 Tachartasan na coimhearsnachd / Community events

### Dòighean rannsachaidh / Research methodology

The methodology applied to this study was based on the language use observation surveys which have been used in the Basque Country since the early 1980s to evaluate the use of the Basque language across the different regions and municipalities of the Basque region (Urla & Burdick, 2018). This has resulted in a longitudinal data set which can be used to track communal linguistic practices over this period of time. Recently a similar methodology has been used in Scotland by Birnie (2018a) to evaluate the use of the Gaelic language in different public domains. The studies conducted in Scotland have varied from those in the Basque Country in one major element, namely the locations in which these have been conducted. In the Basque Country the language use surveys have been conducted in the streets of the communities, hence the name *Kale Neurkata*, or 'street surveys' to describe this methodology. In Scotland, and in particular in the Western Isles where these studies have been situated, there have been a number of factors, including the weather and the nature of the communities, which mean that far fewer individuals are typically present in the open spaces, and thus fewer interactions can be observed and included in the study. This methodology proved to be effective, especially where there were clear focal points such as shops, transport hubs, cafés and restaurants to establish the extent to which Gaelic was included in the linguistic soundscape of the community.

In addition to these public spaces, it was also decided to conduct language use surveys during community events. Community events vary from the other data collection locations in a number of ways. The number of individuals present during the community event was significantly higher than in any of the single spaces surveyed in the wider communal language survey, where there might only be a small number of individuals present at any one time and where, therefore, only a limited number of conversations could be recorded at any one time. A further difference is that the individuals present in the location where the event was being held were self-selecting; the majority of individuals would have actively chosen to attend and travelled to the event.

The event selected for this study was chosen as it was part of tour of the Western Isles and allowed for a direct comparison between two different communities. The event had been advertised at various points in the community and also through social media. The poster used was in English only, outlining the dates of the tour. No explicit indication was given that the event would be bilingual or include Gaelic. It should be noted, however, that the six performers involved in the concert, as well as their linguistic competences, might well have been known to some individuals attending the concert. The event was compered by the performers, some of whom were Gaelic speakers. During both evenings the concert would start bilingually, with the introduction in Gaelic first, followed by

the English. Throughout the first half of the concert Gaelic and English were used, depending on the item performed. The second half of the concert was introduced in English only. The performers interacted with the audience both before and after the concert and during the interval, and both English and Gaelic (where this was part of the linguistic competence of the individual) was used. During each of the two events a total of seventy conversations were observed and included in the language use survey. This number of interactions in each of the locations cannot be considered a statistically valid sample of either those present at the event or the wider communal practices, but can, instead, be used as an indication of how the linguistic soundscape is shaped and how the language use dynamics change when a large(r) proportion of the community is together in one space. This will provide a further indication of the vitality of Gaelic as 'languages need communities to survive, that point is fundamental' (Crystal, 2000, p. 73).

## Cruinneachadh dàta / Data collection

The research instrument used in this part of the study was the same as that used in the wider community language observations where the unit of measurement was a conversation. In this study the conversation was defined as a face-to-face interaction between two or more individuals beyond an initial greeting. This definition was chosen after an initial pilot study (Birnie, 2018a) which indicated that Gaelic might be used as a greeting before the conversation is continued in English. The focus was on face-to-face interactions, rather than phone conversations as the demographic profile (age category and gender) of all the participants in the conversation could not be ascertained. This definition was particularly pertinent for this location, as individuals would greet each other on entry but did necessarily engage in a conversation beyond this, until, perhaps, at a later point in the evening.

The observed conversations took place in one space, which, although the event was open to all members of the public, could, perhaps, best be described as "closed" once the event had started. This limited the number of interactions that could take place, but also allowed for a "concentrated" linguistic soundscape – with the code choices clearly audible to other individuals present.

A conversation was delineated by language and by participants. This meant that if the main language of the interaction changed but the participants remained the same, this would be classed as two separate interactions. If a participant left the conversation, or an individual joined the conversation, this was noted as two separate interactions as it was assumed that a new language choice would have to be made. The research instrument allowed for the broad identification of the demographic profile of the participants in each of the interactions according to age profile and gender.

Conversations were observed and noted in the period before the start of the concert, during the interval and at the end of the event. Care was taken not to include record observations multiple

times on the survey, and where there was doubt over whether the conversation had already been noted, the interaction was not included.

## Toraidhean / Results

### Demographic overview of attendees

The overall demographic profile of those present at both locations, as estimated by the researcher, varied slightly (see Figure 24). The demographic profile can be explained by the type and timing of the event; in both instances this was a weekday, evening concert. It is, therefore, likely that children (those aged 12 or under) were present with their parents or other carers. There were very few young people (aged 12–18) present; again, those present would have been likely to have been accompanied parents or carers. The performers[7] accounted for a significant proportion of those in the 18 to 30 age category, although in Location 02 (CE02) there were slightly more individuals present in this age category than in Location 02 (CE01). The majority of those present in both locations, CE01 and CE02, were aged 30 and over (30 to 60 and over 60). These were the age categories which the highest self-reported levels of Gaelic language competences and this is, therefore, likely to have affected the data gathered in this study.

*Figure 24: Individuals present during event in Location CEO1 and Location CE02 according to visual estimate by the researcher [Redacted]*

In both locations there were around 80 individuals present, and this resulted in the observation of 70 conversations in both CE01 and CE02. This is significantly lower than the total number of conversations that could have been statistically possible – not all those present would have interacted with every other person at the event. Interactions, although not delineated as such, can probably be categorised into two categories; those involving a service interaction (asking for tickets and / or refreshments) and social interactions between acquaintances.

[7] In this language use observation surveys it was decided not to indicate which participants were 'members of staff' (performers) due to the small number of individuals present which might, therefore, be identified through this study.

## Gaelic language use

The main variable of the language observation survey was that of the language used; Gaelic, English, or "other". During both these events the language used was either Gaelic or English, and no conversations in any other languages were observed or included in the survey.

To place the observations in context, the statistically expected level of Gaelic language use at these events can be calculated using the mathematical model created by Alvarez Enparantza (2001), which assumes an isotropic distribution. All relationships between those observed is randomly distributed across the location and is given by:

$$p_g = m_g (w_2 e_x^2 + w_3 e_x^3 + w_4 e_x^4 + \ldots)$$

Where:

$p_g$ = the isotropic or expected level of Gaelic language use

$m_g$ = the loyalty of Gaelic speakers to the language

$e_x$ = the proportion of bilinguals

$w_x$ = weight of the group containing 'x' participants

| No of participants | CE01 Conversations as% of total | CE02 Conversations as% of total |
|---|---|---|
| 2 | 81.4% | 78.6% |
| 3 | 15.7% | 17.1% |
| 4 | 2.9% | 2.9% |
| 5 | – | 1.4% |
| Total | 100% | 100% |

*Figure 25: Number of participants in conversations CE01 and CE02 [Absolute numbers redacted]*

The proportion of (self-reported) bilingualism in both communities was very similar to the census for CEO1 and CEO2[8] [actual percentages have been redacted], (National Records of Scotland, 2013). If it is assumed that the individuals present at the events were a representative sample of the wider community, and if it is assumed that the factor measuring the loyalty is '1' (where all Gaelic speakers will speak the language to all other individuals who speak Gaelic), then the isotropic level of Gaelic language use can be calculated. This suggests that the statistically expected level of Gaelic is 55.5%

[8] Although it is likely that the population present in location CE02 was a subset of the overall population – this could not be ascertained, and it is therefore assumed that the level of bilingualism at the event was a representation of the wider community.

in CE01 and 44.8% in CE02, compared to an observed language use of 44.3% during both events (see Figure 26).

| | % conversations in English | % conversations in Gaelic | Isotropic level of Gaelic use |
|---|---|---|---|
| CE01 | 55.7% | 44.3% | 55.5% |
| CE02 | 55.7% | 44.3% | 44.8% |

*Figure 26: Total number of conversations according to language use in CE01 and CE02 [Absolute numbers redacted]*

The use of Gaelic during CE02 was very close to the isotropic level whereas the *de facto* use of the language in CE01 was 21% lower than the expected level of use during this event. With a similar demographic profile of those present at the event, this might suggest that the factor indicated as 'language loyalty' in the model created by Alvarez Enparantza (2001) might be lower in the community where CE01 took place. The language loyalty, which might be better described as 'language usage index' (Birnie, 2018b), indicates the extent to which all Gaelic speakers use the language with all other Gaelic speakers all of the time. It is assumed in this calculation that the relationships are randomly distributed. As also discovered in the Basque Country, where there have been instances of the *de facto* language use being higher than the statistically expected maximum level (Altuna & Basurto, 2013). It is likely that minority language speakers have social networks in which the language is used. This might have been the case in particular during CE01 and CE02 – where the demographic of those attending would have been quite specific (self-selecting).

## Demographic of attendees

As explained in "Demographic overview of attendees", the demographic profile (with a significant proportion of those present being categorised as aged 60 or over) of those attending the event would have contributed to the (relatively) high levels of Gaelic language used during the event.

### *Attendees CE01*

During event CE01, there were 2.6 times more females than males present in the space and this was reflected in the language of the interactions, where there was no statistical correlation between the gender of the participants and the use of Gaelic (with $\chi^2$ (1) = 1.442, p = 0.230).

| Gender | % of total attendees | % of participants in English interactions | % of participants in Gaelic interactions |
|---|---|---|---|
| Male | 27.7% | 31.5% | 22.7% |
| Female | 72.3% | 68.5% | 77.3% |
| TOTAL | 100% | 100% | 100% |

*Figure 27: Gender and language use CE01 [Absolute numbers redacted]*

Analysis of the participants by age profile and participation according to language use (see Figure 28) shows that Gaelic was not used at all by those aged 18 or younger. Participation in Gaelic interactions across the other three age groups (18–30 30–60 and over 60) was relatively constant, with no statistical correlation between the use of Gaelic and age profile (excluding those aged under 18) with $\chi^2$ (2) = 5.327, p = 0.70. It could be speculated that the relatively high level of Gaelic interactions involving those aged 18–30 was as a result of interactions initiated by the performers involved in the event.

| Age category | % of total participants | % of participants in English conversations | % of participant in Gaelic interactions |
|---|---|---|---|
| < 12 | <10% | 100% | - |
| 12–18 | <10% | 100% | - |
| 18–30 | 20.6% | 46.9% | 53.1% |
| 30–60 | 31.6% | 65.3% | 44.7% |
| > 60 | 36.7% | 43.9% | 56.1% |
| Total | 100% | 57.4% | 42.6% |

*Figure 28: Participant demographic and participation in conversations CE0 [Absolute numbers redacted]*

### *Attendees CE02*

During event CE02 the balance of males and females attending the event was slightly different from CE01, with 1.7 times more females than males present (see Figure 29). Similar to CE01, there was no correlation in CE02 between gender and language use (with $\chi^2$ (1) = 0.167, p = 0.683).

| Gender | % of total attendees | % of participants in English interactions | % of participants in Gaelic interactions |
|---|---|---|---|
| Male | 37.1% | 59.3% | 40.7% |
| Female | 62.9% | 56.0% | 44.0% |
| TOTAL | 100% | 57.2% | 42.8% |

*Figure 29: Gender and language use CE02 [Absolute numbers redacted]*

During CE02, as with CE01, Gaelic was not used by those aged 18 or younger, but with a clear difference in participation in Gaelic conversations according to age categories; although the language was used by all three categories covering adults, the participation in Gaelic interactions was greatest by those aged 60 and over (see Figure 30)–with $\chi^2$ (2) = 21.439, p = 0.000.

*Figure 30: Participant demographic and participation in conversations CE02 [Redacted]*

As during CE01, it is likely that a significant proportion of the participation on Gaelic interactions in the 18–30 age category could be attributed to the involvement of the performers. Participants aged 60 and over were significantly more likely to be involved in Gaelic interactions than English ones; with 91.5% of the participants using the language in their observed interactions.

## Participant groups

The unit of measurement used in this research was the conversation, which, by its definition, involved the participation of two or more individuals. The language use survey can also be used to evaluate the composition of the groups involved in the interactions, which, again, might provide a further indication of how the language is used and by whom.

The two main categories identified to analyse the participation in the (Gaelic) interactions is intra- and inter-generational conversations. Intragenerational conversations are defined as those interactions which take place within an age category, with intragenerational conversations involving participants from two or more age categories. This will provide a further indication of the linguistic practices of the community. It is also likely that the language observed between the participants during the community events is also the language used when these individuals interact in other (community) contexts.

### *Participant groups CE01*

The majority of conversations observed, 67.1%, were intra-generational interactions, involving participants in the same age category. The use of Gaelic as a proportion of the conversations in each type of conversation (intra- or inter-generational) was very similar (with $\chi^2$ (1) = 0.09, p = 0.924) – see Figure 31).

| | % English | % Gaelic |
|---|---|---|
| Intragenerational language use | 55.3% | 44.7% |
| Intergenerational language use | 56.5% | 43.5% |
| | 55.7% | 44.3% |

*Figure 31: Inter- and intra-generational conversations and language choice CE01 [Absolute numbers redacted]*

As identified earlier (see Attendees CE01), no young people and children under the age of 18 were involved in Gaelic interactions, either in inter- and intra-generational conversations, whereas adults in all age categories were involved in both types of conversations.

Gaelic was used in intrageneration conversations by all adult age groups (see Figure 32) – the difference in usage of the language by age category was not statistically significant (with $\chi^2$ (2) = 2.833, p = 0.243).

*Figure 32: Participants in intragenerational conversations CE01 [Redacted]*

The use of Gaelic in intergenerational interactions during CE01 was more limited (see Figure 33) – with the only interactions in the language taking place between individuals aged 18–30 and 30–60, those aged 18–30 and over 60 and adults aged 30–60 and over 60 (see Figure 33).

*Figure 33: Participants in intergenerational conversations CE01 [Redacted]*

It should be noted that the number of interactions (both in the inter- and intra-generational conversations) are limited and that therefore no statistical correlation can be inferred from the data. If this data were to be a reflection of the wider communal practices, this would suggest that the use of Gaelic is confined to adults. The extent of the use of Gaelic by young adults (18–30) would have been influenced by the presence of the performers, who initiated interactions in the language and therefore contributed to the creation of a Gaelic linguistic soundscape.

### *Participant groups CE02*

The conversations observed in CE02 were more evenly distributed than CE01 between intra- and inter-generational interactions, with 55.7% being within the same age category and 44.3% of conversations between different age categories (see Figure 34) – as in CE01, there was no statistical

correlation (with $\chi^2$ (1) = 0.17, p = 0.895) between the use of the language and the type of interaction.

| | Total | English | % English | Gaelic | % Gaelic |
|---|---|---|---|---|---|
| Intragenerational language use | 39 | 22 | 56.4% | 17 | 43.6% |
| Intergenerational language use | 31 | 17 | 56.0% | 14 | 44.0% |
| | 70 | 39 | 55.8% | 31 | 44.2% |

*Figure 34: Inter- and intra-generational conversations and language choice CE02*

As with CE01, there were no Gaelic conversations observed in interactions involving children and young people under the age of 18. It should, however, be noted that the number of individuals in this age group was very small, and that therefore the results of CE02 can not necessarily be extrapolated to wider communal practices – although were these to be the linguistic patterns also seen in the wider community, this would have significant implications for the future and vitality of the language.

Although the data set is very small, it is interesting to note that in intragenerational conversations involving the over-60 age group, the only conversations observed were in Gaelic (see Figure 35).

*Figure 35: Participants in intragenerational conversations CE02 [Redacted]*

The link between age and language use is also clear from the intergenerational conversations, with 13 out of the 14 inter-generational interactions in Gaelic involving at least one individual aged 60 and over involved (see Figure 36) – with the remaining intergenerational conversation in Gaelic involving at least one person in the 18–30 age category and another in the 30–60 age category.

*Figure 36: Participants in intergenerational conversations CE02 [Redacted]*

It should, again, be noted that the numbers of intergenerational conversations observed in CE02 did not allow for a meaningful statistical analysis to provide information around correlation, but these findings would suggest similar linguistic patterns of language usage to CE01.

## Beachdan agus co-dhùnadh / Discussion and conclusion

The communities in which events CE01 and CE02 took place can be characterised as mainly rural, with a few villages and locations which provide services to both residents and visitors alike. These events, although self-selecting, were relatively well attended with respect to the size of the community and considering the timing of the events (weekday evening).

Conducting language use surveys during these publicly accessible community events provided a rich data set which can be used as an indicator of the wider communal linguistic practices and patterns. Altuna and Basurto (2013) identified that 'spoken language use is … characterised by spontaneous improvisation' with 'the choice of spoken language … often a reflex action rather than a result of reflexion' (p. 28). The 'inertia condition of language choice' (Spolsky & Cooper, 1991) would suggest that once a language is established as the linguistic norm between a group of individuals, that conversations will normally be in that language regardless of the (social) situation or context, or even domain of usage. It is, therefore, likely that the results obtained in this language use survey can be used as an indicator of the wider linguistic practices in the community. These results would suggest that in both communities the use of the language has become (mainly) confined to adults, especially in the older age categories. No conversations were observed which involved children and young people (under the age of 18), neither in intergenerational conversations, nor in intragenerational interactions involving their peer group. This has important implications for the manner in which the future of the language is imagined. In both communities Gaelic Medium Education was available at both primary and secondary school level, and the national census would also suggest a relatively high level of competence in the age categories most likely to be parents / carers of these children – however this appears not to have been translated into *de facto* family linguistic practices (see Smith-Christmas (2016) for a discussion of minority language family policy in the Gaelic context).

Census data from both the locations where CE01 and CE02 were held would suggest that these communities are very much in the 'heartland' of the language with some of the highest levels of self-reported Gaelic competences; however, this need not necessarily translate into *de facto* language use patterns. This study indicated that the language is used within community events, approximately to the extent that could be statistically expected, making a significant contribution to the linguistic soundscape at the event. The demographic of those speaking Gaelic was heavily weighted towards adults, especially those aged 60 and over, and this, in terms of language vitality, should give cause for concern. Grin (2003)) (later further developed by Lo Bianco and Peyton (2013)) identified that for a minority language to be used there are three conditions; capacity, opportunity and desire. The capacity, or linguistic competences, can be measured through the decennial census, but the other

two factors, opportunity and desire are more complicated to quantify. These events, with a significant proportion of the community present, would serve as a tool to create the opportunity to use the language, and these events allowed for an exposure of the linguistic practices of individuals in a community setting. This natural use of the language can be used to identify who (else) in the community is able and willing to speak Gaelic. This identification process, as previous studies have indicated (Birnie, 2018b), can be used as a mechanism to (re-)negotiate the linguistic norm. The importance of this exposure to the language, and the chance to interact with different members of the community, can be seen from a conversation observed in the same community in which CE02 took place [redacted].

This small interaction shows the importance of establishing language norms within a community and between individuals. It is likely that if the older member of the public meets this child in a different context that, now that the unmarked code choice is Gaelic (Myers-Scotton, 1988)), that the language of any future interactions will also be Gaelic. The adult in this conversation made an active offer to use Gaelic – this might be considered an act of 'micro-language planning' and the individual involved here a 'micro-language planning agent' (Nahir, 1998) – even though they might not be aware of this themselves.

As shown in previous studies (Birnie, 2018b), the inclusion of Gaelic in the linguistic soundscape is an important indicator that the language can be used. This is particularly pertinent during community events, such as CE01 and CE02, which were not specifically aimed at Gaelic speakers, nor explicitly focussed promoting the language, but could, instead, be considered natural 'safe spaces' for the language (Fishman, 1991) in which individuals could use Gaelic as the unmarked code choice. This does not necessarily mean that all those with spoken competences in the language will do so, but that the conditions are created where the language is accepted as a linguistic norm.

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