

13 Language Documentation and Language Revitalization

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Introduction

Across the world, minority languages have been under pressure from regional, national, or global languages as these larger tongues became associated with greater social, cultural, economic, and political opportunities compared to local languages. This was particularly true during the period of European colonization and has accelerated in the last seventy years with the rise of independent nations from the colonies, and the spread of national and global languages through government, education, workplaces, service contexts, media, and the Internet. As a consequence, and because of negative attitudes towards them, minority languages have become endangered as they are no longer learned by children.

One response by linguistic researchers to these threats to minority languages has been the development of a way of researching languages and their use that has come to be called ‘language documentation’. In this chapter, I explore what documentation is, whether and how the outcomes of documentation can be used for revitalization (which aims to increase the domains and numbers of speakers of threatened languages), and some of the limitations and challenges of working with language documentation materials. I end by discussing some possible opportunities for documentation to be more creatively used both for and with revitalization.¹

What Is Language Documentation?

In about 1995, a new approach to studying languages around the world was developed that has come to be known as ‘language documentation’ or ‘documentary linguistics’. This approach aims to create audio-visual samples of language use and performances, ranging from everyday conversations to

¹ I am grateful to Julia Sallabank and David Nathan for discussion over several years of many of the ideas presented in this chapter. The editors and David Nathan also provided useful feedback and comments on an earlier version of this chapter.

narratives (story telling) to more ritualized activities such as prayers, ceremonies, and recitations. The idea is to create an organized collection (called a 'corpus') of examples of the use of the language in their social and cultural contexts. The outputs from language documentation are intended to be a multipurpose record that could give an idea of how a language is actually employed in a range of contexts and situations by a range of speakers (e.g. male, female, old, young). These records could then be used by both current and future speakers and learners as resources to support the minority language, e.g. in mother-tongue education, or to increase its social status, and for learning or re-learning the language, and thereby revitalize it (I discuss the relationship between documentation and revitalization in more detail below). To this end, language documenters emphasize that a copy of the corpus should be placed in an archive, along with relevant metadata (information about the information in the corpus) such as the names and ages of speakers, where the recordings were made, who collected them etc. Later I discuss what I mean by archiving and some of the challenges it entails.

Just like researchers who create nature documentaries, language documenters frequently work as a team and emphasize the importance of making high-quality audio and video recordings in their environmental, social, and cultural contexts, ideally in the locations where the people who speak the language live. This typically involves fieldwork and participant observation, where speakers are recorded using the language in their daily life, with their informed consent and following proper ethical consultation. Such work is best carried out by a documentation team which ideally includes local researchers and/or assistants who can contribute their knowledge and skills to the documentation and its local impact. In the process, the documentary team will learn about the structures and organization of the languages used in the community and how they function, especially the different domains that different languages or ways of speaking are employed in. They can also study the attitudes and beliefs that people have towards the various languages they know, and how they are used. There may also be interviews with speakers, asking them to translate from their languages into a language of wider communication (a lingua franca) or vice versa, or checking words and sentence constructions (grammar), or the social and cultural significance of different ways of speaking. The corpus would typically contain transcriptions of the audio-visual recordings (which sometimes involves creating a script or writing system for unwritten languages), and translations into a language of wider communication so that it can be accessed by people who do not speak the languages being documented. In addition, explanatory notes or information about words, grammatical structures, and uses may be included in the corpus, along with

information about the records in the corpus, called metadata (who is speaking, when, where, why, etc.). This is needed for records in the corpus to be findable, and for the audio-visual collection to be maximally useful, especially for language learners or those who partially speak the language or do not know it at all.

Language documentation can be distinguished from language description, which is the study of the structure of languages, looking at their pronunciation (phonology), word structure (morphology), sentence structure (syntax), and how meaning is expressed (semantics and pragmatics). In language description researchers aim to identify the significant parts of languages and how they work together in a structured way, typically producing grammatical descriptions (or grammars) that explain how the language is organized. Language description also often involves cross-linguistic comparisons to identify properties that are rare, unusual, or common among the languages of the world. Language descriptions can be based on a language documentation corpus, but they do not have to be. They can be produced by studying words and meanings in isolation, especially where the description is based on the author's own language and their own intuitions about how it is structured. Note that description and documentation are different but related activities: Language documentation must include a certain amount of language description in order to create the transcriptions and translations and other metadata that are an essential component of the corpus, linked to the audio-visual recordings. Without description, documentation is difficult, if not impossible, to access and use. I discuss the relationship between documentation, description, and revitalization further below.

For some languages, there may be audio or video recordings, written records, and descriptions that date from some time ago. They may have been collected by explorers, colonists, missionaries, or interested amateurs who lived in or passed through the region and learnt something of the language. We can refer to these as 'legacy materials', a term that can also be used for written or audio-visual materials that were collected by other people and passed on to another (typically later) research team, including those working on revitalization or language support. These legacy materials present particular challenges if we wish to include them in the documentary corpus and/or use them for description and revitalization – I discuss these challenges later.

The Relationship between Documentation and Revitalization

Language documenters often say that one of their goals in creating their corpus is to make it available for use in language revitalization. However

language documentation corpuses may not be ideal or even useful for the purposes of language revitalization.² There are several reasons for this:

- (1) the records in the corpus may focus on interesting or linguistic features rather than how conversations are organized in the particular community (how we begin, end, or change and interrupt a conversation varies from language to language), how to use language to get people to do things, what is appropriate to say or not say in what situation, how to agree, disagree, or argue with someone, and how to be a functioning speaker of the language;
- (2) conversations, narratives, and interviews may focus on the past, looking back nostalgically to the ‘good old days’ before social, cultural, and linguistic shifts began to take place, often highlighting the childhood or early adulthood of the current oldest generations of speakers. This may be accompanied by negative evaluations by those speakers of the changes that have taken place, with a sense of ‘loss’ or ‘corruption’ of older ways of speaking and thinking. Such materials and attitudes can be off-putting for children and young learners, and those who wish to see a positive image for the future of the languages;
- (3) the linguistic analyses created by language documenters, including transcriptions and grammatical annotations, may be produced in orthographies or languages unknown to the community and using specialized terminology which is not easily understandable to non-linguists;
- (4) the language practices included in a corpus may not match the perceptions or preferences of teachers and language activists, especially when there is evidence of language shift in the form of language switching, borrowing or mixing, and variation and change. Revitalizers may prefer purism when creating learning materials, rather than using the documentary resources. There can be tensions between teaching ways of speaking or structures based on the usage of traditional native speakers (usually ‘elders’) documented in the corpus versus those of younger or ‘new’ speakers, especially for languages where there is no established standard form;

² See P. Austin and J. Sallabank, ‘Language documentation and language revitalisation: Some methodological considerations’ in L. Hinton, L. Huss, and G. Roche (eds.), *Handbook of Language Revitalisation* (London: Routledge), pp. 207–15; U. Mosel, ‘Creating educational materials in language documentation projects – Creating innovative resources for linguistic research’ in F. Seifart, F. Geoffrey Haig, N. P. Himmelmann, D. Jung, A. Margetts, and P. Trilsbeek (eds.), *Potentials of Language Documentation: Methods, Analyses, and Utilization* (Hawaii: Language Documentation and Conservation Special Publication 3), pp. 111–17. scholarspace.manoa.hawaii.edu/bitstream/10125/4524/15mosel.pdf.

- (5) because researchers often aim to capture usage by ‘the best speakers’, the resulting recordings may be difficult to use for revitalization because they are heavily biased towards older people who speak fast, mumble, slur, or elide their utterances, or even have speech impediments (including lack of teeth) or are hard of hearing. Fluent speakers may also rely heavily on background knowledge or history of the people and places involved that might not be clear or obvious from the conversation or story. Such material can be difficult for learners, especially at an early stage, to understand, process, or model;
- (6) documenters rarely record speech directed towards children and language learners so the corpus may tell us nothing about how to speak to them. Missing may be such things as lullabies, children’s games or rhymes, jokes, or simple exchanges or routines that would be useful for an early or intermediate learner to acquire;
- (7) the conversations or narratives in the corpus may include topics such as secret or sacred practices, death, or sexual relationships, swearing or impolite expressions, or gossip, which are not appropriate for language learners, especially children.

For these reasons, materials in a documentary corpus might be useful for revitalization, but they must be approached with care, and the attitudes and reactions of speakers and learners of all types need to be taken into account. It is often a difficult balancing act to use documentary and descriptive materials for revitalization purposes, and in some cases it may be that documentary corpuses or descriptive grammars and dictionaries are of very little use for language learning and revitalization. Later I suggest some ways that documenters can make their current and future work more useful for these purposes.

Working with Legacy Materials

In some situations, especially for areas that were colonized in the sixteenth to nineteenth centuries, there may be few or no contemporary speakers of the languages, and the main resources available for revitalization are written wordlists, texts, translations, or old recordings (on tapes or cassettes) collected by explorers, missionaries, or settlers. Sometimes we find notes and letters written by speakers themselves who were writing in their own languages to express their thoughts and feelings, to communicate with colonial or missionary authorities about legal, cultural, educational, and economic matters, or to preserve threatened knowledge, like stories or vocabulary. This is true in areas such as eastern Australia, the north-east coast of the USA, or southern South Africa. Occasionally we may also find

written records or audio-visual recordings made in the nineteenth and twentieth centuries by professional linguists that have been preserved (sometimes after the person has died) in private collections or libraries and archives. We can refer to all of this as ‘legacy material’, and for some communities, such as the Kaurna people of Adelaide, Australia,³ it has proven to be extremely valuable and a major source for language revitalization and re-learning (see Capsule 1.4 on reading historical texts in Nahuatl). Legacy materials may present opportunities for being adapted for use in revitalization, and may be a great source of information about languages and social and cultural practices that are only dimly remembered or have gone out of use. They can be a source of idioms, metaphors, and sayings that are no longer known, as a result of the impact of the dominant languages. They can also provide valuable insights into how languages can adapt to changing circumstances to create new words or expressions (called ‘neologisms’). For example, in missionary Bible translations for Diyari, spoken in South Australia, we find the verb *dakarna*, which originally meant ‘to stab with a pointed instrument’ (like a spear or stone knife), was extended by the missionaries to mean ‘to write’ (with a pen or pencil). This might be further extended to mean ‘to type on a keyboard’ (of a computer or mobile device) since we now use our fingers as pointed instruments to do this.

However legacy texts and recordings can also present special challenges, and must be approached carefully. It may require specialist help from librarians, technicians, historians, or linguists to make sense of the legacy materials and to make them maximally useful, for the following reasons:

- (1) ethical and political issues – often it is unclear how the legacy materials were collected and whether the collectors had permission to distribute them to others or were given instructions about how they could be used. If the collector is alive we can ask about this, but frequently this may not be possible. Sometimes there are living descendants of the collector and/or the people whose languages and cultures are recorded (including particular individuals if their names are known from the sources) and there may be complex issues about ownership of and rights to the knowledge and intellectual property contained in them. This needs to be discussed properly and openly when approaching older records, and may require legal advice in difficult situations;

³ See R. Amery, ‘Phoenix or relic? Documentation of languages with revitalization in mind’, *Language Documentation and Conservation* 3/2 9(2009), 138–48. scholarspace.manoa.hawaii.edu/bitstream/10125/4436/1/amery.pdf.

- (2) form and content issues – the legacy materials may be written in an obsolete or obscure writing system, or spelled in an inconsistent or inaccurate way that does not properly represent the pronunciation, structure, or use of the language. If there are translations, they may be unclear, incomplete, or wrong. Sometimes we may need to do detective work, cross-checking different sources to ascertain what particular forms or meanings are intended, or to compare them to information about neighbouring and/or related languages to search for clues. In some instances, it may not be possible to decide, and a given spelling, translation, or expression has to remain ambiguous or unknown. Old sound and video recordings (on tapes or cassettes) may be affected by wear-and-tear (including mould or tape degradation, or stretching) and it can be difficult nowadays to find equipment that will play them so that they can be copied and digitized. It is best to seek professional advice from librarians, archivists, or media specialists (including radio and television organizations) before taking on the task of using such recordings for revitalization. Also, old digital files (on floppy disks or other storage devices) may need to be converted if the fonts and software used to create them are now obsolete. In the worst case, some old computer files may simply be unreadable and hence unusable;
- (3) context issues – for legacy materials that include stories or songs, we may not have information about who the audience is intended to be, or on what occasions they can be told or sung (e.g. is it a story for children or a sacred myth only to be shared with older people, or perhaps only with men? Is it a ribald song not meant for young people?). A community's social, cultural, or religious beliefs may also have changed over time so that certain older materials are no longer considered appropriate for public performances, especially for younger people or those outside a given group. Sometimes collectors can make remarks or comments in the materials, or use words and expressions that were common at the time of writing or recording but would now be considered to be inappropriate, racist, or sexist (and perhaps were never intended for public consumption anyway). There may also be references to people, places, or things that are obscure, or only known to certain individuals or groups. This means we need to take care when thinking about how such materials might be employed in revitalization, and seek advice from relevant knowledge holders if possible.

In summary, legacy materials can be very valuable sources of information about languages and cultures for use in revitalization and recovery of knowledge and practices, but they need to be approached circumspectly and used appropriately. It is advisable to seek professional advice and training when necessary.

Working with Archives

An archive is a trusted repository set-up to collect and preserve historical materials of a certain type. Archives can be analogue (collecting physical objects like letters, notes, books, photographs, or video and audio tapes) or digital (collecting computer files of various types, including photographs or scans of physical objects), or a mixture of both. All archives have a collection policy that sets out the types of things they are interested in. For material on languages and cultures, there are several types, which differ in their resources, staffing, coverage, and interests:

- (1) National archives like the British Library, British Museum, Library of Congress, Smithsonian Institution, National Archives of Australia etc.;
- (2) Regional archives like the Alaska Native Language Centre (ANLA), Archive of the Indigenous Languages of Latin America (AILLA), California Language Archive, Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) etc.;
- (3) Local archives like those of the boroughs of London, the *Dialekt-, ortnamns och folkminnesarkivet i Umeå* Department of Dialectology, Onomastics and Folklore Research in Umeå, Sweden, etc.;
- (4) Professional institution archives like the American Philosophical Society, Royal Anthropological Institute, or collections that are housed within university libraries.

Individuals may have personal collections of materials or objects they have amassed over many years, but we do not normally consider these to be an archive as they do not usually have an explicit collection policy, a publicly accessible catalogue, or institutional backing for long-term preservation and sustainability. There is a useful listing of digital language archives that collect documentary and descriptive materials for endangered languages on the website of the Digital Endangered Languages and Music Archives Network (DELAMAN).⁴

Archives can be important sources of information on languages and cultures (both tangible and intangible cultural heritage) that can be valuable for language revitalization, though it often takes some work and efforts to track down and identify what materials are held where.⁵ Above I have identified issues and challenges with making use of legacy materials that may be stored in an archive, but in addition to these there

⁴ see www.delaman.org.

⁵ The Open Language Archives Community (www.language-archives.org) provides searching across a wide range of archives around the world and may be a useful place to start in order to identify potentially useful materials in digital archives.

can be particular matters relating to using archives themselves, especially digital language archives:

- (1) Archives will have a usage and access policy that sets out who may use the materials in the archive (everyone, or certain types of people only), and how they may be used (read or listen to only, copy but not distribute to others, or freely copy and distribute). Sometimes it is necessary to pay for access (e.g. to receive a digital copy of a document or recording). In some archives, especially wholly digital ones, access may require permission from the person or group who deposited the corpus, folder, or individual file that the user is interested in;
- (2) The archive may contain materials on a language you are interested in but list it under a name which is not the one used in the community (it may even be an outdated or insulting term dating back to colonial times or legacy materials). You may need to try various spellings of the language name when searching in the archive catalogue listing;
- (3) The archive catalogue may be complicated or difficult to use, even if it is available online, and might be only accessible in a language that is not widely known to the speech community. For example, most DELAMAN archives mentioned above have catalogues in English only. AILLA, which focuses on Latin America, does have its catalogue in Spanish and English, but not in Portuguese (for users in Brazil), or in any minority regional language, such as Guarani or Quechua, both of which have millions of speakers and active research and revitalization communities;
- (4) Deposits in archives may be incomplete, or in the case of digital archives in particular, only partial or inconsistent. It is frequently the case that researchers working on minority languages deposit their corpuses incrementally as their documentation and description project progresses, which can result in audio-visual recordings with incomplete or no transcriptions and translations, different versions of a given file, inconsistencies in representation as the researchers learn more about the language forms, meanings, and contexts over time, or change their mind about how words should be spelled or what things mean;
- (5) Access to digital archive materials may require particular computer software, and training on its installation and how to use it for the purposes the user is interested in. For example, documenters frequently employ a software tool called ELAN (see tla.mpi.nl/tools/tla-tools/elan/) to link their audio-visual recordings to their transcriptions and translations, and occasionally to the metadata and linguistic description. It is a powerful and complex tool that is difficult to use and requires individual instruction to learn, but without it the archival materials may be unusable;

- (6) There may be some metadata about the deposit (information about the information within it); however, this is frequently limited or incomplete, especially in providing contextual background about why and how particular recordings, transcriptions, or translations were made, and how they relate to other material in the corpus (e.g. is a given song connected to a certain myth story? Are different stories about a character part of a larger story cycle or stages in a life history? Is a particular file the researcher's reanalysis of another file, perhaps from a different researcher?). Metadata can also be inaccurate, especially if the project was done in a limited time, with people or places mis-identified, personal names misspelled or wrongly assigned, and so on. Sometimes these gaps and inconsistencies can be resolved by checking with the depositor (if they are still alive), or community members, or individuals who have relevant knowledge (such as an assistant who worked on a project, or a family member who knows the history of fieldwork or the people who participated).

For these reasons, it is important to discuss your needs and plans with the staff who run the archive, and seek their professional advice or training about the collection and the materials that make it up, as well as the ways it might be used for revitalization. In the USA, there is a national series of training workshops for this purpose called *Breath of Life* that involves University of California Berkeley and the Smithsonian Institution.⁶ You may also need to interact and negotiate with the depositors or the people recorded in the particular materials you are interested in, or their descendants.

Documentation for Revitalization

We have seen above that the relationships between language documentation, language description, and language revitalization are complex, and need to be approached with care and attention, seeking advice and training where required. Sometimes language activists and communities can become disappointed when they find that a given document, recording, or digital corpus is difficult to use or not particularly useful for their needs. In this section, I provide some suggestions about how current and future language documentation could be made more valuable for revitalization purposes, without necessarily detracting from the other goals that the documenters may have. I suggest that:⁷

⁶ see miamioh.edu/myaamia-center/breath-of-life/index.html.

⁷ See also Amery, 'Phoenix or Relic?'; Mosel, 'Creating educational materials'; Y. Sugita, 'Language revitalization or language fossilization? Some suggestions for language documentation from the viewpoint of interactional linguistics' in P. K. Austin, O. Bond, and D Nathan (eds.), *Language Documentation & Linguistic Theory 1* (London: SOAS, 2007), pp. 243–50.

- (1) A wide range of members of the community, including those living outside the original location, should be encouraged to participate in the documentation, description, and revitalization planning and activities, rather than focusing on a limited number of older or 'best' speakers on the one hand, while considering outsiders to be 'experts' or 'specialists' on the other hand. Community members, activists, students, and enthusiasts can get involved in various ways which may lead to an increase in their language skills and practices, create stronger links with other speakers and elders in particular, and promote local language revitalization activities and changes in language attitudes. Such engagement can also lead to the creation and development of local community-based and community-driven language and culture archives, and often contributes to improving the quality of the resulting documentation (better translations, more culturally appropriate situations, a wider range of social activities recorded, etc.). Documentation and revitalization projects that include training, e.g. through grassroots workshops, can spread knowledge and skills more broadly, improve capacity building for community members, and increase their awareness of their own knowledge, skills, and agency;
- (2) The range of speakers documented should include younger generations and those who may be less fluent in the heritage language. This will result in documentation of how non-traditional speakers use the full linguistic resources at their disposal, including the neighbouring or majority languages, which may involve borrowing or mixing. For some older speakers this kind of language use may be negatively evaluated, but for revitalization it is important to document how younger speakers and learners are actually speaking, and to determine what other sorts of language and expressions can be taught to them;
- (3) The range of contexts documented should include non-traditional and contemporary interactional events, activities, and locations, such as community meetings, medical centres, places of employment, Internet and social media, and interactive games. This will generate examples of language use that learners, especially children, can engage with and put to actual use in their own daily lives;
- (4) The kinds of interactions that are documented in the corpus should be expanded to include everyday, but often overlooked, aspects such as greetings, farewells, fillers, and discourse markers (like the equivalents of 'umm', 'aah', 'mmm', 'well then', 'go on', etc.), how to start, stop, continue, and change a conversation, as well as how to make an apology, tell a joke, express one's disagreement, disappointment, or anger, and so on. These kinds of elements, which may be short and easy to remember, can be very useful for language learners, especially when they have more passive than active language ability (i.e. they can

understand but have less ability to speak). An appropriately placed word or phrase like these can keep an interaction in the language going, or give a language teacher an indication that the learner is following, and thereby provide further opportunities for practice and learning;

- (5) Researchers should document family language such as that between parents or grandparents and children as this can be useful for re-establishing transmission of the language between generations. This could include lullabies, songs, riddles, or other culturally appropriate language use, but also affective terms like the equivalents of 'grandma', 'honey', 'sweetie' etc., as well as terms of respect used to elders;
- (6) Attention should be paid to short, fixed, or formulaic expressions that learners can productively use on a range of occasions. These might be things like the culturally appropriate equivalents of 'excuse me', 'sorry', 'can I take that?' or idioms, sayings and metaphors like 'pass away', 'take the bull by the horns', 'don't cry over spilt milk' and so on. For more advanced learners, the formulaic or ritualized speech used within meetings or on ceremonial occasions can be very useful, both in terms of active proficiency in the language but also for acquiring culturally relevant knowledge (in Australia routines and short speeches like 'welcome to country' expressed in local Aboriginal languages at the beginning of a significant event are among those highly valued in language revitalization);
- (7) The metadata associated with recordings could indicate that they might be particularly useful in certain ways for different kinds of language revitalization activities, such as 'this is a good example of apologizing for intermediate level'. This could also include indications of potentials for adaptation in language learning, e.g. particularly clear recordings of individual words in a certain cultural domain that could be used for a quiz or puzzle;
- (8) Contextual information that is notated for audio-visual recordings and provided with archival deposits should be as wide and detailed as possible, so that users now and in the future will be more easily able to make sense of how and why particular recordings were made, processed, analysed, and used. This kind of metadocumentation (documentation of the documentation), e.g. 'this is a traditional story often told by grandmothers to children at bed time', is extremely useful for language revitalizers (as well as subsequent researchers of all types). However it is frequently omitted as scholars and students concentrate their energies on recording, transcribing, and translating the examples of language features or use that they are particularly interested in, e.g. only the sentences containing a particular kind of grammatical structure. There is a balance to be struck between the work of documentation

and metadocumentation, but more attention to the latter can have important and valuable consequences into the future for everyone.

If some or all of these ideas can be adopted and adapted in language documentation and description, then the people, contexts, and ways of speaking that are incorporated in the corpus can be made more relevant and useful for language revitalization.

Documentation of Revitalization

Individuals and communities engaged in language revitalization should be encouraged to document the processes, decision-making, events, successes, and failures of their work so that they and others can learn from them. Such documentation can also provide valuable resources for and feed back into ongoing curriculum design, materials development, testing, and evaluation. Language revitalizers can adopt the methods, practices, and tools of language documenters and make high-quality audio-visual records of learners' knowledge and use of language and cultural phenomena, and accompany them with transcriptions, translations, notes, metadata, and metadocumentation, using the documenters' software and data models where appropriate. In doing so revitalizers can contribute to the development and sustainability of efforts to increase the current and future domains of use and/or the numbers of speakers of the threatened languages they are concerned with. Some specific recommendations⁸ for activities that could be documented in this way include asking learners, either individually or in groups, to speak about their experiences in intergenerational activities, in families, in schools, or in other contexts. They could report what the older generation talked about, explain the situations, or describe what they saw or heard. By documenting these kinds of intergenerational activities as well as the ways that learners use the languages available to them after engaging in such activities, revitalizers should be able to identify psychological or interactional factors involved in successful or unsuccessful transmission of the language. This new understanding can then be used in further language planning and development, and can help to foster the vitality of the threatened languages.

FURTHER READING

Amery, R. (2009). Phoenix or relic? Documentation of languages with revitalization in mind. *Language Documentation and Conservation* 3(2), 138–48. <http://hdl.handle.net/10125/4436>.

⁸ See Sugita, 'Language revitalization or language fossilization?'

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13.1 Technical Questions in Language Documentation

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Most of our attestations of languages that are no longer transmitted intergenerationally or orally only exist in written form. The earliest audio recording that we can listen to nowadays is the so-called phonautogram of *Au clair de la lune* created on 9 April 1860 by Édouard-Léon Scott de Martinville. Since 1877, when Edison recorded *Mary Had a Little Lamb*, people have been able to record and play back sounds. The usefulness of recording equipment for documenting endangered languages was understood very quickly, and so the Passamaquoddy people living in Maine and Canada can now listen to the recordings of their language made in 1890 by Jesse Walter Fewkes. This documentation was done using technologies no longer used: wax cylinders.

Technological advances of the last few decades have transformed the language documentation processes. People are no longer likely to struggle with wax cylinders and less likely to have to deal with cassette tapes. A huge proportion of the human population has a cellphone. Most cellphones, and probably all smartphones, have some sort of an audio recording functionality. While most of them don't yet compare to the professional quality that can be achieved using specialized digital recording devices with good quality microphones, they are more useful because they are readily at hand.

Before starting the documentation, it is a good idea to check the cellphone and especially its recording capabilities, the placement of the internal microphone (this should be considered the last resort – to be used only if there is no way of obtaining an external one), and possibilities of upgrading it. Simple and relatively cheap upgrade possibilities include buying an external microphone with a mini-jack or another appropriate connector (as more and more smartphones are moving towards USB Type-C and Lightning ports), or installing a dedicated recording application (as opposed to the one that comes preinstalled on the phone).