1 Introduction

> Obviously we must do some serious rethinking of our priorities, lest linguistics go down in history as the only science that presided obliviously over the disappearance of 90% of the very field to which it is dedicated.
>
> Krauss (1992: 10)

The above strong and emotive quote poses the key problem which motivates this book. Krauss indicated that most of the endangered languages then spoken would stop being spoken during the twenty-first century. In Krauss (2007a: 3) he increases this further, and indicates that 95 per cent of the world's languages are endangered to some degree. It is clear that a high proportion of the world's linguistic diversity is endangered, as Robins and Uhlenbeck (1991), Wurm (1996, 2001), Brenzinger (2007a), Moseley (2007), UNESCO (2009) and recent editions of the *Ethnologue* since Lewis and Simons (2014), among many other sources, also indicate.

The current loss of human linguistic diversity is at a higher rate of biodiversity loss than we are seeing in biological and ecological systems. It is now normal around the world to be concerned about climate change and its effects such as bleaching of coral and weather changes; pollution and other kinds of environmental problems; endangerment and extinction of animal and plant species through habitat loss; overexploitation of resources and other damage to the ecosystem. Human linguistic diversity has not yet reached the same level of public awareness and concern, sometimes even among the actual communities whose languages are at risk. Yet, language is the very thing which makes us human and allows our societies to function, and a massive reduction in the diversity and variety of human languages is also a catastrophe with profound consequences for our cultural and intellectual future.

It is very often the case that a language shift takes place while a community has other urgent concerns such as economic progress,

education for their children, health, integration into wider society and other practical needs. At the same time, people are often not completely aware of the progress of language shift, and may feel that their language is OK, even when it is not. This delayed recognition of language shift (Schmidt, 1990) may lead to a situation where it becomes very difficult to reclaim the language and begin to use it more widely again. Sometimes, there has been a shameful history of minority language suppression, as, for example, in much of North America, Australia and elsewhere, and language reclamation efforts have only become possible once communities have become aware of the problem and policies have changed in recent years.

Linguists and others have long been concerned about language endangerment, starting in antiquity. The Roman Emperor Claudius produced an Etruscan dictionary, which unfortunately has not survived. Various anthropologists and linguists including Franz Boas from the late nineteenth century and Edward Sapir, John Harrington, Morris Swadesh, Mary Haas and many others in the first half of the twentieth century worked extensively on endangered languages of the Americas, as did various linguists on other continents. Swadesh (1948) provides a number of case studies of language loss, mainly in North American settings. Descriptive work continued and accelerated in the second half of the twentieth century. In addition, dialectologists have done a great deal of work on endangered regional dialects of many languages since the mid-nineteenth century, continuing with recent studies by linguists such as Denison (1971) on Walser German as spoken in Italy and many others, most notably Nancy Dorian on East Sutherland Gaelic (Dorian, 1978, 1981). Thus, research on endangered languages is not new, but the concerns about how to respond to it are new.

The issue of a responsible response by linguists and linguistics to this problem was raised by Ken Hale and became the topic of a Linguistic Society of America (LSA) symposium in January 1991, which led to the publication of a collection of seven short papers in *Language*, vol. 68, no. 1, March 1992, including Krauss (1992) quoted earlier, initiated by Hale (1992). This focus has continued to be a strong component of linguistic research ever since.

Another approach to the same issue was presented in Robins and Uhlenbeck (1991) as a prelude to a major discussion held at the 'International Congress of Linguists' in Québec in August 1992, one of the two key themes of that congress. The Comité International Permanent des Linguistes (CIPL), the organizer of that congress, has been a leader in raising the profile of language endangerment within the discipline

and more widely through the work of Stephen Wurm and others, and in organizing a very large number of conferences and workshops on this topic, such as workshops on the sociolinguistics of language endangerment, running regularly since 2000; see the CIPL website: www.ciplnet.com for more information.

Fortunately, much of the effort of workers within the discipline over the last twenty-five years has been redirected into responses to calls to action by CIPL, Krauss and others. This includes a greatly increased emphasis on the documentation of languages, most notably endangered ones, using data-based and theoretically neutral analytic models and bringing together expertise from other disciplines to document other aspects of the societies where the languages are spoken. Also, many more fieldworkers have started to work together with the communities who are the source of their data, and thus their livelihoods, in a more co-operative way, as discussed in Chapter 3 – this is our ethical duty. A great deal of thought and work has been put into methods for improving the future prospects for many languages, both through more effective deployment of linguistic resources and political advocacy, as discussed in Chapter 8, educational improvements and direct efforts to expand the use of a large number of endangered languages, as discussed in Chapter 9, and in general moving to improve the status and self-esteem of the communities and their pride in themselves and their languages, as discussed in Chapter 4.

Few people now believe that the problem is as extreme as Krauss suggested; we can also hope that community efforts and the work of insider and outsider fieldworkers are helping to reduce the severity of the eventual outcome, and, in many cases, to reverse the process of language shift. One of the purposes of this book is to understand language endangerment better, show how it happens and suggest how it can be reversed.

1.1 HOW MUCH ENDANGERMENT IS THERE?

Just as it is very difficult to give an exact figure about how many languages there are in the world, it is difficult to quantify exactly how many of them are endangered, and to what degree. There are some parts of the world where related similar and sometimes even unrelated ethnic groups and languages are lumped together, and others where extremely similar speech varieties are divided into separate ethnic and linguistic categories, which may then be viewed as distinct languages. Also, although Chapter 2 outlines various attempts

to systematize the categorization of degrees of endangerment, these are often not applied consistently, even by different researchers within the same collective research projects nominally based on the same criteria. We should also bear in mind that 'enumeration is rooted in Western civilization's hegemony over indigenous groups' (Hinton, 2002: 150).

Simons and Fennig (2018) suggest that 370 languages have become extinct since 1950, an average rate of nearly six languages per year; there are probably others that we do not know about. Other estimates are much higher: Anderson (2010: 129) suggests that a language is disappearing every two weeks; like the estimate of Krauss, this appears to be an emotive exaggeration.

There are certain areas of the world where many languages from a variety of genetic families are endangered, known as language hotspots, where more research is particularly urgent; Anderson (2010: 132) cites seventeen examples. Such areas are also interesting due to the complex language contact phenomena which occur there.

General surveys of endangerment around the world have been undertaken by a number of bodies. The first was CIPL, with the results published in Robins and Uhlenbeck (1991). UNESCO Paris supported a series of three editions of an atlas of languages in danger, with a gradually increasing scope (Wurm, 1996, 2001; UNESCO, 2009); this is now primarily web-based and periodically updated. The LSA initiated the survey reported in Yamamoto (1996). A 2000 conference supported by Volkswagenstiftung eventually led to the survey published in Brenzinger (2007a). A very wide-ranging survey based on a standard questionnaire was initiated by UNESCO Barcelona, as reported in Martí et al. (2005). Various scholars, including many of those involved in other earlier attempts, co-operated to produce the information in Moseley (2007). The most comprehensive effort to document the level of endangerment in languages around the world, supported by SIL International, is embodied in successive editions of the *Ethnologue* (www.ethnologue.com), starting from Lewis and Simons (2014) and continuing up to the current edition, Simons and Fennig (2018), using their Extended Graded Intergenerational Transmission Scale framework discussed in Chapter 2. The National Science Foundation and the Henry Luce Foundation supported the Catalogue of Endangered Languages (ELCat) project based at the University of Hawaii, which launched the survey website (www.endangeredlanguages.com) in 2012, partly in response to issues with problems in the data and methodology of the *Ethnologue*; this website was regularly updated and improved up to 2016 and continues to exist, although updates are not currently being added.

Improved versions of several surveys are in planning or preparation, including UNESCO (2009), Moseley (2007) and ELCat; the *Ethnologue* also has annual updates. The first author of this book has worked closely with CIPL and UNESCO and contributed to nearly all of these attempts, including Wurm (1996, 2001), the UNESCO Barcelona survey, Brenzinger (2007a), Moseley (2007), UNESCO (2009) and ELCat, and anonymously provided information for all recent editions of the *Ethnologue*.

There are various gatekeepers and funders who have supported and, in some cases, organized linguistic work on endangered languages in the last couple of decades: CIPL since 1991; UNESCO, the Endangered Language Fund and the Foundation for Endangered Languages all separately since 1996; Arcadia Fund supporting the Hans Rausing Endangered Language Project and its ongoing Endangered Languages Documentation Programme since 2002, among others. At the regional level, the Japanese Endangered Languages of the Pacific Rim project (1999–2003) supported a very wide range of research based mainly in Japan but also elsewhere around the Pacific rim, and produced an enormous series of published volumes containing a wealth of valuable data. At the national level, in Germany the Volkswagenstiftung had a funding area Dokumentation bedrohte Sprachen (documentation of endangered languages) from 1999 to 2013. The Netherlands Nederlanse Vereiniging van Pedagogen en Onderwijskundigen (Association of Educationalists in the Netherlands; NVO) also developed a similar focus area. In the United States, the National Science Foundation and the National Endowment for the Humanities have an ongoing joint Documenting Endangered Languages programme since 2005. In Thailand, the Thailand Research Fund has extensively supported documentary work on the endangered languages of Thailand and work with communities to maintain these languages. China has moved through a series of initiatives, most recently, from May 2015 the China Language Resource Protection Project of the Ministry of Education and its State Language Commission, currently targeting work on 900 local varieties of Chinese and 300 indigenous minority languages, most of them endangered to some degree. Many similar initiatives are underway at the national level around the world.

1.2 WHY DOES IT MATTER?

The rhetoric about why loss of languages matters has followed a number of paths. Starting from Hale (1992: 1), the general reason

is that it leads to loss of cultural and intellectual diversity. Crystal (2000: 27–67) reifies this into five categories:

(1) Diversity
(2) Identity
(3) History
(4) Human Knowledge
(5) Linguistic Interest

By diversity, Crystal means both ecological knowledge and the flexibility to adapt that it confers. Identity and History are often related, and are psychologically and socially important. Human Knowledge relates to the information contained in a language and culture. Linguistic Interest relates to structural factors of typological diversity and to historical linguistic factors concerning the relationships of languages, both phylogenetic and related to contact.

Krauss (2007b) subsumes the reasons under three arguments: Ethical, scientific and biological. The Ethical argument relates to the human rights of communities; the scientific argument is divided into linguistic, informational and abstract; the biological argument includes a human linguistic biodiversity component, which Krauss calls the logosphere, and an aesthetic component.

Bird (2017) proposes a six-way functional division:

1) Language-as-species	to be captured and preserved
2) Language-as-resource	to be exploited
3) Language-as-tool	to be used for various purposes
4) Language-as-lens	shaping view of the world
5) Language-as-connection	identity, belonging, relationships
6) Language-as-expression	art, etc.

These three systems align, as shown in Table 1.1; in some cases there is overlap or incommensurability. For example, language arts such as

Table 1.1 *Why language loss matters*

Crystal (2000)	Krauss (2007b)	Bird (2017)
Diversity	Biological/logosphere	Language-as-resource
Identity	Ethical	Language-as-connection
History		
Human Knowledge	Scientific/abstract	Language-as-lens
	Scientific/informational	Language-as-tool
	Biological/aesthetic	Language-as-expression
Linguistic Interest	Scientific/linguistic	Language-as-species

songs, poetry, stories and proverbs are part of Crystal's Human Knowledge, Linguistic Interest and Diversity; of Krauss's Biological/aesthetic, Biological/logosphere and Scientific/linguistic, and of Bird's Language-as-expression, Language-as-species and Language-as-resource; although the only categories which directly mention language arts are Krauss's Scientific/aesthetic and Bird's Language-as-expression.

For more specific examples of the kinds of cultural and linguistic diversity which may disappear with a language, see the discussion in Chapters 6 and 7. Basically, the Diversity, Biological/logosphere or Language-as-resource argument is at least as strong as any other biodiversity argument about plants, animals and ecosystems: loss of a language decreases the riches of humanity and eliminates one version of humanity's unique communicative resource – language. If 95 per cent, or even half, of the world's animal, plant or ecosystem diversity was in danger of disappearing this century, there would be extreme concern and radical remedial action. It is thus sad that there has only been limited public concern; we do not see large demonstrations in favour of linguistic biodiversity and protection of endangered languages and the linguistic ecosystem, as we do concerning global warming or whales. There are many green political parties around the world, promoting the protection of biodiversity and the environment; most mainstream political parties now also have similar concerns. However, mainstream parties, even green parties, do not support the right to maintain linguistic diversity. While most parties support human rights, very few consider maintenance of language diversity as a core human right, even where the national language policy is nominally supportive. There are many small political parties based on group identity and solidarity; some of the more successful ones, such as the Scottish Nationalists, are regional parties for whom language is not a key issue. It is only those parties of minority groups where the language is a key local symbol and component of identity, as discussed in Chapter 4, who have direct concerns about the local endangered minority language persisting and expanding. Even in such cases, it may take a long time for such parties to make an impact, and language is usually not their sole or main concern. For example, Plaid Cymru in Wales was established in 1925; it has Welsh language revival as the fourth of its current five goals. However, it took until 1966 to succeed in an election, and is still a relatively small party, although it has a substantial minority in the Welsh Assembly; and it has helped to raise the profile of Welsh language and greatly expand its maintenance and use.

A key reason for maintaining a language is to preserve the group's identity and maintain positive attitudes about the group and its

language and culture, as discussed in Chapter 4. This is Crystal's Identity and Bird's Language-as-connection; it could also be seen as a component of Krauss's ethics argument. Tsunoda (2006: 134–43) has a long list of identity-related reasons for keeping a traditional language. These include identity, pride and self-esteem; group solidarity; connection of language and land and sovereignty; language as a gift from the ancestors and for future generations. Note the concern with continuing transmission of language and culture from ancestors through the present to descendants, a process discussed in Chapter 5.

Krauss puts the ethics argument first: that the right to maintain a language is a human right. This is a powerful and widespread argument, and, as we will see in Chapter 8, it is a key component of the Universal Declaration of Linguistic Rights (World Conference on Linguistic Rights, 1996) supported by UNESCO as a matter of international language policy. Krauss's ethics argument does not correspond exactly to Crystal's Identity nor to Bird's Language-as-connection, although it is related. Similarly, Crystal's History is not a separate argument for Krauss nor a function for Bird; it could be included in Bird's Language-as-connection, but does not fit so well in Krauss's ethics argument; for Krauss it would be a combination of the Biological/logosphere and Scientific/informational arguments.

One aspect of language loss which is frequently remarked on is the arrangement and packaging of real-world and cultural knowledge into linguistic forms and systems. This is the Whorfian argument: every language encapsulates a different worldview and classification of reality, using different categories (Whorf, 1956). This is what Bird (2017) means by Language-as-lens: language as a lens through which the world is viewed. One often sees expressions of regret among groups whose language is being lost about the disappearance of important and emotive sociocultural categories with the words which express them in the language. This also includes a wide range of cultural knowledge – how to act and not to act in various situations, concepts of beauty, humour and similar distinctive ways of categorizing and viewing the world.

Another related area of loss is in the area of artistic expression: verbal art of all kinds including literature, both oral and written; humour; song; nonverbal art and artistic cultural artefacts, music, dance, ritual; and combinations: for example, dance accompanied by music and song while using artistic cultural artefacts and wearing special clothing in a ritual setting. These are the Biological/aesthetic, Language-as-expression and part of the Diversity arguments for the preservation of a language. They also extend into and relate to the arguments connected to the Whorfian Language-as-lens.

In many cases, there will be irretrievable loss of valuable linguistic information if the disappearing language has unusual typological characteristics such as unique or unusual sounds or structures. Crystal, Krauss and Bird each have a category for this: Linguistic Knowledge, Scientific linguistic and Language-as-species; some examples are given in Chapter 7. The same is true for cultural practices: if something unique disappears, anthropology will not be aware of the full range of possibilities found in human societies; some examples are found in Chapter 6. In all cases, there will be less information available to reconstruct the linguistic and cultural history of humanity, as the language will no longer be available to comparative and historical linguists. In some cases, the endangerment, if it proceeds to the loss of the language, will result in the complete loss of a genetic family of languages, thus permanently reducing the historical linguistic diversity of humanity. For one such instance, see the case study in Chapter 6 on Ket, the sole remaining Yeniseian language.

Crystal's Linguistic Interest, Krauss's Scientific/linguistic, and Bird's Language-as-resource could be seen as a self-serving justification for academic linguistic research, not directly relevant to community needs and desires or other factors. However, once a language is documented, should the community change its views, a reclamation process is feasible, as discussed in Chapter 9. Also, some aspects of the documentation of a language, such as the collection of traditional text, vocabulary and cultural materials of the many types discussed in Chapter 6 and the creation or improvement of an orthography and a dictionary, as discussed in Chapter 8, are valuable and useful in themselves for the heritage of the community and for humanity and are an essential precursor to any reclamation process. Furthermore, the linguist can and should develop connections and skills which can be deployed to help the community with their language and in other ways, as discussed in Chapter 3.

One further important reason for research in communities whose languages and other traditional knowledge are endangered has not always been emphasized. There may be unique ecological information lost, such as knowledge of the medicinal properties of plants and other natural products which is valuable for humanity as a whole. This includes a wide range of wild and cultivated plants with commercial potential, and in some cases valuable medicinal uses. The treatment of malaria would be problematic without quinine, a Central American traditional herbal medicine, and the latest and most effective antimalarial, artemisinol, an extract from wormwood traditionally used in upland areas of south-western China but only brought into the modern

pharmacopoeia in the last twenty years. Many other important medicines come from similar sources: heart medications such as digitalis and skin medications such as *Aloe vera*. Another example is local knowledge: how to adapt to a particular ecological environment, what crops can resist local pests, what natural products can be collected, how they should be prepared and used. These and similar types of unique local knowledge could be seen as part of Crystal's Human Knowledge and/or Diversity, Krauss's Scientific/informational and Bird's Language-as-resource, but are not explicitly discussed by any of them.

Many economists, even ecologically and socially aware ones such as Sachs (2008), have claimed that loss of language diversity does not matter, and some even suggest that it will be more efficient if linguistic diversity decreases, so that international communication can be facilitated. Sachs (2008) places this in the moral context of poverty reduction. Linguists such as Ladefoged (1992) have also expressed a similar view, which is also widespread among majority groups around the world, and even among some minorities whose languages are endangered; in fact, such wrong-headed views are part of the cause of language endangerment. Crystal (2000: 26–32) also summarizes this view, only to rebut it thoroughly. Similarly, Romaine (2009) comprehensively demolishes the arguments of Sachs, outlining many of the reasons already discussed why linguistic diversity is both normal and valuable.

The world already has a number of languages of wider communication (LWCs), foremost among which over the last couple of centuries is English, and increasing bilingualism and multilingualism including an appropriate LWC such as English is highly positive for poverty reduction, social and economic development and international communication. The economists simply reflect the incorrect community view that bilingualism is abnormal and subtractive; but, as we will see in Chapter 5, neither of these assumptions is correct: bilingualism is normal and extremely widespread, has almost certainly been widespread throughout human history, and provides both social and cognitive advantages.

Thus, maintaining a society's cohesion through the continuation of its chief means of expression, its language, is both a cognitive and social positive; it is in no way a disadvantage, provided that appropriate and necessary levels of bilingualism develop. That so many communities around the world have not been encouraged to maintain their own languages is partly a result of incorrect community views about bilingualism and traumas due to majority-group and majority-language hegemony, and partly a reflection of the nation-building