

## Part 3

# From Local to International: Interdisciplinary and International Views



## Conflicting Goals, Ideologies, and Beliefs in the Field\*

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### 16.1 Introduction: Conflicting Goals, Ideologies, and Beliefs

FOR LINGUISTS WORKING with endangered-language communities, language documentation is of the utmost priority. Where speakers of a language consist of only a very small number of elderly speakers, documentation is viewed as urgent; it is seen as the activity that warrants the bulk of our time and energy. Linguistic analysis is critical, or one runs the danger of not understanding the documented language and may miss crucial parts of the language: there is no way to evaluate if a documentation is ‘complete’ or ‘thorough’ unless one has a good grasp of the linguistic system as a whole. Our work as linguists rests on our training as Western scientists, which requires us to be objective and detached from our object of study. The current model of linguistic analysis assumes that languages can be studied in isolation from a host of environmental, social, and political issues, and that it is the linguist’s job to conduct such an analysis. At the same time, our commitment to ethical research requires that we work collaboratively with the communities where the endangered language is (or was) spoken. Many linguists find it nearly impossible to live within a community long enough to build the ties required for a deep documentation while maintaining detachment. In many cases it is difficult, if not impossible, to gain the trust of community members without first becoming personal friends. Investment in the community is required to succeed but it is not just a ticket to success, it is what most field linguists want. Our speakers are our friends and, often, adopt us into their families.

However, the basic priority of documentation for linguists is often fundamentally at odds with those of many speaker communities, who place a premium on language revitalization, language instruction, and the development of

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pedagogical materials and methods. There is an increasing desire among communities to have linguists work on community-driven projects in lieu of documentation and analysis. When speakers are few, it is argued that their time should be spent teaching others the language rather than in documentation efforts. Moreover, community leaders are often activists and see the need for external linguists to join them in this activism, which is fundamentally at odds with the neutrality required of Western scientists. At times the expectations of community members are unrealistic: few linguists are positioned or trained to be effective language teachers or activists, for example. In many communities language documentation is not even a goal, much less the primary objective of language projects. Instead, many communities find that the revitalization process is an important part of community building and healing; that the collaborative effort of building language programmes unites people where other projects have failed. This may be due to the fact that revitalization tends to be a community-driven project, but also surely because a language requires speakers and a community in order to thrive.

One of the most discussed aspects of ethical research in recent years is the notion of collaborative research models that include community members. This represents a radical shift from previous linguistic and ethnographic work, in which an external researcher visited the community for some period of time, and then left. This model has become so outdated as to be nearly abandoned, although it may be persistent in more instances than we would feel comfortable admitting.<sup>1</sup>

In this chapter we consider just one aspect of this complicated issue, the differing perspectives between Western scientists and community speakers of what counts as science, what counts as data, and what kind of analyses should be done. Our thinking on this topic is shaped and influenced by our experiences working in the Arctic and circumpolar regions, in areas referred to as the 'Far North' in Russia. Our thoughts here reflect conversations with Northern and Arctic peoples, in the field, in conferences and workshops, and around the dinner table. We bring to this discussion our own different backgrounds and training: Grenoble is a linguist, and has been working with indigenous communities in Siberia and the Arctic since the mid-1990s. Whitecloud is an ecological and evolutionary biologist, a member of the Lac du Flambeau Anishinaabeg tribe, and is trained in the use of medicinal plants uses by her uncle. We have been working collaboratively since 2010 to study the uses of arctic plants in the Circumpolar Arctic, primarily in Greenland. Our collective approach to research

<sup>1</sup> This issue is noted by Nadasdy (1999: 3) in his discussion of the politics of TEK: 'On one occasion a biologist told me outright that the only value she sees in consulting with native elders is that she must do so in order to secure community support for her projects, which in the current political climate is now required.' Although this quote, and this attitude, are now outdated, we wonder how often it still holds.

has been shaped by the differences and commonalities in our backgrounds, and by multiple conversations with one another and with Arctic peoples.

Just as research in the natural and social sciences in the Arctic today strives to incorporate TEK (traditional ecological knowledge) into its findings, the topic of differing goals and priorities for linguists and language activists has received considerable attention in the last few years. We centre our discussion on differences in ideologies between Western science on the one hand, and TEK on the other, focusing on the perspective of linguistic research. Ongoing work has expanded the notion of TEK to encompass what is alternatively called traditional, indigenous or local knowledge: knowledge of local community members (see section 16.2.2). This knowledge is acquired through experience and collective practices, usually stemming from traditional practices and lifestyles. It is often valorized to the point of being romanticized as more basic, truer to indigenous experience and roots, and as being anchored in indigenous systems of beliefs. We argue that Western science, and thus Western linguistics, brings with it a host of challenges, and we illustrate some of these with a discussion of how these differences have shaped our collaborations in Greenland (see section 16.3).

Our own research in Greenland into so-called traditional uses of plants has challenged this conceptualization of local knowledge at its very core, questioning the extent to which it is anchored in traditional beliefs and practices, and questioning the assumptions of external researchers like ourselves that such traditions are held at a premium by local practitioners.

## 16.2 Differences in Approaches

The differences in ideologies go even deeper than the differences in goals outlined in section 16.1. Rather, they extend to the very heart of the enterprise of research and knowledge. There is increasing pressure, from Arctic communities and from funding agencies, for researchers to take local knowledge and values into account. For external linguists, this often translates into collaborative research, with pedagogical projects as side projects, in addition to documentation. The hard sciences (biology, geology, engineering, and so on) have recently begun to value and incorporate indigenous knowledge into their research. In Arctic research as a whole, there is an ever-increasing pressure to consider local knowledge systems. These knowledge systems are sometimes referred to as TEK, but this label erroneously implies both that they are traditional (in the sense of antiquated as opposed to modern) and that they involve only biological ecologies. Other groups use the term *indigenous knowledge*, but, as we argue in sections 16.2.2 and 16.3, the knowledge under consideration is not always, strictly speaking, 'indigenous'. For that reason, many reject all these labels, and

refer to this knowledge as local knowledge (which encompasses TEK, traditional, and indigenous knowledge), a practice we follow here. The question of how local knowledge should be integrated into Western science is of central concern in the Arctic today, where climate change threatens subsistence lifestyles and the knowledge therein.

### 16.2.1 Western Science

Scientific inquiry is central to Western conceptions of all kinds of knowledge, and is fundamental to Western society. Froude (1890: 595–6) argues that ‘neither history, nor any other knowledge, could be obtained except by scientific methods’.

In its broadest sense, the English word ‘science’ can be used to refer to any systematic knowledge, but it is currently associated not only with knowledge, but also with method. The scientific method rests on the core principle that scientific hypotheses that are invoked to explain phenomena are supported (or disproved) by data collected through studies that can be replicated by others. Western science is empirical, data-driven, and its conclusions are both testable and replicable. This ideology is so fundamental to Western culture that basic dictionary definitions include hypothesis testing rather than solely systematic knowledge: ‘Principles and procedures for the systematic pursuit of knowledge involving the recognition and formulation of a problem, the collection of data through observation and experiment, and the formulation and testing of hypotheses’ (*Merriam Webster*); or ‘a method or procedure that has characterized natural science since the seventeenth century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses’ (*Oxford English Dictionary*). One of the key differences between Western scientific knowledge and local knowledge is the principle of measurements and testing that that science entails. This is in direct contrast to many indigenous knowledge systems, which include experience and culture as a means of defining what is known.

### 16.2.2 Local Knowledge

Local knowledge or its subset, TEK are driving forces in discourse of the North and the so-called ‘human dimensions’ of the Arctic and the Arctic response to climate change. Such knowledge, as defined by the Convention on Biological Diversity, Article 8 (j), is developed over centuries through experience and is part and parcel of local culture and environment.

As defined by the Convention on Biological Diversity, Article 8 (j):<sup>2</sup>

<sup>2</sup> See <<http://www.ser.org/iprn/tek.asp>> .

Traditional knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry.

Local knowledge thus differs radically from scientific knowledge. The former is collectively owned and includes not only the names of plants and animals but also cultural values, rituals and belief systems, community laws, local language, and agricultural practices. Such knowledge is transmitted orally from generation to generation and thus it is viewed as community, not individual, intellectual property. Western scientific knowledge can be copyrighted, whereas the notion of intellectual property is unknown in many communities outside of the Americas and Europe. Since traditional knowledge includes beliefs, values, and practices, traditional knowledge is not recognized as knowledge per se by all who study it; it falls outside of the purview of the basic tenets of (Western) scientific methodologies, which require that results be testable and replicable. (See in particular Nadasy 1999 for the politics and difficulties of integrating Western science and indigenous approaches to knowledge.) Beliefs, cultural practices, and the like have no place in Western views of science; if anything, they are considered to be an impediment to scientific inquiry, which is supposed to be detached from belief systems and values.

Bringing Western science and local knowledge together has become a critical issue for many Arctic Indigenous leaders. The IPY (International Polar Year) 2012 Conference in Montreal, the last in a series of conferences to consider the research and impact of the IPY (2007–2008), hosted daily sessions on Indigenous Knowledge Exchange.<sup>3</sup> One example is Inuit Qaujisarvingat: The Inuit Knowledge Centre, established in Ottawa, Canada, at the Inuit Tapiriit Kanatami headquarters. Inuit Qaujisarvingat was established ‘to bridge the gap between Inuit knowledge and western science and build capacity among Inuit to respond to global interests in Arctic issues’ (<http://www.inuitknowledge.ca/>), a goal that has become increasingly urgent due to rapid climate change in Arctic regions. The Inuit perspective is articulated by Martin Loughheed in an interview reported in *National Geographic News* (Braun 2011):

<sup>3</sup>In fact, there was a designated programme committee chair to focus on indigenous knowledge (Nancy Karetak-Lindell, Director of the Jane Glassco Arctic Fellowship Program, Walter and Duncan Gordon Foundation). An indication of how important this topic is for Polar Science is at <<http://www.ipy2012montreal.ca>> (accessed 1 October 2013).

Inuit perspective and knowledge are key to understanding things like the changes in sea ice, where modern-day researchers use tools to measure what the Inuit see and know already. It's the understanding of the changes—the weather, the water, the sun—that are key players in the inter-workings of these different systems that are not as well understood in the outside world. That form of knowledge needs to be incorporated alongside measurements, alongside probing with tools, so that the full extent of knowledge is available to people who want to know it.

Lougheed speaks here with specific reference to climate change, but his statement can be expanded to a fuller understanding of the environment. In this view, local knowledge does not replace Western science but the two supplement each other, providing outlooks and data that are not available to the one without the other. Not only do they enrich one another, but neither alone can provide a complete picture of the physical environment.

### **16.2.3 Linguistics, Science, and Knowledge**

For linguists, linguistics is the scientific study of language, and thus is founded on the core principles of (Western) scientific inquiry: language is seen as an object of study, language data are extracted from context of usage, and linguistic experiments are replicable. In contrast, speaker communities often view language as an integral part of human society that cannot be separated from the speakers themselves. They may interpret the tendency of linguists to objectify language as objectifying the people, or at least to be uncaring about the people themselves. As Berardo and Yamamoto (2007: 112) note, the tradition of linguistic description has its own culture and values, which do not necessarily intersect with those of local communities: 'the linguist does impose a linguistic approach to language description, which has been developed outside the values, attitudes, beliefs, assumptions, and traditions of the local culture.'

One commonly held belief is that knowledge and language are inseparable, that there is a need to protect and document local languages centres in the belief that knowledge will be lost if the languages are lost. In part these assumptions stem from a belief that such knowledge is not translatable, and in part from recognition that the knowledge encoded in local languages is often not retained as communities transition to a dominant culture, because the dominant language does not encode the said knowledge, According to the Biodiversity Indicators Partnership:<sup>4</sup>

There is a fundamental linkage between language and traditional knowledge related to biodiversity. As languages go extinct, there is an irrecoverable loss of unique cultural, historical and ecological knowledge. Local and indigenous communities

<sup>4</sup> See <http://www.bipindicators.net/indicators/traditionalknowledgepractices/linguisticdiversity.2010> (accessed 1 October 2013).



have elaborated complex classification systems for the natural world, reflecting a deep understanding of local flora, fauna, ecological relations and ecosystem dynamics. This traditional ecological knowledge is both expressed and transmitted through the local or indigenous language. When young people no longer learn the language of their ancestors, special knowledge is often lost, as it is not transferred into the dominant language that replaces it . . . Information on status and trends of numbers of speakers of indigenous languages may therefore be used as a proxy for measuring trends in the status of traditional knowledge, innovations and practices.

This suggests that the transfer of local knowledge and language are intimately connected. The Convention on Biological Diversity includes the local language as a component of traditional (local) knowledge. It explicitly recognizes the value of TEK and makes a serious attempt to integrate it into any models for protecting biodiversity. Moreover, the Convention recognizes the intimate connections for people between biological environment, socio-cultural environment, and language. For indigenous peoples, these are all deeply intertwined. This points to two major discrepancies between Western linguists and indigenous groups.

First is the disjuncture between knowledge attained by scientific method and that gained by local knowledge. This gap is most frequently discussed with regard to biological and ecological knowledge. Western science relies on measurements and recorded, quantifiable data; findings should be replicable and are viewed as presenting ‘facts’. Traditional knowledge is experientially based and relies on direct observation, meaning that it is not quantifiable and is not replicable. Davis and Wagner (2003) provide a useful critique of the challenges in identifying local experts. In linguistics, this tension is exemplified in the difference between etymologies attained through the methods of historical reconstruction and folk etymologies. Historical linguistics relies on careful reconstruction through the comparative method; folk etymologies tend to be based on synchronic surface forms without an understanding of the history of these forms. For example, speakers assume that the word ‘housewife’ derives historically from the compound ‘house’ + ‘wife’, but this etymology is incorrect: Old English *hūs-wīf* (literally ‘house wife’) would not have resulted in the Modern English ‘housewife’ but rather ‘hussy’. An oft-repeated false etymology is that the English phrase ‘rule of thumb’ comes from an English law which permitted men to beat their wives with sticks no thicker than their thumbs. In fact, no such law existed (although wife beating was sanctioned by common law).<sup>5</sup> Concrete examples such as these make linguists sceptical about the value of relying on local knowledge of the origins of words.

<sup>5</sup> For a discussion of the possible origin of this widespread false etymology, see Freyd and Johnson (1998). The *Oxford English Dictionary* cites the first attestation of the phrase ‘rule of thumb’ as 1685 in James Durham’s *Heaven upon Earth*, but provides no etymology for the phrase, just for the individual words. For a related discussion of Greenlandic etymology, see section 16.3.

Second, and even more fundamentally, is the methodology of Western linguists, which extracts language from its context of usage, abstracting from spoken forms to create idealized forms and rules. Many of these idealized forms are in fact theoretical constructs (such as abstract phonemes or underlying morphemes) that are never realized on the surface in these abstract forms. In other cases, such extraction from the context can mean that we do not record, or know, how to use certain structures, words, or phrases felicitously in conversation. For example, work by linguists on Arctic languages, such as reference grammars of Kalaallisut (Bjørnum 2003; Fortescue 1984; Sadock 2003) or of Evenki (Bulatova and Grenoble 1999; Konstantinova 1964) provide theoretical discussions of polysynthesis or agglutination, descriptions of cases and tense-aspect systems, and grammatical paradigms, but do not provide any information about how to conduct a conversation in the language. The idea behind such approaches to linguistic description is that, in the ideal, a reference grammar provides all sufficient and necessary information to understand the structure of the language, to generate and to analyse sentences in the language. Yet they have little to say about the necessary components of communicative competence. They describe what is grammatical without describing what is necessarily felicitous in any particular context.

In stark contrast, at least in many of the Arctic communities where we work, language cannot be abstracted from its context of usage. Brower (2008) and Simon (2008), Inuit leaders from Alaska and Canada respectively, make compelling statements about the centrality of language to knowledge. This is part of the overarching claim that language and identity are inherently linked. Although most, if not all, linguists would agree with this, they are hard put to define exactly how they are linked because they are constrained by the requirements of the (Western) scientific method. The ties between language and identity are neither measurable nor testable in the way that syntactic structures are, or the way that the links between syntax and lexicon are. But in the Inuit view, such things cannot be separated from one another in this way. Taken at face value, this represents a fundamental difference between many approaches by Western-trained scientists to local knowledge systems. They try to use local knowledge to inform science. For example, Si (2011) makes the argument for studying ethnobiology and indigenous knowledge of local ecosystems by pointing to the kinds of information that local communities have about different species, including breeding, migration, and feeding habits. Inuit hunters and fishermen can help track changes in fish and sea mammals, not only in terms of changes in migration but changes in body fat and fur that add to our understanding of climate change. Still, this additive approach to knowledge, with one informing the other, differs from the Inuit view in which different kinds of knowledge are inseparable and can only be taken together as a whole. And critically, language is an integral component in that system.

Greenland is unique in the Circumpolar Arctic in terms of language vitality. The number of native speakers of Kalaallisut is growing, and children learn the language as their first language. The Greenlandic people have long recognized language as integral to identity, and have made language policy a key issue during Home Rule (1979–2009). Subsequently, beginning with the institution of the Self Government in June 2009, language policies have been reinforced. As a result, 88 per cent of the population today speaks Kalaallisut. The language enjoys high prestige, and there is pressure from both the Government and the people to strengthen its position in society. But, we argue, it provides a counterexample to common beliefs that knowledge will be preserved if language is preserved. In Greenland, there is a practical approach to knowledge: people want to know what they need to know. This is not to suggest a lack of curiosity but rather the opposite, an expanded sense of inquisitiveness that prioritizes knowledge for its own sake and for utilitarian purposes, regardless of the source.

#### 16.4 Case Study: Reconstructing Plant Knowledge in Greenland

Beginning in the summer of 2010 we began preliminary research on the uses of plants in Greenland, and then conducted fieldwork in two locations in southern Greenland (Qassiarsuk and Nanortalik) in August 2011. Kalaallisut, or West Greenlandic, is the official language of Greenland and is robustly spoken. Children learn the language as a first language and the number of native speakers has shown a steady increase over the last few decades. Although the overall total number of speakers is not large by some standards (an estimated 88 per cent of Greenland's population of 56,749; *Statistics Greenland* 2011), it is large in comparison to other Arctic indigenous languages. As the official language of Greenland, it enjoys higher legal authority than any other Arctic indigenous language, and is the prestige language in Greenland.

We are interested in all aspects of plant usage (medicinal, food, decorative, and utilitarian purposes), preparation, and collection, as well as indigenous taxonomy, and linguistic documentation of all these aspects (including a linguistic analysis of the plant names and their etymologies, and a linguistic documentation of their uses, histories, legends, and so on). Thus we began by researching what is currently known about plant usage in Greenland. Publications, and especially guidebooks, for plant use in Greenland are sparse to non-existent. At most, plants are associated with food and uses can be found in cookbooks. Greenlanders tend to assume that all knowledge of medicinal uses has been lost. Elsewhere in the Arctic there are texts available that describe plant uses. *Walking with Aalasi* (Ziegler et al. 2009) records plant uses according to elder Aalasi Joamie in English and Inuktitut. *Nauriat Niginaqtuat* ('Plants That We Eat') (Jones 1983) is a book in English with Iñupiaq plant names

documenting Inupiat uses. One scientific guide to the plants of Alaska by *Hultén* (1968) contains plant uses and references the peoples to whom they originate. *Viereck* (1987) is an extensive guide to Alaskan plants, their medicinal uses, and constituents. The fact that it was already in its tenth printing speaks to the demand for such guides. Notably, it is entirely in English, except for the Latin names of the plants, and draws on a wide range of sources, including those of native Alaskans and early settlers (understood to be non-native). Even ancient uses of Sami plants have been documented (*Bergman et al.* 2004), drawing on a large body of literature on their uses.

Our own research began with published (Western) scientific accounts, such as *Porsild* (1953) and anthropological and ethnographic accounts (e.g. *Petersen* 2010). Unlike many other indigenous communities, Greenlanders have a field guide to plants, *Nunatta Naasui* ('Greenland's plants', Danish title *Grønlands flora i farver*), by *Foersom et al.* (1997). This is a bilingual guide, in Kalaallisut and Danish. Each plant entry is complete with an illustration, the common name in Danish and Kalaallisut, the Latin scientific name, the location of the plant on a map of Greenland, and a brief entry in Kalaallisut and Danish describing the plants. These entries are in keeping with a Western field guide to flora or fauna, such as an Audubon guide, with purely descriptive information about the plants, and no information about uses. A typical entry is given here in English translation, the entry for a well-known plant, the crowberry:

**Paarnaqutit** 5–25 cm  
**Fjeld revling** *Empetrum nigrum ssp. hermaphroditum*

The plant is most common in the southern coastal heaths, often in wind-exposed areas with little snow cover. It is also found in most other plant communities except the wettest, in the north and inland, most generally in moist soil. Wintergreen dwarf shrub with very small flowers, seen in early spring. These favorite 'crowberries' are stone fruits.

(*Foersom et al.* 1997: 68)

This kind of 'scientific' information is readily available to Greenlanders, but published information (in Kalaallisut or Danish) about how to use plants is found in cookbooks, such as *Olsen* (2001), which provides recipes and some discussion of historical uses, or *Larsen and Oldenburg* (2000), a tri-lingual volume (in Kalaallisut, Danish, and English) that also includes ethnographic and cultural information about food in southern Greenland for the last 1,000 years. These documents lack the scientific information described above.

In Greenland, who are the experts and what are the sources of their knowledge? The inhabitants believe that the knowledge of plants has largely been lost, and they are in the process of reconstructing it from a variety of sources. They are less concerned with the overall source of the knowledge than with the knowledge itself, evident through the resources we were shown during

our research. Jespersen (1985) is an unpublished collection of all kinds of information about plants, using newspaper clips, notes, recipes, drawings, photographs, illustrations and descriptions from *Nunatta Naasui*, information about vitamin and mineral content, and some handwritten notes. It is written in Danish, although the Kalaallisut name is also provided for some plants. Photocopies of this book-length manuscript of approximately 130 pages are circulating in Greenland among people interested in plants. It is one of the key sources. One person recommended to us Anderson et al. (1977), a scholarly book (in the tradition of Western science and ethnography) about Inuit-Yupik plant use in Alaska, and written in English. Another loaned us a copy of Ziegler et al. (2009), *Walking with Aalasi*, a book about Inuktitut plants aimed at plant users. It is written in English and in Inuktitut, using the syllabary, which would not be comprehensible to most Greenlanders because Kalaallisut is written in the Roman alphabet. In other words, people we talked to discussed an overwhelming desire to learn about plants. They were not especially concerned whether the information came from 'traditional' Inuit sources or from Western science. For that reason, they are very supportive of our work and are eager for us to distribute our findings, preferably in the form of a guidebook to plant uses.

For ethnobotanists and linguists alike, people are generally the primary source of information. Our queries about local expertise were often met with the response that Greenlanders do not know about plants but are trying to learn about them. One exception in this regard is Anne Sophie Hardenberg, a self-taught plant expert and author of an award-winning cookbook on Greenlandic fusion cuisine, published in 2008. Hardenberg, who has been identified as Greenland's food ambassador, is a public figure who has done much to promote the use of native plants in Greenland, and is the single most visible advocate for the use of natural, native foods in Greenland. Hardenberg describes herself as self-educated in the use of plants, and has gathered information from wherever she can find it.

Beyond Hardenberg, it is difficult to identify local experts. Most people claimed not to know anything about plants, although a few people admitted to knowing a little. We were constantly directed to southern Greenland, on the assumption that more plants grow in the south and so more people would know about them. Without having conducted extensive interviews in other parts of Greenland, it is difficult to know if this is the case. But what is true is that people know considerably more about plants than they profess. This became apparent in interviews and through casual conversation. For example, one woman who said she knew nothing about plants, then brewed a tea of *qajaasat* (*Rhododendron groenlandicum*, 'Labrador tea') to help soothe a cold. The interest in plant uses is genuine and profound, and many professed a deep love of plants. People were particularly interested in learning of Whitecloud's expertise and were happy to consult with her about plants. (On one occasion she was asked to identify an

invasive grass species that had presumably been accidentally introduced with the sheep feed.)

One point that became eminently clear in our interviews and informal conversations with Greenlanders was that they were very interested in learning about plants. The idea of publishing a multilingual guide to plant uses emerged from these talks; locals were interested in having the resource in Kalaallisut, we were interested in including an English version, and everyone generally agreed that it might be useful to include Danish. To make it maximally accessible, people hoped for both a paper copy and a digital copy to be made available. Many people were eager to contribute to such an endeavour, and even more were enthusiastic about having such a guide. We entered this project focused more on the ethnobotanical and linguistic information for the advancement of science, with an eye towards integrating what we were construing as local knowledge with Western biology. Initially, we foresaw logistical challenges in identifying local experts who could tell us about plants, and intellectual challenges in integrating Western biology, local knowledge, and linguistics. But our views of the project have been reshaped by the Inuit specialists, who in many cases served more as collaborators than consultants. They want a guidebook, and are most happy to contribute to its making. This underscores the point that true collaboration is not only ethical, it can radically change the outcome of research (Mithun 2001). The implications of our work can extend far beyond our intents. In many (or even most) indigenous societies, language use is a form of cultural capital, and can serve to mark a user both as a member of a certain community as well as someone actively involved with traditional culture (Ahlers 2006). In Greenland, it is knowledge that is the cultural capital. Language use is an issue for only a small segment of the population: those who have been raised and educated in Denmark.

Thus it is important to keep in mind that these are not speakers whose language is undergoing shift. They are fluent, and they live in a community of fluent speakers who use Kalaallisut in all aspects of life. Many speakers knew the common (Kalaallisut) names of plants that are frequently found and used, although some speakers referred to plants that they were more accustomed to seeing in a Danish context with their Danish name. Rosemary Kalaallisut *tupaarnaq*, Danish *timian*, is such an example. It is sold in grocery stores in packages with the Danish name, but a wild species grows in part of Greenland. Moreover, Kalaallisut is a highly polysynthetic language and, in our experience, speakers are readily able to parse the names of plants and explain what they mean. For example, there are a number of plants whose name is based on some variety of a colour word, referring to the colour of the flower. These meanings are transparent, as is the meaning for the name for Labrador tea (*Rhododendron groenlandicum*), or *qajaasaq*. The word *qajak* + *-usaq* combines ‘kayak’ with

‘something like’, ‘imitation/false’, or ‘sort of’. Thus *qajaasaq* means ‘model kayak’, here in reference to the shape of the plant’s leaf.

But what of so-called traditional knowledge? Of the people we interviewed, only three, including a married couple, spoke of the way their parents used plants and what they learned as children. One woman recalled travelling to a place where the peat was deep, and of cutting blocks that were used to heat their home. She also recalled that her ancestors used a certain plant, but did not know how. Within her community she was seen as the expert because she had attended a class taught by Hardenberg, not because she recalled these traditional uses. This was despite the fact that her community included the granddaughter of Jespersen, who had Jespersen’s personal field guide (*Nunaata Naasui*) with his hand-written notes in the margin, and a copy of her grandmother’s unpublished manuscript. The couple were the only people to give any spiritual uses for plants (such as burning *Juniperis communis* to chase away bad spirits) or what might be classically considered traditional uses of plants, such as puffball mushrooms (*Lycoperdon perlatum*, Agaricaceae) as a wound dressing, or the use of *Eriophorum sp.* (Cyperaceae) as an abortive. However, they produced several books in Danish on plant uses, and referred to these when presented with a plant with which they were not familiar. There are few accounts of older, traditional uses of plants. Kristine Raahauge of Nanortalip Katersugaasivia (the Nanortalik Museum) interviewed elders about plant usage and has graciously shared transcripts of those interviews with us.<sup>6</sup> Some of these interviews included both plants and usages we did not find elsewhere, such as the use of *Euphrasia frigida* or ‘eye bright’. All the speakers we interviewed neither recognized the plant nor knew of any of its uses. However, one of the elders who was interviewed gave instructions for how to boil it with water, strain it, and use it to soothe inflamed eyes. As in English, the Kalaallisut name is suggestive of its use: *isiginnaq* (*isi* means ‘eye’).

What is more striking is that all speakers interviewed were fluent Kalaallisut speakers. This is their preferred, everyday language. Where many cultures lose the language but keep the subsistence knowledge, Greenlanders appear to have done the opposite. Or at least so they claim. Some of the most striking differences between our own beliefs and theirs have not to do with their levels of knowledge but rather what counts as knowledge. For many, knowledge was seen as legitimate if formally learned (as in a class such as Hardenberg’s), or from published sources, especially books. This strikes us as a very Western ideology of knowledge, both of what constitutes knowledge and of how it is

<sup>6</sup> We first received copies of some interviews from Natuk Lund Olsen of Nunatta Katersugaasivia Allagaateqarfialu (the Greenland National Museum and Archives) in Nuuk; Natuk also introduced us to Kristine Raahauge. We are very grateful to both for their generosity in sharing materials with us and their collaborations in our efforts to document plant knowledge.

acquired. In oral cultures, knowledge is transmitted orally and experientially, in contrast to written cultures, where knowledge is conveyed in formal settings and where primacy is placed on published (and refereed) authorities. Our goal to publish a guidebook to plant uses emerged as a result of multiple conversations with Greenlanders who encouraged us to do this, and who were eager to contribute their knowledge. (Not only did they want the information to be available, but at least some consultants saw the need to have their own knowledge validated by such a publication.) We see this as an evolving collaborative database with multiple users; this vision has been collaboratively shaped, and we hope its contents and format are as well.

## 16.5 Conclusion

The differences in ideologies go even deeper than the differences in goals outlined in section 16.1. Rather, they extend to the very heart of the enterprise of research and knowledge. As we, the external, Western-trained scientists, struggle to learn and understand local knowledge systems, beliefs, and ideologies, we need to be careful not to impose our own conceptions of scientific inquiry on communities. That includes not imposing our own conceptions of local knowledge and beliefs. Our work in Greenland has constantly required us to assess and reassess the ways in which we frame our inquiries and the results that we expect. Our collaborators and consultants want more than a recapitulation of their collective knowledge; they want access to all different kinds of knowledge about plants, regardless of its source. In part because we have been trained in a different context, in native North America, we expected local knowledge to include aspects of plants, such as sacred and spiritual uses, that we found it difficult to find. Surprisingly, what we might consider to be ‘traditional’ knowledge is not necessarily highly valued, in part because such traditional knowledge is associated with an antiquated lifestyle of the past, when Greenlanders used seal oil lamps and travelled in kayaks. The fact that sphagnum moss (*issuatsiaat*) can be used for lamp wicks (information that we gathered from Raahauge’s interviews) is of historical interest, but not useful in the modern world. Their views challenged our own preconceived notions of what would ‘count’ as local knowledge. By and large our consultants were less interested in traditional (i.e. historical) uses of plants than they were in modern uses. They were more interested in the ways that plants could be put to use in a modern Greenland by modern Inuit. For some this means moving away from imported foodstuffs and medicines, which can certainly be construed as a return to traditional lifestyles, but is more part of a larger move towards self-determination and independence. Not only did this force a reconsideration of our own beliefs on entering the project, but their interest in all aspects of plant usage made our



own knowledge valuable to them as well. Unlike previous instances of conflicting goals between documenting versus teaching language, our work in Greenland provided a win-win situation where the community desired access to the documented information as a means of preserving it. We can aid in this preservation by not only by documenting, but by sharing recorded knowledge with other consultants and ultimately with the people of the Arctic once our guide is made available. This shows that the differences in ideologies and beliefs are not insurmountable, but rather can provide valuable points of entry into new ways of thinking and seeing the world, and new ways of packaging knowledge.

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