

# ON THE METHODOLOGY OF SEMANTIC FIELDWORK<sup>1</sup>

LISA MATTHEWSON

UNIVERSITY OF BRITISH COLUMBIA

This paper presents and motivates a methodology for conducting semantic fieldwork on languages of the Americas. I first argue that one cannot gather adequate information about meaning from spontaneous discourse alone. Thus, direct elicitation (including asking consultants for judgments) is an indispensable methodological tool. I then present more detailed methodological suggestions. I offer techniques for eliciting translations and discuss how one should interpret the results of a translation task. I discuss which types of judgment are legitimate, how to obtain judgments, how to interpret the results, and how discourse contexts should be presented. I make the (somewhat controversial) claim that consultants are unlikely to be influenced by the use of a meta-language (such as English) and that a meta-language is often the best option when presenting discourse contexts.

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**1. Introduction.** The earliest volumes of *IJAL* contain many papers on the subject of fieldwork methodology.<sup>2</sup> During the past half-century, however, contributions of this type have not been frequent, though it would be only partially correct to conclude that methodological issues are no longer a matter for debate. There is undeniably still some tension in the Amerindianist world between advocates of text-based fieldwork and advocates of “direct elicitation.” Moreover, some subfields of linguistics have only recently begun to pay attention to languages of the Americas. While theorists in these areas are aware of the need to test their proposals against a range of languages, it is not always trivial to see how this testing can be done. And even seasoned fieldworkers may not have the specialized knowledge to obtain useful data in every area of the grammar. I suggest, therefore, that the time is right for certain methodological discussions to take place.

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<sup>2</sup> See, for example, Nida (1947), Casagrande (1954), Haugen (1954), Hayes (1954), Newman (1954), Twaddell (1954), Voegelin and Robinett (1954), Wells (1954), Aitken (1955), and Yegerlehner (1955). See also Boas’s (1917) and Voegelin’s (1944) editorials; Swadesh (1955) is a methodological article of a slightly different type.

In this paper I present a set of methodological principles for conducting fieldwork in semantics. The theoretical framework assumed is that of truth-conditional semantics. However, many of the suggestions are relevant for any fieldwork that involves establishing facts about meanings—including such deceptively “simple” tasks as finding accurate glosses for inflectional morphemes. I assume that readers are familiar with general fieldwork methodology and concentrate only on issues particular to semantics.<sup>3</sup> I also assume that the semantic fieldworker already has a good working knowledge of the phonology, morphology, and syntax of the language under investigation. This prior knowledge is critical, since semantic fieldwork of the kind discussed here requires the researcher to recognize and construct grammatical sentences in the object language. I do assume that the researcher does not speak the object language natively, since this situation presents the maximum challenge. However, many of the techniques presented here can also be utilized by native speakers conducting fieldwork on their own language.

The first part of this paper argues for a general methodological approach to semantic fieldwork on languages of the Americas. The second part presents concrete methodological principles, illustrated with examples from my own research. First, however, I outline the special challenges posed by semantic fieldwork and explain some basic theoretical assumptions.

**1.1. The challenge of semantic fieldwork.** Until recently, work in formal semantics has focused almost exclusively on linguistic problems in Western European languages. Over the past 15 years, there has been an emergence of semantic research on a broader range of languages.<sup>4</sup> While the value of testing semantic theories on understudied languages is universally recognized, the fieldwork involved presents some special challenges when compared to fieldwork in other components of the grammar.

Semantic fieldwork aims to establish facts about the meaning of utterances, and parts of utterances, in the language under investigation. These semantic facts are often subtle, are usually context-dependent, and are almost never accessible by direct native-speaker intuitions (i.e., one cannot

<sup>3</sup> Apart from the materials listed in n. 2, works on fieldwork methodology include Harris and Voegelin (1953), Lounsbury (1953), Samarin (1967), Labov (1972), Bouquiaux and Thomas (1976), Schütze (1996), Vaux and Cooper (1999), and papers in Newman and Ratliff (2001). As will become clear below, I do not agree with many of the earlier materials on fieldwork methodology. The reader is also referred to Crain and Thornton (1998), which contains excellent suggestions about the methodology of language-acquisition research, many of which are transferable to fieldwork with adults.

<sup>4</sup> See, for example, work on Inuktitut/West Greenlandic by Bittner (1987; 1995), van Geenhoven (1996; 2001), Wharram (2003), and others.

simply ask questions of the form “What does X mean?”). Imagine, for example, the task of a researcher interested in the semantic contribution of the English definite article *the*. One cannot ask a native speaker, “What does *the* mean?” I argue below that the required information also cannot be extracted from textual materials alone. Instead, one must construct a range of example sentences, paired with particular discourse contexts, and ask the speaker whether in the discourse contexts provided, the sentences are (a) felicitous and (b) true. From this type of primary data involving judgments about the felicity and truth of whole utterances, the semanticist reasons backward to establish the precise contribution of *the*.

The challenges of semantic data collection are most acute with phenomena that rely on prior knowledge on the part of the hearer of the utterance (i.e., any phenomena involving presupposition). For example, it is commonly believed that clefts in English (sentences of the form *It is X who Y*) introduce presuppositions. The sentence *It is Mary who wants fish* can only be felicitously uttered in a context in which both the speaker and the hearer already believe that somebody (out of a contextually determined group of relevant people) wants fish. Now suppose one is working on an Amerindian language that has a cleft construction, and one wants to find out whether the same type of presupposition obtains in this language. We cannot obtain the information from texts, since negative evidence (evidence about when one CANNOT use a cleft) is crucially required. We could try asking the native-speaker consultant, “If I say [translation of *It is Mary who wants fish*], does this mean that we must already know that somebody wants fish?” However, this would not be a useful way to proceed. Apart from being a leading question, which might prejudice the answer received, it asks the speaker to construct a generalization and, in effect, engage in conscious analysis of his/her own language: naïve speakers (of any language) are not qualified to do this, since the relevant rules governing language use are not consciously accessible.

One methodological option currently used by many researchers is to explain a range of imaginary discourse contexts to the consultant. This can work well but involves some nontrivial problems. One main question is which language should be used to explain the relevant context. Below, I claim, somewhat controversially, that it is often better to use a meta-language (e.g., English) rather than the object language when describing discourse contexts.

That it is difficult to obtain accurate semantic information unless one uses particular methodologies is reflected in the fact that even the very best grammars of Amerindian languages usually contain relatively little semantic information; most grammars are devoted to phonology, morphology, and

to a lesser extent syntax. The same is true of pedagogical materials designed for learners of Amerindian languages. The techniques presented below should help researchers to establish more precisely the meanings of problematic elements such as aspectual morphemes, determiners, evidential particles, etc.

**1.2. Basic theoretical assumptions.** The general semantic framework assumed in this paper is that of truth-conditional semantics. However, no technicalities of analysis or description are relevant and many of the principles will be useful for any fieldworker who needs to elicit data about meaning.<sup>5</sup>

Six technical terms are used in the paper. The first is TRUTH CONDITIONS. Truth conditions are assumed to constitute the core meaning of a sentence.<sup>6</sup> The idea is that when a speaker understands a sentence, s/he knows the conditions under which that sentence would be true. To understand a sentence, one does not have to know WHETHER it is true; rather, one knows what the world WOULD HAVE TO LOOK LIKE for it to be true. For example:

(1) *Cleopatra got up before dawn on her twentieth birthday.*

Perhaps no speaker of English knows whether (1) is true; however, every native speaker of English knows what the world would have to be like for (1) to be true. If we could, by means of some newly invented technology, witness Cleopatra's actions on her twentieth birthday, we would be able to judge whether (1) is true or false. This knowledge of the conditions under which (1) is true is the core of our knowledge about its meaning.<sup>7</sup>

There are aspects of meaning that are not covered by truth conditions. For example, take the clefted sentence in (2a). Speakers of English know not only the conditions under which it is true but also the conditions under which it is appropriately uttered: (2a) sounds odd unless the discourse context makes it clear that somebody wants fish. In this respect, (2a) contrasts with its plain counterpart (2b).

(2a) *It is Mary who wants fish.*

(2b) *Mary wants fish.*

Since (2a) and (2b) are acceptable in a different range of discourse situations, we say that (2a) and (2b) have different FELICITY CONDITIONS. A

<sup>5</sup> Insofar as other theoretical frameworks require different methodologies of data collection from the ones offered in this paper, the tasks of outlining those different methodologies must be left to experts in those theories.

<sup>6</sup> This is a simplifying assumption, but it works well for a large range of sentence types.

<sup>7</sup> Some native speakers of English might not know who Cleopatra is. Such speakers could not be said to understand (1) fully.

native speaker's implicit semantic knowledge includes not only knowledge about truth conditions but also knowledge about felicity conditions.<sup>8</sup>

ENTAILMENT and IMPLICATURE also must be explained. Sentence A entails a sentence B if and only if there is no situation in which A is true and B is false. A simple example is given in (3): (3a) entails (3b); (3a) cannot be true without (3b) also being true; consequently, (3c) is a contradiction.

(3a) *Mary is a graduate student.*

(3b) *Mary is a student.*

(3c) *Mary is a graduate student, but Mary is not a student.*

The notion of entailment contrasts with that of (conversational) IMPLICATURE (Grice 1975). An implicature is an aspect of meaning which is not part of the truth conditions of a sentence but which is inferred by hearers in certain contexts. For example, (4a) implicates (4b) in the context given.

(4) Q: *How many children does Baldric have?*

(4a) *He has three.*

(4b) *He has exactly three.*

Unlike entailments, implicatures are DEFEASIBLE (cancelable) without contradiction. For example:

(5) Context: People with three or more children are to receive a special new tax break.

A: Oh, we should tell all our friends who have three children about this new tax break. What about Baldric, does he qualify?

B: Sure, Baldric has three children. In fact, he has four.

The last two terms are AMBIGUITY and VAGUENESS. A sentence is ambiguous if it has two (or more) readings which differ in their truth conditions. A sentence is vague if some aspect of its meaning is not precisely specified. The sentence in (6) is vague:

(6) *Jerry is tall.*

(6) does not specify exactly what height Jerry has to be. Thus, it can be judged true in a range of situations—if Jerry is 6 foot 4, if he is 6 foot 5, and so on—but these are not separate readings. Rather, the truth conditions for (6) are vague; Jerry's exact height is not part of the truth conditions and the hearer of (6) knows that he is not expected to deduce Jerry's exact height.

<sup>8</sup> There are many other aspects of meaning which will not be dealt with here, including connotation, social appropriateness, and other sociolinguistic matters. Although obviously valid and interesting objects of study, these are beyond the scope of the current paper.

Now consider a case of ambiguity:

(7) *Harry wants to marry an Australian dentist.*

This sentence has two readings, with different truth conditions, paraphrased and facilitated by different continuations in (8) and (9).

(8a) *Harry wants there to be an Australian dentist who he marries.*

(8b) *Harry wants to marry an Australian dentist. So he's been looking online to try to find one.*

(9a) *There is an Australian dentist who Harry wants to marry.*

(9b) *Harry wants to marry an Australian dentist. Her name is Sheila.*

The different truth conditions of the two readings of (7) mean that a hearer could misunderstand which reading is intended, as shown by the hypothetical discourse in (10). Compare this to the impossibility of similar misunderstandings with vague sentences, as in (11).

(10) A: Harry wants to marry an Australian dentist.

B: Oh really? What's her name?

A: No, he doesn't know who, he just likes the thought of emigrating to Australia and getting free dental care.

(11) A: Jerry is tall.

B: !Oh good. I need someone who's 6 foot 5 to change that lightbulb.

These, then, are the theoretical tools to be used in what follows.

**2. A direct elicitation method.** In his introductory editorial to the first issue of *IJAL*, Boas (1917:1) writes that "While until about 1880 investigators confined themselves to the collection of vocabularies and brief grammatical notes, it has become more and more evident that large masses of texts are needed in order to elucidate the structure of the languages." Boas observes that a range of different textual styles are required, in addition to traditional stories. Twenty-seven years later, the new editor, C. F. Voegelin, suggests that "the most revealing texts to use as a basis for structural studies are those which are recorded while two or more native speakers are engaged in conversation" (1944:109).

In early issues of *IJAL*, we also find descriptions of fieldwork techniques that do not involve either text-gathering or recording of naturally occurring speech. The methods advocated are usually designed to avoid the use of a

meta-language such as English.<sup>9</sup> Yegerlehner (1955:286), for example, describes “presenting series of non-verbal stimuli to the informant for comment,” and Aitken (1955:83) writes that “An informant painted for me a number of dances and games of his own choice and dictated to me his own comments on his paintings. There was thus no temptation to translate from English, or to alter the order of words.” (See also Hayes 1954 for discussion of elicitation using pictures.)

By the 1990s, many contributors to *IJAL* clearly assume that it is legitimate to ask consultants explicit questions about their linguistic knowledge. The techniques being used in the modern era include asking for translations of particular sentences and asking for grammaticality judgments. This latter innovation means that, for the first time, systematic negative evidence can be obtained. We can now establish not only what is an attested grammatical form but what is an ungrammatical form.

However, even today, the claim that direct elicitation is legitimate is still controversial. See, for example, Schütze’s (1996) detailed discussion of objections to the use of grammaticality judgments.<sup>10</sup> Among very recent objections to direct elicitation, we find, for example, Dimmendaal (2001:69), who claims that “The referential meaning of nouns (in terms of definiteness and specificity) is an intricate topic that is extremely hard to investigate on the basis of elicitation. In the end it is texts or connected discourse in general in the language under investigation which provide the most important clues for analysis of these grammatical domains.” Mithun (2001) cautiously accepts the use of elicitation (by which she means asking for translations) but warns against the use of grammaticality judgments. She claims that the judgment methodology “can provide quick answers to specific queries, but, particularly in the documentation of endangered languages, it should be used with caution . . . particularly at higher levels of structure, intuitions are not always as accessible or as easily articulated. Sentences invented by a non-speaker may be deemed incorrect for a wide variety of reasons, from mispronunciation to inappropriate lexical choice to the pragmatic incompatibility of co-occurring syntactic structures . . . the introduction of invented data into the literature can distort the record of the language” (2001:48).

While it is true that sentences are rejected by consultants for a variety of reasons, this merely means that the fieldworker needs to determine which of those reasons obtains, every time s/he receives a negative judgment. I argue

<sup>9</sup> The term “meta-language” is not used here in the sense of a technical or formal language but only to differentiate the language under investigation (the object language) from another language used for discussion, translation, and analysis.

<sup>10</sup> Schütze himself argues that the collection of grammaticality judgments is legitimate but points out problems with certain methods of eliciting and interpreting those judgments.

here that in the realm of semantics, asking for judgments is an indispensable methodological tool.

**2.1. Why pure text-gathering is insufficient.**<sup>11</sup> Gathering texts is an extremely valuable part of a fieldworker's repertoire. As pointed out by Mithun (2001) and many others, it is only by collecting spontaneous speech that the researcher can be exposed to phenomena that are outside the boundaries of his/her prior knowledge or imagination. Text-gathering has been a major resource behind many of the best grammars of Amerindian languages. A body of textual material enables one to study such issues as prototypical sentence structures, topic tracking through discourse, etc. Indeed, I have gathered texts and made use of them for both theoretical and pedagogical purposes (see Matthewson [in press *b*]).

However, a problem with the EXCLUSIVE use of this method is the poverty (in terms of quantity) of the data. A texts-only approach relies on the assumption that we are capable of extracting all relevant information about a language merely from a set of texts, even though the amount of data we can gather by this method is a fraction of the amount a child hears while acquiring a language. Children are continuously surrounded by primary linguistic data for five years before their grammars are essentially complete. They are thus exposed to vastly more input than is contained in any corpus collected for an Amerindian language.<sup>12</sup>

The poverty (in terms of size) of the positive evidence provided by texts is a major reason fieldworkers seek to obtain NEGATIVE evidence by use of direct elicitation techniques. An example, provided by Clare Cook (personal communication), illustrates the necessity of negative evidence. The example concerns the Menominee (Algonquian) morpheme *ke:s*, which is glossed by Bloomfield as "in the past, finished, completely" (1975:90) or as "completed, past" (1962:216).<sup>13</sup> One test that would provide some information about the meaning of *ke:s* would be whether it can co-occur with a progressive marker. (By hypothesis, a past or a perfect morpheme should be able to co-occur with a progressive, but a perfective morpheme should not.) However, even if one searched every Menominee text and found no examples of such co-occurrences, one could not be sure that co-occurrence is disallowed, unless one asked a native-speaker consultant to give a judgment.

<sup>11</sup> Thanks to an anonymous reviewer for helping me clarify the reasoning in this subsection.

<sup>12</sup> Lounsbury (1953:406) claims that "A complete grammatical analysis need not be carried out while in the field. In fact, if a large enough collection of texts is available, this can be done without access to a native informant." The rub is in the definition of "large enough."

<sup>13</sup> This morpheme has cognates in various other Algonquian languages. Goddard translates the Fox morpheme as "have already, have finished" (1988:70) and as "finish" (1990:478), while Dahlstrom (2000:69) calls it a perfective. Jancewicz and MacKenzie (1998) call the Naskapi version a past tense marker and the Moose Cree equivalent a perfect and a perfective.

A further drawback of relying solely on text-gathering is that the translations provided with texts do not provide sufficient information for semantic analysis. Sentences containing the Menominee *ke:s*, for example, are sometimes translated in the past, sometimes in the pluperfect; at other times there is a past or pluperfect translation without *ke:s* showing up at all. Even if *ke:s* were translated uniformly into English, this still would not tell us what *ke:s* meant. As discussed in 3.3 below, any difference between the systems of the source language and the translation language can serve to obscure the true meaning of the source language sentences.

Another example of the difficulty of drawing precise conclusions about meaning from textual materials, even when translations are provided, comes from Jeffrey Muehlbauer (p.c.), who attempted to investigate the meaning of a certain possessor morpheme in Menominee. This morpheme attaches only to inalienables and is used only when the inalienable is not possessed. (12*b*) contains the marker in question:

(12*a*) *o-se:t*  
 3-foot  
 ‘his foot’

(12*b*) *me-se:t*  
 ME-foot  
 ‘someone’s foot/a foot’

Muehlbauer’s analysis of this morpheme predicts that while (13*a*) should only be able to mean that he makes an unpossessed pack (a pack for someone else, a pack to lay on the ground, etc.), (13*b*) should only be able to mean that the man carrying the pack owns that pack. The glosses given are Bloomfield’s translations.

(13*a*) *me:wanae:hkae:w*  
 [*me-e:wanae:hkae*]-*w*  
 [ME-pack.inalienable-AgrS]-3  
 ‘He makes a pack’. (Bloomfield 1962:277)

(13*b*) *pis-kaeqc-we:wasiw*  
*pes-kae:qc-[o-e:was-i]-w*  
 come.preverb-big.preverb-[3-pack.inalienable-AgrS]-3  
 ‘He brings a pack’. (Bloomfield 1928)

One sees here that the translations are insufficient to determine whether the analysis is right. Even (13*b*), which contains an ordinary third-person possessive marker, is translated in English without a possessive. This English

translation neither forces the bringer of the pack to own it nor precludes him from owning it. Bloomfield translates similar forms elsewhere variously as ‘He has a pack’, ‘He has his pack’, or sometimes with something entirely different. This problem could be solved relatively easily through consultation with a native speaker. One could construct minimal pairs containing *me-* and *o-*, set up various scenarios concerning who owns what, and ask for judgments. (See below for further details.)

A final example concerns St’át’imcets (a.k.a. Lillooet, a Northern Interior Salish language) and is provided by Henry Davis (p.c.). In van Eijk’s excellent dictionary of the language (1987), the form *š-lə<sup>w</sup>úm* is translated as ‘hidden’. However, it is not clear from this whether the form has a nominal meaning (i.e., ‘something hidden’), or a stative verb meaning, or both. It turns out that the former is the only correct analysis. This example illustrates how difficult it is to extract precise information about semantics from even a well-researched dictionary (let alone from a text translated freely into colloquial English).<sup>14</sup>

**2.2. Why we need a meta-language.** Now consider an “elicitation-without-meta-language” approach. At least one early advocate of this approach, Yegerlehner (1955), attempted to elicit quite sophisticated semantic information. For example, Yegerlehner describes an experiment designed to test contrastive focus:<sup>15</sup> he showed his consultant two pairs of pictures and asked for a description of each picture in the object language. The English versions of the desired sentences are given in (14) and (15) (from Yegerlehner 1955:287); note the differing focal structures, marked by focal stress in English.

(14a) *The man in the green shirt is filling a pípe.*

(14b) *The man in the brown shirt is eating wátermelon.*

(15a) *The man in the green shirt is filling a pípe.*

(15b) *The man in the brown shirt is smóking a pípe.*

Yegerlehner does not report on the results of this experiment, but one can easily imagine it being a successful way to discover how contrastive focus

<sup>14</sup> The vexing issue of translations suggests that pure text-gathering is even more problematic for semantic research than for syntactic research. If a syntactician adopts a texts-only methodology, then his/her corpus will be impoverished in terms of size but at least every text will contain primary data in the form of (presumably) grammatical structures. With semantics, however, the problem is more acute, since the truth-conditional meaning is only explicitly represented in the form of a translation. I argue in 3.3 that translations are only a first clue to truth-conditional meaning.

<sup>15</sup> Yegerlehner does not use this terminology.

is marked in the object language. The researcher knows the precise context in which the sentences were uttered and has been able to manipulate that context to extract information about a particular grammatical phenomenon.

The elicitation-without-meta-language technique is thus extremely valuable; however, it is subject to two drawbacks. First is logistics; it is time-consuming, difficult, and sometimes impossible to construct nonverbal representations of the sentences one wishes to elicit.<sup>16</sup> The second problem is incompleteness. One cannot obtain ALL the required information by means of this method alone. The information one gets is simply that a particular utterance U matches a particular picture P. If there is more than one way to describe P, often only the preferred form is elicited. Moreover, it is difficult to learn by this method alone whether utterance U is ambiguous (having two quite different meanings). Thus, while the use of pictures is a valuable tool, it is even more useful if one supplements it with explicit questions designed to elicit judgments.

**2.3. Two types of elicitation request.** The solution to the inadequacies of the first two methodologies as sole fieldwork tools is to supplement them with direct elicitation and to make use of a meta-language (a language known by both linguist and consultant that is not the object language).<sup>17</sup> I often assume in what follows that this meta-language is English (with apologies to those Amerindianists whose meta-language is Spanish, Portuguese, French, etc.).

Note that elicitation in semantic fieldwork does not involve direct inquiry about meaning: some of the main semantic information we want to obtain is information about truth conditions. However, the fieldworker cannot obtain direct access to truth conditions. To see this, imagine trying to explain to a linguist the conditions under which the sentence in (1), repeated here, is true.

(1) *Cleopatra got up before dawn on her twentieth birthday.*

People faced such a task usually paraphrase some of the lexical items but reuse function words like *before* and *on*. Thus, unless the fieldworker already knows the meanings of these function words, the paraphrase will not help much to explicate the truth conditions.

Felicity conditions are likewise not obtainable by direct inquiry. Try, for example, asking an undergraduate linguistics class to explain the felicity

<sup>16</sup> Computational tools can likely alleviate this problem somewhat, allowing us to extend and increase the efficiency of this methodology. See Burton (2003) for discussion of a pilot project to develop such computational tools.

<sup>17</sup> See Chelliah (2001) for good examples of how textual materials can be used as a starting-point for direct elicitation techniques.

conditions on *the*. In my experience, the most common response to this question is that “you use *the* when you are talking about something specific.” This, like most native-speaker generalizations about semantics, contains a kernel of truth but is not explicit enough to have predictive power. What does “specific” mean? A statement of this type may be useful as a first clue, but it does not tell us exactly when *the* can and cannot be used.

For these reasons, the fieldworker must obtain indirect clues to truth conditions and to felicity conditions. These indirect clues come from two main types of elicitation request: asking for TRANSLATIONS and asking for JUDGMENTS. As hinted at above, the latter is more controversial than the former. For example, Harris and Voegelin (1953:59) write that “The good interrogator restricts himself to asking questions—he does not make up novel utterances in the language of his informant just to see whether the informant will accept what he has composed.” (See also Mithun 2001 and many references cited in Schütze 1996.)

When dealing with semantic questions, there are two types of judgments: judgments about truth values and judgments about felicity, in each case relative to some particular contexts (necessarily, a subset of the infinity of possible contexts). I argue below that these are the only legitimate types of semantic judgment, that despite what has been claimed from time to time, there is no such thing as an “ambiguity judgment.”

In **3** and **4**, I discuss translations and judgments respectively. Section **5** illustrates how a range of techniques can be used in tandem to detect implicature.

**3. Translations.** This section discusses when to ask for translations, how to elicit translations, and how far to trust the results. I argue that (just as with translations of texts) translations gathered during elicitation sessions should be regarded as a clue rather than a result. I then address two issues that arise in a large proportion of translation tasks, namely, how to deal with ambiguous and vague sentences and how to situate sentences in discourse contexts.

**3.1. When to use translations.** Asking for translations is usually a relatively minor part of a semantic fieldwork session. For example, in an elicitation session chosen at random from my own files, the consultant was asked to give translations twice, asked for judgments 33 times, and asked to answer a question in her own language four times. Nevertheless, there are quite a few situations where translations will be used. (16)–(20) provide instances where translations are helpful, using examples from fieldwork on St’át’imcets. (F stands for fieldworker and C for consultant.)

- (16) When one simply does not know how to say something in the object language.

F: How would you say 'Philomena finally read the book'?

C: *paq<sup>w</sup>-alíkšt-min-aš* *ʔayl š-Philomena ta púk<sup>w</sup>-a*<sup>18</sup>  
 look-leaf-RED-3ERG then NOM-Philomena DET book-DET

- (17) When one knows that an English sentence can be translated in two or more ways and wants to know what the most natural, or preferred, way is.

Example: When investigating whether the English perfect is prototypically expressed using the auxiliary (*p*)*lan* 'already'.

F: How would you say 'Have you been to Seattle'?

C: *lán-łkax<sup>w</sup>* *ha wa?* *čix<sup>w</sup>* *ʔák<sup>w</sup>u?* *Seattle-a*  
 already-2SG.SUBJ YNQ IMPF get.there DEIC Seattle-DET

(This would be followed up with a judgment question about the appropriateness of a version without (*p*)*lan*. Note also that before we can conclude that the perfect is prototypically expressed using (*p*)*lan*, many more examples would need to be tested.)

- (18) When one wants to use a sentence to set up a discourse context, and the form of that sentence is not what is being investigated, and one wants to know the way the speaker would naturally say it.<sup>19</sup>

Example: When one is investigating clefts, and one wishes to construct a question–answer pair and needs to establish the most natural way to ask the question.

F: How would you say 'Did you meet Bill in town'?

C: *pžán-łkax<sup>w</sup>* *ha k* *Bill lák<sup>w</sup>u?* *táwn-a*  
 meet(DIR)-2SG.SUBJ YNQ DET Bill DEIC town-DET

<sup>18</sup> Abbreviations used in morpheme glosses are as follows: ACT = active intransitivizer, ADHORT = adhortative, ANTI = antithetical, AUT = autonomous intransitivizer, CAU = causative transitivizer, CONJ = conjunctive subject clitic, DEIC = deictic, DET = determiner, DIR = directive transitivizer, EPEN = epenthetic element, ERG = ergative subject suffix, IMPF = imperfective, IND = indirective applicative, MOD = modal, NOM = nominalizer, PL = plural, POSS = possessive, RED = redirective applicative, SG = singular, STA = stative, SUBJ = indicative subject clitic, YNQ = yes–no question.

<sup>19</sup> This technique bypasses some of Mithun's (2001) worries about the use of unnatural, invented sentences for judgment tasks. The fieldworker attempts, insofar as possible, to establish the grammaticality and appropriateness of sentences by obtaining them as volunteered forms, before asking for semantic judgments about them.

- (19) When one is investigating a particular aspect of a sentence and wants to get the sentence first and then ask for a judgment and/or change it minimally and ask for a judgment.

Example: When investigating whether determiners can be singular and plural in DPs containing bound variables.

F: How would you say 'I took a toy from each child'?

C: *kwán-xit-łkan*      ?i      *šk<sup>w</sup>əm<sup>k<sup>w</sup></sup>úk<sup>w</sup>mít-a*      ?i  
take-IND-1SG.SUBJ    DET.PL    children-DET      **DET.PL**

*šayši?ten-í-ha*  
toy-3PL.POSS-DET

[USES PLURAL DETERMINER]

F: Would this sound ok?

*kwán-xit-łkan*      ?i      *šk<sup>w</sup>əm<sup>k<sup>w</sup></sup>úk<sup>w</sup>mít-a*      **tí**  
take-IND-1SG.SUBJ    DET.PL    children-DET      **DET**

*šayši?ten-í-ha*  
toy-3PL.POSS-DET

[USES SINGULAR DETERMINER]

C: Sounds like they only had one toy.

- (20) When a translation can provide a helpful clue to the aspect of meaning one is investigating. This often arises when the object-language sentence is potentially ambiguous or vague and the situation is set up so the meta-language translation can disambiguate.

Example: When investigating whether stative predicates without any overt temporal marking must be interpreted in the present or whether they can have a past time reference. If the subject of the sentence is somebody who is dead, and the consultant still gives a present-tense translation, this suggests that the present-tense effect of the stative predicate is strong.

F: What does this mean?

*záx-álq<sup>w</sup>əm*      k      *Einstein*  
long-appear    DET    Einstein

C: Einstein is tall.

Another example: When investigating whether the item *múta?* 'again' in combination with various (in)transitivizers and determiners means that one does an action again to the same person or to a different person.

F: What does this mean?

čəw'-xál-łkan      múta?    ti      šqəqýəx<sup>w</sup>-a  
kick-ACT-1SG.SUBJ    again    DET    boy-DET

[USES INTRANSITIVE]

C: I kicked another boy.

F: Would that also be okay if you kicked the same boy again?

C: No;

čəw'-ən-łkán      łu?    múta?    ti      šqəqýəx<sup>w</sup>-a  
kick-DIR-1SG.SUBJ    just    again    DET    boy-DET

[USES TRANSITIVE]

In this last example, the translation of the fieldworker's first sentence is helpful insofar as it indicates that the object-language sentence allows the 'different boy' reading. The fieldworker would then follow up with a judgment question, to establish whether the sentence also allows the 'same boy' reading. As is discussed in more detail below, the apparent result here—that the sentence does not allow the 'same boy' reading—would need to be confirmed on a separate occasion. The way this mini-elicitation has played out might have prejudiced the consultant against noticing or accepting the 'same boy' reading.

**3.2. Eliciting translations.** When asking a consultant to translate, either from his/her own language into the meta-language or vice versa, the usual rule is to ask for translations of COMPLETE SENTENCES ONLY. Setting aside the meanings of isolated open-class lexical items (e.g., 'jump', 'table'), any piece of language smaller than a sentence will usually have a meaning that is not explicitly definable and cannot be translated by a native speaker.<sup>20</sup>

The example of the English definite article *the* is relevant here. Just as one cannot ask a native speaker of English to define what *the* means, one also cannot ask him/her to translate it into another language. Rather, one must ask for translations of sentences containing *the*.<sup>21</sup> Other examples are the English universal quantifiers *every*, *each*, and *all*. These items have subtly different meanings that naïve speakers are never able to articulate

<sup>20</sup> Nida (1947:140) discusses the usefulness of asking for complete sentences; he notes, for example, that "It is almost impossible to get an informant to respond with anything like consistency to a request for a so-called infinitive form." On the other hand, Harris and Voegelin (1953:70–71) advocate the exact opposite of the technique argued for here. They recommend asking the consultant for translations of elements as small as single morphemes and then, only after obtaining a rough morphemic translation, asking for translations of full sentences.

<sup>21</sup> A full sentence is often not even enough; see 3.5 below.

precisely. Yet students frequently assert with confidence that a certain lexical item in their own native language corresponds to *each*, while another one corresponds to *all*. On closer examination, it has always turned out, in my experience, that the supposed 'each' or 'all' items do not have exactly the meaning or distribution of English *each* or *all*. Finally, even apparently simple lexical items such as 'go' or 'hold' may have multiple renditions in the object language. Asking for a translation of a single word will therefore yield at best a partial result.

The following shows what can go wrong if a consultant performs analysis by translating or discussing the meaning of a single morpheme. In a field methods class studying Mohawk, a group of students asked the consultant the difference between the two forms in (21).

(21a) *ietawens*

(21b) *waetawen*

The consultant replied that *ietawens* means 'she's swimming' and *waetawen* means 'she swam'. The consultant also volunteered the information that the *-s* suffix on *ietawens* is what makes it so that she is swimming right now. (As far as I can tell from Maracle 1990, 21a is in the 'Habitual' aspect, which can be translated into English using a present progressive, and 21b is a Punctual form, usually translated with an English simple past.)

A little later on, the group asked for a translation of 'she is running'. They were given:

(22) *teionrahtate*

At this point, the group became confused. They asked the consultant why there was no *-s* suffix on this form, since she is running right now. The consultant could not explain and began to feel uncomfortable.<sup>22</sup>

What went wrong here was that the group accepted the consultant's comment about the meaning of *-s* as a correct generalization and expected it to hold in all cases. However, it would be very unlikely for a native speaker of any language to be able to describe accurately the meaning of a morpheme having to do with tense or aspect.<sup>23</sup>

<sup>22</sup> Again judging from Maracle (1990), (22) seems to be a Punctual form. It is not clear to me why the consultant used a Punctual form here.

<sup>23</sup> Consider the English *-ing* suffix and imagine being asked to translate it or explain its meaning. The translation/explanation must cover at least the data shown below.

(a) Philomena is dancing.

(b) A: Why are you looking so worried these days?

B: Philomena is smoking again.

(c) \*I am seeing a lighthouse and some seagulls.

(d) Philomena is seeing David these days.

(e) Jones runs down the field, Smith tackles him, Jones falls, he screams in pain!

The problem is not just with single morphemes or words. One should not even ask a speaker to translate subsentential phrasal constituents. There are two problems here. First, it might not be easy for the consultant to isolate the relevant string in his/her language. Indeed, it may not even be possible: what is a string of three words in English might in Mohawk be a single word, or part of a single word, or five words, or not even expressible as a unit.

The second problem with dealing with subsentential constituents is that even if the speaker can identify the correct constituent, its meaning may depend on the surrounding environment. For example, noun phrases in Chinese often bear no marking for specificity or definiteness; however, their syntactic position has an effect on their interpretation (very roughly speaking, preverbal noun phrases are specific; see Matthews and Yip 1994 and Cheng and Sybesma 1999, among many others).

Asking for a translation of a noun phrase may also be fairly useless if the object language has an article system which divides up the semantic space differently than the meta-language does. St'át'imcets provides a good example here. If one asks a consultant to translate the English definite noun phrase 'the woman', one receives (23).

- (23) *ta šmúlač-a*  
 DET woman-DET

If one asks a consultant to translate the noun phrase in (23) into English, one will usually be given 'the woman'. These two translations might lead the researcher to believe that the determiner *ta . . . a* is definite. On the contrary, however, translations of whole sentences in context reveal that *ta šmúlača* is also used in many cases where English uses an indefinite. For example:

- (24) *wá? ta šmúlač-a l-ta lep-xál-tən-a*  
 be DET woman-DET in-DET dig-ACT-INSTR-DET

'There's a woman in the garden'.

What is going on here is that the determiner *ta . . . a* is possible in both definite contexts and a subset of indefinite contexts; however, it contrasts with another exclusively indefinite determiner, *k<sup>w</sup>u*. The fact that *ta . . . a* contrasts with an obligatorily indefinite determiner leads consultants to translate *ta . . . a* phrases as definite, even though *ta . . . a* covers a semantic space that includes some indefinite contexts. One can only avoid misanalysis here by obtaining translations of a range of full sentences, rather than subsentential constituents such as noun phrases.

Since a semantic elicitation session should not deal in strings smaller than sentences, linguistics papers should also not pair any pieces smaller than a sentence with a meaning—unless the meaning provided results from an

analysis by the linguist, after considering translations of and judgments about full sentences.<sup>24</sup>

Another important point when dealing with translations is that both the source sentence and the resulting sentence should always be GRAMMATICAL. That is, the fieldworker should try to give a grammatical sentence to the consultant and should always assume that the result obtained is a grammatical sentence.<sup>25</sup>

The first type of violation of this two-way grammaticality principle involves providing an ungrammatical English sentence to the consultant for translation into his/her language. For example, a student once asked a consultant to translate the English string 'me walk alone' into Mohawk. The reasoning, from the student's point of view, was clear: does this language distinguish nominative from accusative personal pronouns? The attempted shortcut failed dismally. The problem is that ungrammatical sentences are bad for particular reasons, and those reasons will probably not be transferable to the language under investigation. Thus, this student was misguidedly expecting the consultant to perform morphosyntactic analysis.<sup>26</sup>

A more commonly attested mistake occurs when the fieldworker forgets that the consultant will not spontaneously produce an ungrammatical sentence. This problem arises when a grammatical structure in the object language would, if translated literally into English, be ungrammatical. For example, suppose one is attempting to find out whether Binding Condition

<sup>24</sup> It is not always obvious what constitutes a full sentence in the object language. Indeed, the status of a particular string with respect to sentence-hood is sometimes precisely what one is trying to establish. In this St'át'imcets example, (a) is a full sentence but (b) is not:

(a) *xʷʔit ʔi ščúqʷaʔ-a*  
 many DET.PL fish-DET  
 'There are many fish'.

(b) *tákəm ʔi ščúqʷaʔ-a*  
 all DET.PL fish-DET  
 'all the fish'

There are several ways to establish sentence-hood. One can ask the consultant outright whether the string is a full sentence; this is asking the consultant to perform analysis, however, and may not yield completely accurate results. One can ask whether the string is acceptable in various contexts which typically require full sentences. Or one can ask whether the string is true or false in a discourse context; consultants are reluctant to make such judgments about nonsentences.

<sup>25</sup> In practice, it is not always possible to present the consultant with only grammatical sentences. However, it is preferable to verify the grammaticality of a sentence before one asks for semantic judgments about it.

<sup>26</sup> Problems that arise when fieldworkers ask consultants to perform analysis have already been noted by Nida (1947:139): "The investigator has no justification for asking the WHY of any such linguistic phenomenon."

C holds in the object language. This is the grammatical constraint which is responsible for the impossibility of (25*b*) in English (where coindexing indicates coreference).

(25*a*) *Helen<sub>i</sub> loves her<sub>i</sub> mother.*

(25*b*) \**She<sub>i</sub> loves Helen<sub>i</sub>'s mother.*

How can one ascertain whether the object language does or does not allow sentences like (25*b*)? If there is clear marking for subjects and objects, and if the relevant strings are not structurally ambiguous, a straight grammaticality judgment task under coreference can provide the answer. However, this does not work for many Amerindian languages, including Salish ones. As discussed by Matthewson et al. (1993) and Davis (1994; 2003) (see also Demirdache 1997; see Hukari 1996 for Halkomelem), the St'át'imcets string in (26) is potentially structurally ambiguous. Without considering coreference possibilities, the grammar of the language allows the noun phrase *šHelen* to function as the subject of the sentence (giving the structure indicated in 26*a*) or as the possessor inside an object noun phrase (as in 26*b*, with a null subject).<sup>27</sup>

(26) *?ama-mín-aš ta škíxza<sup>?</sup>-s-a š-Helen*  
 good-RED-3ERG DET mother-3SG.POSS-DET NOM-Helen

(26*a*) 'Helen<sub>i</sub> loves her<sub>i</sub> mother'.  
*?amamínaš [ta škíxza<sup>?</sup>sa]<sub>OBJ</sub> [šHelen]<sub>SUBJ</sub>*

(26*b*) 'She<sub>i</sub> loves Helen<sub>i</sub>'s mother'.  
*?amamínaš [ta škíxza<sup>?</sup>sa šHelen]<sub>OBJ</sub> pro<sub>SUBJ</sub>*

The problem is how to ascertain whether the structure in (26*b*) is possible in St'át'imcets. Crucially, translations cannot be relied on here. In particular, it is of no use to ask the consultant whether translation (26*b*) is acceptable. Even if St'át'imcets does allow the structure in (26*b*), consultants will not translate the St'át'imcets sentence into an ungrammatical English sentence. The translation exercise asks the consultant to express the same truth conditions in another language; it does not ask him/her to produce (and nor is s/he capable of producing) a parallel syntactic structure. Whenever a grammatical object-language structure corresponds to an ungrammatical

<sup>27</sup> (26) also allows a structure where *šHelen* is the object: 'Her<sub>i</sub> mother loves Helen<sub>i</sub>'. However, this reading has distinct truth conditions (the mother is doing the loving, rather than Helen), so it will not interfere with the task of distinguishing structure (a) from structure (b). (26) does not allow a structure corresponding to 'Helen's mother loves her', because a single overt DP must be the object in Salish; see Gerdts (1988). Finally, the sentence also allows various readings where possessor of the mother is someone other than Helen, but these are not relevant to the present discussion.

English structure, the consultant will restructure to produce an acceptable English translation.

The problem is acute with this binding problem because there is a fully grammatical English sentence with exactly the same truth conditions as (26*b*), namely (26*a*). Therefore, the consultant will always produce (26*a*). Translations tell us nothing about Binding Condition C. If consultants were to offer an ungrammatical English sentence as a translation of a sentence like (26) (which I have never witnessed, even though 26*b* is an acceptable structure in St'át'imcets), they would do this because they have performed conscious analysis of the structure of their own language and transferred that structure directly to the translation. Unless they are trained linguists, these are not reliable data.<sup>28</sup>

There is one systematic exception to the claim that consultants do not produce ungrammatical sentences. My St'át'imcets consultants will in fact volunteer ungrammatical English translations, but only when they wish to emphasize that the St'át'imcets source sentence is itself ungrammatical. In (27) and (28), the consultant gives a word-by-word translation of an ungrammatical St'át'imcets sentence (and then states that the St'át'imcets sentence is bad).

- (27) \**nił ta naplít-a ti?*  
 FOC DET priest-DET DEMON

Volunteered gloss: "It is the priest, that."

- (28) \**wá?-łkan tu? kəl šaq'wúta*  
 IMPF-1SG.SUBJ PAST FUT dance

Volunteered gloss: "I used to will *šaq'wúta*. Bad."

In the binding case being considered above, the St'át'imcets sentence is not ungrammatical. In this case, therefore, consultants will not produce ungrammatical English.

To summarize, the guidelines for collecting translations are given in (29). (Here and throughout, I formulate section summaries as sets of instructions, simply for ease of presentation.)

- (29*a*) Ask for translations of complete sentences only.  
 (29*b*) Try to make the source string a grammatical sentence.  
 (29*c*) Assume that the result string is a grammatical sentence.

<sup>28</sup> See Matthewson et al. (1993), Demirdache (1997), and Davis (1994; 2003) for discussion of how to elicit Condition C judgments. The basic tactic is to create more complicated structures which force the structural relations to be as desired. In (26), for example, one constructs sentences where *ta škixza?ša šHelen* is forced to be the object DP, and then asks whether Helen can be the one doing the loving.

(29d) Do not expect your consultant to conduct analysis. This includes not asking him/her to compare an English construction to one in his/her language and produce something parallel.

**3.3. How much can we rely on translations?** In 2.1 above, I showed that certain kinds of semantic information can be difficult or impossible to extract from translations. Problems with the Menominee possessive affixes or the temporal morpheme *ke:s* resulted mainly from the collection methodology (text-gathering, with no follow-up direct elicitation). However, even in a direct elicitation context, features of one or both languages can conspire to make translations very dubious data.

Translations should always be treated as a clue rather than a result. An English translation of an object-language sentence does not provide direct evidence about the truth conditions of that sentence. The consultant will try to express the same truth conditions, but often there will be no way to express exactly the same ones. The only real evidence about truth conditions is truth value judgments in particular contexts. The problem is that there are an infinite number of possible contexts, and one could never ask all of them. So one must make do and use translations as clues.

Suppose the consultant offers ‘The man is temporarily holding a book’ as the translation for a Mohawk sentence. This does not mean that the Mohawk sentence corresponds exactly to the English sentence ‘The man is temporarily holding a book’. The Mohawk sentence might be appropriate in a range of other situations too, and it might be inappropriate in some contexts in which ‘The man is temporarily holding a book’ is appropriate in English.

A more complex example comes from Bar-el (1998), who notes that in *Skwxwú7mesh* (Squamish Salish), an activity predicate is translated into English using the present progressive, regardless of whether or not the imperfective marker *wa* is present:<sup>29</sup>

(30a) *lulum ta slhánay*  
sing DET woman

‘The woman is singing’. (Bar-el 1998:21)

(30b) *wa lulum ta slhánay*  
IMPF sing DET woman

‘The woman is singing’. (Bar-el 1998:21)

In spite of the identical translations, Bar-el argues that (30a) and (30b) are not equivalent; (30a) is telic (involves a culmination of the event), while

<sup>29</sup> In Bar-el (1998), *wa* was analyzed as a pluractional marker; later work (Bar-el 2004 and [in preparation]) analyzes it as an imperfective marker. This does not affect the point being made in the text.

(30*b*) is atelic. The subtle meaning difference between the two readings is neutralized in translation because, as is well known, English lacks a nonprogressive, nonhabitual present tense (i.e., ‘The woman sings’ is necessarily habitual).<sup>30</sup> Therefore, if the Squamish consultant wishes to capture the fact that the singing is not habitual but is taking place at the time of utterance, s/he is forced to use a progressive in the English translation.<sup>31</sup>

This Skw̄wú7mesh example is a case where English lacks the resources to distinguish subtly different truth conditions that are distinguished in the object language. The reverse can obviously be true, which means that translations in either direction are only a rough indicator of truth-conditional content.

Another pitfall of translations involves felicity conditions. While the consultant will attempt to render the truth conditions as closely as possible, I have found that felicity conditions are very often ignored in the translation process. A clear example of this involves determiners; as noted above, the English determiner *the* has felicity conditions not present on St’át’imcets determiners. However, it is often not possible for a St’át’imcets speaker to avoid the use of *the* when translating St’át’imcets sentences into English. For example:

(31) *ka hál-a ta šnǎqʷəm-a*  
 OOC appear-DET DET sun-DET

(31*a*) ‘The sun appeared’.

(31*b*) #‘A sun appeared’.

As indicated in (31*b*), in English it is infelicitous to use the indefinite article when talking about the Earth’s sun. Therefore, when asked to translate the St’át’imcets sentence into English, consultants always give (31*a*), never (31*b*). However, the English translation contains felicity conditions (relating to the uniqueness and familiarity of the sun) which are completely missing from the St’át’imcets sentence, as shown by the fact that the same determiner is used in (31) and (32):

(32) *ka hál-a ta nkakúšənt-a*  
 OOC appear-DET DET sun-DET

(32*a*) #‘The star appeared’.

(32*b*) ‘A star appeared’.

<sup>30</sup> Excluding the so-called sportscaster present, which requires special discourse conditions to be felicitous.

<sup>31</sup> Space constraints limit my discussion of the meaning difference between the two Squamish sentences in (30). Bar-el presents several tests which demonstrate that (30*a*) is telic, while (30*b*) is atelic, and draws parallels to the two French present tenses (the simple present and the *en train de* construction).

A similar case involves St'át'imcets clefts, which are often translated into English using clefts, as in:

- (33) *nił*    *ʔi*            *ʃkʷəm kʷúkʷmít-a*    *ʔi*            *waʔ*    *tayt*  
           FOC    DET.PL    children-DET            DET.PL    IMPF    hungry

‘It is the children that are hungry’. (volunteered gloss)

In spite of the consultant’s volunteered translation using a cleft, closer investigation reveals that (33) lacks the exhaustiveness effect of its English translation (see Davis et al. [2004]). Unlike the English sentence, the St'át'imcets sentence does not mean that *ONLY* the children are hungry.

The general principle here, then, is to disregard all apparent information about felicity conditions arising from translations. Felicity conditions can only be discovered through a judgment task, as discussed in 4 below.<sup>32</sup>

Another problem with asking for translations is that if the source language sentence is ambiguous, a translation may only elicit the preferred reading, and it may then be difficult to extract information about the dispreferred reading. Some strategies for dealing with ambiguous source-language sentences are given in 3.4 and 4.4.

The guidelines about how to interpret the results of a translation are summarized in (34).

(34a) Translations are a clue, not a result.

(34b) Disregard all apparent information about felicity conditions.

**3.4. Ambiguous or vague meta-language sentences.** The problem created for a translation task by ambiguous or vague meta-language sentences is best illustrated by means of some real-world examples. The sentences in (35) were all offered to a Mohawk consultant for translation; all caused the consultant difficulties.

(35a) The man has a book.

(35b) John walks to the store.

(35c) John can walk to the store.

(35a) in English could mean (among other things) that the man owns a book or that the man is currently holding a book. Mohawk, on the other hand, expresses these two situations by means of different lexical items. Therefore, the consultant did not know which meaning was desired.

<sup>32</sup> A reviewer has rightly pointed out that texts also contain information about felicity conditions; if a sentence appears in a certain context within a text, one can assume that any felicity conditions for that sentence are met in that context. Problems with establishing felicity conditions based on texts therefore involve both the paucity of positive evidence and the absence of negative evidence.

(35*b*) is ambiguous in English between a habitual reading and a present-tense “sportscaster” reading. These are distinguished in (36). Again, the consultant cannot know which meaning is desired if the sentence is given out of the blue.

(36*a*) John walks to the store whenever he goes, because he likes to get exercise.

(36*b*) Listen to what happened yesterday. First, we realized we need some onions, so John offered to go get some. He walks to the store. He buys the onions. Then while he’s in the checkout line. . . .

(36*c*) causes difficulties because of the multiple interpretations of the modal *can*, some of which are illustrated in (37).

(37*a*) John can walk to the store now his legs have healed.

(37*b*) John can walk to the store; his mother said he’s allowed.

(37*c*) A: I need some onions.

B: John can walk to the store and get you some.

The reason one must beware of accidentally using ambiguous or vague sentences is not just because it may confuse consultants. In fact, a consultant who reacts with confusion, or who asks for clarification, can save the fieldworker from his/her own mistakes. It is worse if the consultant DOES simply produce a translation. The fieldworker is then in a state of blissful ignorance; s/he has no idea which meaning just got translated.

Of course, sometimes one does want to investigate an ambiguous sentence, perhaps to know whether a sentence corresponding to (35*c*), for example, has the same range of readings in the object language as in English. Here, however, translation is not the main elicitation technique. If one offers (35*c*) for translation, and gets one response, one won’t know whether the object language sentence produced is ambiguous in the same way as the English, or whether this is just one of two or more possible translations, corresponding to the different readings. Further probing about the object language sentence is required. Thus, the main component of ambiguity-detection is the judgment task (see 4 below).<sup>33</sup>

<sup>33</sup> The same technique—translation followed by judgment tasks—can be useful with vagueness. For example, if one wanted to verify that the object language word for ‘tall’ was vague, one could first ask for a translation and then ask follow-up judgment questions. When using a “translation followed by judgment” technique, it may be advisable to obtain the translation on one occasion and then ask for the judgment at a later date. This avoids any possibility of interference from the meta-language. (Thanks to Rose-Marie Déchaine [p.c.] for reminding me of this.)

To return to the avoidance of ambiguity, the strategy is simply to be aware of potential ambiguities in meta-language sentences. If a sentence that one wants to have translated is ambiguous, one should either change it to a nonambiguous sentence or, if this is not possible or desired, explain to the consultant which meaning one has in mind (which can best be done by describing the discourse context of the sentence; see 3.5 and 4.2). Finally, one should always listen to and record EVERYTHING the consultant says, as s/he may give clues about ambiguity or vagueness in his/her comments. (For further discussion of the use of consultants' comments, see 4.5 below.)

**3.5. Discourse contexts.** In this section, I first discuss a range of situations where it is necessary to provide a discourse context along with a sentence, and then outline what I have found to be the best method for offering such contexts. Since discourse contexts are necessary not just with translation but also with judgment tasks, much of the discussion is applicable also to 4 below.

The three main cases where a discourse context is required are listed in (38). The first two cases overlap, since ambiguous sentences often sound infelicitous out of the blue but are fine once situated in a context.

- (38a) When the sentence will seem infelicitous to the consultant unless a discourse context is provided.
- (38b) When the sentence being offered to the consultant is ambiguous.
- (38c) When dealing with context-sensitive phenomena such as presupposition.

An example of infelicity in out-of-the-blue contexts is negation. We do not usually deny things out of the blue. Usually we are contradicting what someone just said, or contrasting two alternatives (*I didn't eat a PEAR, I ate an APPLE*), or correcting an expectation (see, e.g., Horn 1989, among many others, on negation). Therefore, a sentence containing negation will often need to be supplemented with a discourse context to be felicitous.

Sentences containing pronouns (especially null pronouns) will often be rejected if offered in an out-of-the-blue context. An apparently simple sentence like 'She caught a fish' may seem odd to the consultant (because s/he does not know who you are talking about), or the consultant may not even be able to translate it accurately without knowing something about the person and/or the prior discourse context. This could arise if the object-language pronouns are less vague than English pronouns with respect to discourse prominence, proximity, emphasis, etc.<sup>34</sup>

<sup>34</sup> Conversely, pronouns in many Amerindian languages are vague with respect to gender, unlike in English.

Sentences containing focus usually need a discourse context. An example with context given is:

- (39) F: Say that you have been told that somebody in your family looks like Elvis, but you're not sure who, so you're looking through the photo album. Then you say: 'It's HARRY who looks like Elvis'.

C: *nił š-Harry ta čilh-álq<sup>w</sup>əm-a k<sup>w</sup>-š Elvis*  
 FOC NOM-Harry DET like-appear-DET DET-NOM Elvis

One final remark is that the very fact that a particular sentence can or cannot be used in an out-of-the-blue context (and therefore does not or does have certain felicity conditions) is itself data. In this case, texts can be very useful. Texts provide a small corpus of sentences (those used discourse-initially) which are not odd in an out-of-the-blue context. For example, if a cleft construction appears as the first sentence in a text, this tells us something about the (lack of) presuppositions of the cleft.

**3.5.1. How to present the context.** There are two main questions to consider in providing contexts: (1) which order to give the information in and (2) which language to use for the context description. With respect to (1), the best way to provide a discourse context for the consultant is to give the context first, followed by the sentence. Otherwise, the consultant might imagine a reading or context different from the intended one, which can influence or damage the results if one then asks the consultant to consider a different discourse context and judge the sentence in that new context.<sup>35</sup> This problem is particularly acute if one is interested in a reading other than the most obvious or preferred one. (See 4.4 below for a discussion of preferred readings and how to deal with them.)<sup>36</sup>

Which language should the context be given in? Either can work well; both have potential pitfalls. I do not believe that it is inherently more desirable to use the object language to describe the context. Using the object language obviously would be the right strategy if the consultant were not fluent in the meta-language. However, in the modern-day Americas it is more likely that the consultant is fluent in the meta-language than that the re-

<sup>35</sup> Nida (1947:139–40) observes that consultants tend not to make explicit the discourse context they are thinking of, and claims that “only the trained investigator is able to define them even in the case of his own language (e.g., the contextual situations involved in such expressions as I MAY GO and I MIGHT GO).”

<sup>36</sup> A reviewer has suggested that offering the sentence first might help consultants focus on the relevant contextual aspect. However, in addition to the danger of preferred readings mentioned in the text, it should be noted that presenting the context first more closely approximates what happens in real life. In real life, one is immersed in a context and then hears a sentence at the appropriate point (rather than being warned about the sentence beforehand).



when constructing the descriptions of the contexts, so that the material being tested is not included in the context description.

If one uses the meta-language in the context descriptions, there is still a danger of the constructions chosen influencing the results. However, this danger is small, for reasons discussed in 3.2 above, namely, that consultants are not likely to attempt to transfer structural features from one language to the next. My claim, therefore, is:

- (42) The meta-language has only a negligible influence on the consultant.

This claim is controversial among Amerindianists. For instance, Harris and Voegelin (1953:63) write: "When attempts were made to ask the informant how he would say, for example, 'that big yellow house is burning,' we could not be sure whether the informant was following the word order of the Indian language or the word order of English." However, Harris and Voegelin do not provide any empirical evidence to support their concerns about English influence. They merely assert those concerns.

Let us briefly investigate some purported cases of meta-language influence in an elicitation setting. Within the Salishanist world, one favorite candidate for English influence is word order. Thus, it is frequently suggested that the SVO structures volunteered by consultants are a result of being offered English SVO sentences, and that Salish in its purest form is predicate-initial. However, these arguments do not hold water, for the following reason: only for some Salish languages do consultants offer SVO structures. Within those languages, SVO orders are sometimes offered only in a subset of contexts. For example, Shuswap and Thompson (Northern Interior) speakers will freely offer SVO constructions in an elicitation session (see, e.g., Gardiner et al. 1993 and Gardiner 1994). Speakers of the Lower dialect of St'át'imcets will offer SVO orders only in main clauses, while speakers of the Upper dialect of St'át'imcets do not do so (except in cases of quantifier fronting; see Demirdache et al. 1994). This contrast strongly suggests that when Shuswap and Thompson speakers utter SVO sentences, they are doing so because their native grammars allow that word order. Upper St'át'imcets does not allow SVO order, so speakers do not offer SVO orders during elicitation sessions.

It may still be true that a preponderance of SVO orders in a direct elicitation context is a result of English influence, and that in naturally occurring discourse, other word orders would be more common than they are during an elicitation session. However, this is not really a problem, since follow-up judgment questions can always be used to ascertain the grammaticality of other word orders. And if one is interested in the proportions of various word orders in natural contexts, one will naturally supplement the direct elicitation with text-gathering and recording of spontaneous discourse.

Another case where English influence on Salish is often postulated concerns transitive sentences with two overt DP arguments. Such constructions are freely given during elicitation sessions but are rare in spontaneous textual material (see, e.g., Gerdts and Hukari 2003; 2004 for statistical counts on this for Halkomelem). As with the previous example, the difference is one of frequency and not of grammaticality, since speakers of Lushootseed, whose grammar does not allow two overt nonoblique DPs in a single clause, will not offer such sentences in elicitation (see, e.g., Hess 1976). For St'át'imcets, which displays the constructions rarely in texts but very easily in elicitation, this can therefore be seen to be a result of topic-tracking in connected discourse, which by definition can only be studied by examining longer texts.

Further evidence that consultants are able to resist English influence when engaged in elicitation comes from the freedom with which consultants volunteer structures and interpretations that are very foreign to English ears and, conversely, reject constructions that are grammatical in English. For example, (43a) is freely accepted and offered by consultants, although its literal English translation sounds bizarre. (43b) contains a bare VP-internal adverbial, a construction which is perfect in English but impossible in St'át'imcets.

- (43a) *máyš-ən-łkan ta qłáχ-an-a, łu? x<sup>w</sup>?ay łu?*  
 fix-DIR-1SG.SUBJ DET fence-DET just NEG just  
*k<sup>w</sup>-š máyš-ən*  
 DET-NOM fix-DIR

Literally: 'I fixed the fence, but I didn't fix it'.

Colloquially: 'I started fixing the fence, but I didn't finish fixing it'.

- (43b) *\*tq-álk-əm š-Mary χ<sup>w</sup>əm*  
 touch-string-MID NOM-Mary fast  
 'Mary drove fast'.

As a final comment about the supposed danger of meta-language influence on the object language, I offer the following thought experiment using German and French. Suppose one were asked to translate the following sentences into English:

- (44a) *mein Auto will ich haben*  
 my car want I to.have

- (44b) *va-t-il au cinéma?*  
 go-EPEN-he to.the cinema

I doubt that anyone would be tempted to translate these as ‘My car want I to have’ and ‘Goes he to the cinema?’, respectively.<sup>37</sup>

A third possibility for describing the context is not to use either language, but somehow convey the discourse situation nonverbally.<sup>38</sup> This is in one sense almost ideal, as it is the most like real life and avoids potential influence from either the meta-language or the object-language.

There are two problems with the nonverbal approach. First, logistically it is unfortunately often not practical or possible within an elicitation session, beyond very simple scenarios. (Computer programs involving animated scenes may go some way toward alleviating this problem; see n. 16 above.) Second, purely nonverbal contexts are insufficient for items which require not just a common ground of knowledge but a linguistic discourse antecedent, for example, some types of nondemonstrative pronouns. A combination of nonverbal and verbal cues can be very effective. Crain and Thornton (1998) contains many excellent suggestions for eliciting semantic judgments from children in the context of language-acquisition experiments. Many of these techniques combine nonverbal and verbal cues and could also be used with adults.

To summarize:

- (45a) Avoiding asking for translations of ambiguous or vague sentences.
- (45b) Provide discourse contexts where required: to ensure felicity, to disambiguate, and when eliciting information about discourse-sensitive phenomena.
- (45c) Offer the discourse context first, and then the sentence to be translated.
- (45d) The context description can be given in the meta-language, the object-language, and/or by means of nonverbal cues.

<sup>37</sup> As discussed above with respect to the cleft sentence in (33), repeated here, consultants will often offer translations that match the broad structure of the source language sentence, even when this can be misleading about the true meaning:

- (i) *nil ?i šk<sup>w</sup>əm<sup>w</sup>úk<sup>w</sup>mít-a ?i wa? tayt*  
 FOC DET.PL children-DET DET.PL IMPF hungry

Volunteered gloss: ‘It is the children that are hungry’.

The translation here was from St’át’imcets to English, but we can assume that the same “structure-copying” phenomenon also occurs when translating from English to St’át’imcets. However, notice that the translation given is still grammatical; the consultant was only influenced as far as the grammar of the respective languages allowed her to be. Moreover, as I have argued above, felicity conditions are ignored in translation, and felicity conditions are the only difference between the St’át’imcets and the English here.

<sup>38</sup> This is a technique used within the “elicitation without meta-language” approach. The difference here is that once the context has been presented, follow-up judgment questions can be asked.

(45e) Giving the context description in the meta-language is unlikely to cause interference with the results.

**4. Judgments.** Now we turn to the second main type of elicitation request: asking for a judgment. I first discuss the types of judgments which are, and are not, appropriate to request. I then address the eliciting of judgments in context, the issue of how to interpret rejection of a sentence by a consultant, and the use of consultants' volunteered comments.

**4.1. Legitimate and illegitimate judgments.** First, we need to distinguish JUDGMENTS from COMMENTS. A JUDGMENT is something a native speaker is qualified to give, by virtue of knowing the language. We are required to accept a judgment as being part of the speaker's native competence.<sup>39</sup> A COMMENT is anything else the speaker might want to say about the structure or meaning of a string. Comments are more or less reliable, depending on the speaker and the phenomenon; I discuss the use of consultants' comments in 4.5 below.

Three types of judgments are listed in (46). Since grammaticality judgments fall more properly into the realm of syntax, I discuss only the other two types here.<sup>40</sup>

- (46a) Grammaticality judgments
- (46b) Truth value judgments
- (46c) Felicity judgments

The list in (46) is intended to be complete; I am proposing that any other information volunteered by a consultant does not have the status of a judgment. I thus exclude all but the first in Labov's (1972:106) list of the kinds of judgments that have been used within the framework of generative grammar: "(1) judgements of grammaticality (well-formedness), . . . (2) judgements of ambiguity, and (3) judgements of correct paraphrase . . . , (4) judgements of sameness or difference of sentence type, and (5) intuitions about immediate constituents" (Chomsky 1961). (See also Schütze 1996 for the claim that ambiguity judgments exist.)

Statements about sameness or difference of sentence type and about immediate constituents are ANALYSES, not judgments. I also do not believe there is such a thing as a "judgment of correct paraphrase." This should be clear from the discussion above, where I argued that translations are clues rather than conclusive evidence about truth conditions; the same is bound to

<sup>39</sup> However, see Carden (1970) on the problem of speaker variability in judgments and also Schütze (1996) and references cited therein.

<sup>40</sup> Schütze (1996) provides detailed discussion of the theory and methodology of eliciting grammaticality judgments.

be true of paraphrases. Finally, the fact that the technical terms “ambiguity” and “vagueness” had to be defined (in 1.2) strongly suggests that there is no such thing as a native-speaker consultant having a “judgment of ambiguity.” This will become even clearer when I discuss the problems that arise when one attempts to detect ambiguity (4.4).

**4.2. Eliciting judgments about sentences in context.** The use of discourse contexts is even more fundamental to the judgment task than to the translation task. By definition, one cannot ask for either a truth value judgment or a felicity judgment in the absence of a discourse context. It would not make sense to ask whether the sentence in (47) is true, for example, unless one knows which Mary one is talking about, when the sentence is uttered, and whether or not Mary is actually dancing at the time of utterance.

(47) *Mary is dancing.*

What the fieldworker needs to do is construct the discourse contexts for the consultant. Suppose, for example, we are investigating tense, and we have a sentence in the object language that we suspect might contain a past-tense morpheme. A hypothetical elicitation is presented in (48), where ‘S’ represents the sentence containing the suspected past-tense morpheme (approximately something like ‘Mary danced’). Note that the relevant object-language sentence is repeated after each context description. This is in line with the claim above that the context should always be presented before the sentence which is being judged.

- (48) F: Say that Mary was dancing yesterday and right now she’s resting. Could I say ‘S’?  
 C: Yes, that’s good.  
 F: Say that Mary is dancing right now. Could I say ‘S’?  
 C: No, that’s wrong.  
 F: Say that Mary is resting right now, but she’s going to be dancing in an hour. Could I say ‘S’?  
 C: No, that’s not right.

These data are consistent with the hypothesis that S contains past-tense marking. However, we cannot yet be sure that this is the correct analysis; further elicitation will almost certainly be necessary to determine whether we are really dealing with a perfective aspect morpheme, or a perfect morpheme, rather than a past-tense morpheme.

**4.3. Interpreting rejection and acceptance of sentences in context.** There are some critical assumptions behind the claim that the elicitation session in (48) supports the presence of past-tense marking in S. These as-

sumptions, listed in (49), have to do with how a consultant’s judgment relates to the truth or falsity of the sentence in the situation described:

(49a) If a speaker accepts a sentence S in a discourse context C, S is true in C.

(49b) If a sentence S is false in a discourse context C, speakers will reject S in C.

Both these assumptions rely on Grice’s (1975) Maxim of Quality: “Try to make your contribution one which is true.” (49a) is unproblematic; speakers do not accept sentences unless those sentences are true in the situation described. (49b) states that whenever a sentence is false in a certain context, the speaker will reject it. A corollary of this is that a speaker will reject any sentence which is contradictory and therefore automatically false. This can be used to good effect. For example, acceptance of the sentence in (50) means that it is noncontradictory, which demonstrates that the cleft in the first clause does not entail exhaustivity.

(50) *nił ?i škʷəm̩kʷúkʷm̩t-a waʔ tayt, mútaʔ ?i*  
 FOC DET.PL children-DET IMPF hungry and DET.PL  
*lalíltəm-a šit*  
 adult-DET also

‘It’s the children who are hungry, and also the adults’.

Unfortunately for the fieldworker, (49b) is only a one-way implication. If the consultant rejects the sentence, this does not automatically mean that the sentence is false. The sentence could be being rejected because it is infelicitous, as exemplified in (51) for English.<sup>41</sup>

(51) Situation: There are two cats in the room, and they are both asleep.

(51a) *The cats are awake.* FALSE

(51b) *The cat is asleep.* INFELICITOUS

When a consultant rejects a sentence, how do we figure out whether this is due to falsity or infelicity? Naïve speakers of any language do not tend to

<sup>41</sup> Sentences can also be rejected because of ungrammaticality, but I am adopting the simplifying assumption that we are dealing only with grammatical sentences. A consultant will also reject a sentence which is pragmatically odd or impossible, as illustrated in (i) and (ii). This fact can be exploited when it comes to distinguishing readings of potentially ambiguous sentences (see 4.4 below).

(i) #*Gertie broke the egg again.*

(ii) #*That flag is flying from three different buildings.*

distinguish these two notions consciously. One possibility is overtly to explain the difference to one's consultant; for example: "Does it sound like I am lying or mistaken about the facts, or just that I am saying something funny?" While the concepts are not trivial to explain or to grasp (as anyone who has taught them can attest), it is possible to get reasonably reliable results using this method. Even in the absence of explicit instruction, consultants will often offer comments that provide clues about their reasons for rejecting a sentence.

Another technique is to see if another way of phrasing approximately the same thing is still rejected; if it is, this might suggest falsity rather than infelicity. Third, felicity judgments are often not rock-solid, but are coercible. For example, native speakers of English will sometimes accept the definite article *the* in contexts in which uniqueness and familiarity are not satisfied, and in which they would not tend to produce *the*. If the consultant gives a "question mark" judgment (e.g., "ok but not that great," "yeah, I guess I would know what you meant," etc.), then it is possible one is dealing with infelicity rather than falsity (assuming, as always, that the sentences are grammatical, so "question mark" status does not relate to grammaticality).

The issue of distinguishing falsity from infelicity is particularly tricky with respect to St'át'imcets and Straits at least, and possibly other Salish languages, because one easy language-internal clue to infelicity due to presupposition failure simply does not work in these languages. The test is the so-called wait-a-minute test, invented by Kai von Stechow (personal communication). Since presuppositions are propositions that discourse participants are assumed to know already at the time of utterance, a presupposition which is not known can be challenged with "wait a minute!" (or another similar expression). On the other hand, an ASSERTION which is news to the hearer cannot be challenged by "wait a minute!" English examples are given in (52) and (53).

(52) Presupposition of *stop*:

- A: Felicia has stopped smoking  
 B1: Wait a minute! I didn't even know she smoked!  
       (PRESUPPOSITION UNKNOWN)  
 B2: #Wait a minute! I didn't even know she stopped!  
       (ASSERTION UNKNOWN)

(53) Existence presupposition of *the*:

- A: Barnaby won the semantics prize.  
 B1: Wait a minute! What semantics prize?  
       (PRESUPPOSITION UNKNOWN)  
 B2: #Wait a minute! I didn't know he won it!  
       (ASSERTION UNKNOWN)

Unfortunately for researchers working on Salish, for some reason this test does not work. Even items that are difficult to conceive of as lacking presuppositions (such as ‘stop’) do not give rise to a “surprise” response with any consultant tested so far. Even when consultants offer or accept overt denials or questionings of the failed presupposition, as in (54), this does not distinguish presuppositions from assertions (as the English “wait a minute” test crucially does). Exactly parallel denials and questions are judged appropriate for ASSERTIONS which are not already known, as shown in (55).

(54) A: *plan čuk<sup>w</sup> k<sup>w</sup>-a-š máñx-əm š-Bob*  
 already finish DET-IMPF-NOM smoke-MID NOM-Bob

‘Bob stopped smoking’.

B1: *?az žu? k<sup>w</sup>-ən-š-wá zwát-ən k<sup>w</sup>-š*  
 NEG just DET-1SG.POSS-NOM-IMPF know-DIR DET-NOM

*tu? máñx-əm š-Bob*  
 PAST smoke-MID NOM-Bob

‘I didn’t know Bob smoked’. (PRESUPPOSITION UNKNOWN)

B2: *wa? ha tu? máñx-əm k<sup>w</sup>-š Bob?*  
 IMPF YNQ PAST smoke-MID DET-NOM Bob

‘Did Bob smoke?’ (PRESUPPOSITION UNKNOWN)

(55) A: *plan čuk<sup>w</sup> k<sup>w</sup>-a-š máñx-əm š-Bob*  
 already finish DET-IMPF-NOM smoke-MID NOM-Bob

‘Bob stopped smoking’.

B1: *?ay žu? k<sup>w</sup>-ən-š-wá zwát-ən k<sup>w</sup>-š*  
 NEG just DET-1SG.POSS-NOM-IMPF know-DIR DET-NOM

*čuk<sup>w</sup>-š*  
 finish-3SG.POSS

‘I didn’t know he stopped’. (ASSERTION UNKNOWN)

B2: *wa? ha tu? čuk<sup>w</sup>*  
 IMPF YNQ PAST finish

‘Did he already stop?’ (ASSERTION UNKNOWN)

Why the “wait a minute” test should be inapplicable in some languages is at present not known. For fieldworkers investigating a language that does allow “wait a minute” responses, the test is a very useful tool for establishing infelicity.

I close this discussion of presupposition detection by mentioning yet another diagnostic.<sup>42</sup> It is well known that presuppositions survive under negation, in yes–no questions, and under various other operators, as illustrated in (56) for English. (56a) presupposes (56b); (56c) and (56d) also presuppose (56b).

(56a) *It is Mary who wants fish.*

(56b) *There is someone who wants fish.*

(56c) *It isn't Mary who wants fish.*

(56d) *Is it Mary who wants fish?*

In this respect, presuppositions contrast with entailments, which disappear under negation and in questions. (57a) entails (57b), but (57c) and (57d) do not:

(57a) *Mary wants fish.*

(57b) *Someone wants fish.*

(57c) *Mary doesn't want fish.*

(57d) *Does Mary want fish?*

When applying this diagnostic in a fieldwork setting, one must test the felicity of sentences like (56a), (56c), and (56d) in a range of discourse contexts, including some which do, and some which do not, contain information corresponding to the presupposition.<sup>43</sup> In practice, the difficulty with this method is that it is hard to make sure that the consultant does not accommodate the relevant presupposition (add the information to his/her knowledge base) even if, strictly speaking, the presupposition is not supported. This can lead the consultant to accept sentences as felicitous, even though they involve presupposition failure. Indeed, the detection of presuppositions is in my experience the most difficult task facing a semantic fieldworker.

**4.4. Investigating ambiguous sentences.** One important task for which the judgment method is useful is in determining whether a sentence in the object language has more than one reading. In this section I offer advice on how to elicit this information. First, what not to do: “If we have a sentence that is uncontroversially good under one reading, but questionable under another . . . we can ask subjects whether it is ambiguous, and then verify their answers by eliciting paraphrases of the readings they find. In fact, the latter task without the former can provide some of this information without putting subjects in a judging mode at all” (Schütze 1996:57). As discussed

<sup>42</sup> Thanks to an anonymous reviewer for suggesting that these diagnostics be addressed.

<sup>43</sup> One should not ask the consultant to construct a generalization perform analysis (e.g., by asking “If I say [translation of ‘It isn't Mary who wants fish’], does this mean that we must already know that somebody wants fish?”).

above, it is not legitimate to ask a consultant to “judge” whether a sentence is ambiguous. This is a matter of analysis rather than intuitive judgment. Furthermore, the different readings are not accurately conveyed by means of paraphrases. A paraphrase given by a consultant is merely another object-language sentence whose precise meaning one does not yet know. Just like a translation, a paraphrase is a clue rather than direct evidence about truth conditions.

How, then, do we elicit information about multiple readings? One issue here is that there may be a preferred reading. For example:

(58) *Yumiko didn't read three books.*

This English sentence has two readings, paraphrased in (59a) and (59b). Example situations illustrating that the two readings have differing truth conditions are given in (59).

(59a) *It is not the case that Yumiko read three books.*

(59b) *There are three books that Yumiko didn't read.*

(60a) Situation: There were six books, and Yumiko read three of them.

(59a): FALSE

(59b): TRUE

(60b) Situation: There were four books, and Yumiko read two of them.

(59a): TRUE

(59b): FALSE

My own judgment is that (59a) is preferred; (59b) is considerably more difficult to get. A bias will similarly exist for many ambiguous object-language sentences.

The problem raised by preferred readings is that consultants will often think the fieldworker wants to know the best way to say something. Thus, not only will they discuss the preferred reading first, they may reject the dispreferred reading and offer instead another, better way to express that meaning. This will then obscure the fact that the original sentence does in fact allow the second reading. This problem is exacerbated if the fieldworker explicitly discusses the two situations right next to each other. In this case, the consultant will be very tempted overtly to disambiguate.

(61) is an example involving bound variable readings of pronouns. The sentence has the two possible readings (61a and 61b).

(61) *Every woman loves her dog.*

(61a) *Every woman loves her own dog.*

$\forall x$  [*woman* ( $x$ )  $\rightarrow$  *love* ( $x$ ,  $x$ 's dog)]

(61b) *Every woman loves the dog belonging to a particular female person.*

$\forall x$  [*woman* ( $x$ )  $\rightarrow$  *love* ( $x$ ,  $y$ 's *dog*)] (value of  $y$  given by context)

If one gives the object-language sentence corresponding to (61) and asks what it means, the consultant will give the preferred reading. Say that that happens to be the bound pronoun reading. Now, imagine one asks the consultant whether the sentence can also mean that every woman loves some particular woman's dog. What will the consultant do?

Often, s/he will not want to admit that the sentence has the other (dispreferred) reading. The tendency for a nonlinguist speaker is to assume that every sentence has a single meaning. Since we have just made very salient the two different situations, the tendency will be to produce two different sentences, thereby disambiguating. (This is, after all, the most cooperative strategy in ordinary communication.)

The guideline here, therefore, is that if one has a potentially ambiguous sentence, one should not simply give the sentence and ask what it means. If one has a suspicion about what the preferred reading will be, there are a couple of strategies one can use. First, ask about the nonpreferred reading first. That way, the consultant can give a judgment on it, without explicitly being made aware that there is a situation the sentence describes better or would more usually be used for.<sup>44</sup> As outlined above, one should ask about the reading by first explaining the situation, and then giving the sentence and asking whether it is appropriate in the context given.

A second strategy for eliciting multiple readings is to construct the contexts so that each reading has a fair "pragmatic chance" of being recognized. If one has a suspicion about which reading will be inherently harder to get, then one should construct a scenario which pragmatically "advantages" the dispreferred reading.

In the example *Every woman loves her dog*, it is not easy to construct a pragmatically plausible scenario for the nonbound reading which is not contrastive. Yet one should avoid contrastivity (unless one is explicitly studying it), as it introduces an extra variable into the equation. (62) is an example of a scenario which favors the nonbound reading, but which is also contrastive:

(62) Mary has a cat and a dog. Every man loves her cat, but every woman loves her dog.

Without a contrastive situation, I think that the original sentence in (61) strongly favors the bound reading. We can change it to a minimally dif-

<sup>44</sup> In the case of pronouns, it will probably be more useful to ask the nonbound version first, at least if one is using the default version of a pronoun. Many languages have separate emphatic pronouns that would tend to be used in the nonbound case.

ferent sentence and construct pragmatically plausible scenarios for each reading.

- (63) Situation: It was Mary's birthday. Every woman in the company signed a card for her.  
 Sentence: *Every woman signed her card.*  
 Check: Can the sentence mean that every woman signed Mary's card?
- (64) Situation: It was John's birthday. Every woman in the company bought a different card for him.  
 Sentence: *Every woman signed her card.*  
 Check: Can it mean that every woman signed her own card for John?

These precise scenarios will obviously only work if the situation is culturally appropriate, and there are ways of saying 'birthday', 'card', and 'company' in the language. Less obviously, the scenarios also rely on the possibility of the possessive pronoun 'her' being appropriate both when one is the receiver of the card (as in 63) and the writer of the card (as in 64). Finally, note that the use of a male person in (64) helps force the bound reading. If the object language does not distinguish gender on its pronouns, this is an instance where it may be better to use English in the context description.

The manipulation of pragmatic plausibility can also be used to establish the ABSENCE of ambiguity. In (65), the aim was to establish whether the possessive pronoun in *ta pǎ́pa škʷə́kʷəzʔi* 'their lost child' can be bound by the DP *ʔi nkəkə́láša škíxzaʔ* 'the three mothers'—in other words, whether each of the mothers can have had her own child returned. The situation pragmatically strongly favors the reading where each mother gets her own child back, but the consultant's translation and comments make it clear that this reading is not available.

- (65) *páńt-xit-kan*                    *ʔi*                    *nkəkə́láš-a*                    *škíxzaʔ*    *ta*  
 return-IND-1SG.SUBJ    DET.PL    three(human)-DET    mother    DET  
    *pǎ́p-a*                    *škʷə́kʷəzʔ-i*  
    lost-DET    offspring-3PL.POSS

'I brought the three mothers their lost child'.

Consultant's comment: "Sounds like the three mothers have one child." (laughs)

Another example is given in (66). What is being tested here is whether the DP *ta éććqʷaʔa* 'a fish' can take narrow scope, so that there is a different

fish caught in each creek. Obviously, the situation pragmatically favors the reading where there are different fish in each creek; the results make it clear that this reading is not available.

- (66) *ʔáʔštək-kan ta čáčq<sup>w</sup>až-a łəl-ki kałáš-a*  
 fish-1SG.SUBJ DET fish(DIMIN)-DET from-DET.PL three-DET  
*ščwaw<sup>x</sup>*  
 creek

‘I caught a fish in three creeks’.

Consultant’s comment: “You went to three different creeks and you caught the same fish each time.” (laughs)

The use of consultants’ comments as clues about meaning is addressed more fully in 4.5.

**4.5. The use of consultants’ comments.** In 3.3 above, I claimed that translations should always be viewed as a clue, not a result. I suggest that there is in this respect no difference between a translation and an explanatory comment by the consultant. Both are clues, but only clues. It is up to the researcher to interpret those clues and determine their relevance (or irrelevance) for the analysis. The fieldworker should therefore record and take note of every single comment made by the consultant during an elicitation session. This includes statements the consultant makes about context, alternative ways of saying things, fine-grained grammaticality judgments, meanings of parts of words, comments about formality, alternative word order possibilities, etc.

Consider these real-life examples. In each case, the comments offer at least as much information as the translations given.

- (67) Issue being tested: Whether clefts have an implicature of exhaustivity.

Situation: You have been looking after your son Richard and his two friends, Peter and Jill. Richard and Jill both purposely broke a plate. Then your husband comes home, and you want to tell him what happened, but you only want to tell him about Richard breaking a plate, because he doesn’t care about whether Jill was naughty or not.

*nił š-Richard šəR<sup>w</sup>-ən-táli ti láχč-a*  
 FOC NOM-Richard break-DIR-TOP DET plate-DET

‘It was Richard who broke a plate’.

Consultant’s comment: (frowns) “It’s questionable why you don’t refer to Jill, because if they both broke it you gotta mention both.

My husband doesn't have to know, but if they both broke a dish, you gotta mention her."

Tentative conclusion: Implicature of exhaustivity.

- (68) Issue being tested: Whether the past-tense adverbial *tu?* inside a relative clause makes the nominal predicate have to hold in the past.

*nił š-Fred ti wa? tu? ?áma-š-an naplít*  
 FOC NOM-Fred DET IMPF PAST good-CAUS-1SG.CONJ priest

'Fred was the priest I used to like'.

Consultant's comment: "He's still a priest though."

Tentative conclusion: *tu?* inside a relative clause does not force past time for the noun.

My final comment about the usefulness of consultants' comments relates to the tempting last-resort question, "What's the difference between X and Y?" In my experience, answers to this question are not usually very illuminating. However, as long as the response is viewed as a clue rather than as a result, it is obviously legitimate to give it a try.

**4.6. Summary: Techniques and principles for collecting semantic judgments.** The points I have argued for with respect to judgment collection are summarized in (69).

- (69a) There are three types of legitimate judgment: grammaticality, truth value, and felicity. There is no such thing as a judgment about ambiguity.
- (69b) When collecting truth-value and felicity judgments, a discourse context should be provided. The same principles hold here as with providing discourse contexts for translations (e.g., the use of a meta-language is fine, and the context should be given before the sentence to be judged).
- (69c) If a speaker accepts a sentence in a particular situation, one can assume that the sentence is true in that situation. If a speaker rejects the sentence, this may be because the sentence is false in that situation. Alternatively, it may be because the sentence is infelicitous, because of presupposition or some other factor (including simple pragmatic unlikelihood).
- (69d) When dealing with potential ambiguity, ask the dispreferred reading first. If you do not know which is dispreferred, try asking the different readings in different orders on different days.

- (69e) Use pragmatics to help favor a potentially dispreferred or apparently unavailable reading.
- (69f) Consultants' comments have the same status as translations: they are valuable clues.

**5. Extending the techniques: Investigating implicatures.** Here, I briefly illustrate how the techniques presented above can be used to distinguish between entailments and implicatures.<sup>45</sup> Recall from 1.2 above that implicatures are aspects of meaning which are inferred by hearers in certain discourse contexts, but which are cancelable without contradiction. Using an example of implicature detection which involves aspectual classes in Salish (see Matthewson [in press *a*], Bar-el [in preparation], and Bar-el et al. [in preparation]), I illustrate a range of techniques: translations, judgments, and the manipulation of object-language strings and contexts.

The issue is whether sentences containing accomplishment predicates, like those in (70), entail that the culmination point of the event was actually reached. In English, this entailment holds, as shown by the contradictory nature of the sentences in (71).<sup>46</sup>

(70a) *Helen built a house.*

(70b) *I ate the cake.*

(70c) *I knitted a mitten.*

(70d) *Joseph lit the fire.*

(71a) #*Helen built a house, but it never got built.*

(71b) #*I ate the cake, and I gave the rest to Bob.*

(71c) #*I knitted a mitten yesterday, and I'm still knitting it.*

(71d) #*Joseph lit the fire, but it didn't get lit.*

In St'át'imcets, sentences containing accomplishment predicates are spontaneously translated into English using past-tense, perfective forms. What we do not yet know is whether the sentences in (72) entail culmination, just like their English glosses:

(72a) *čáq<sup>w</sup>-an-łkan      ta      n-kłks-a*  
 eat-DIR-1SG.SUBJ    DET    my-cake-DET

'I ate my cake'.

<sup>45</sup> Many thanks to an anonymous reviewer for suggesting that this section be included.

<sup>46</sup> Some English speakers find some of the sentences in (71) acceptable, while others do not. Those who do find them acceptable sometimes explain the meaning as involving the completion of the event, but state that the agent "did a bad job." The English judgments contrast markedly with the St'át'imcets ones below.

(72b) *q̇əč-ən-łkán*      *ti*      *čázxən-a*  
 hook-DIR-1SG.SUBJ    DET    rug-DET  
 ‘I hooked a rug’.

(72c) *məč-ən-łkán*      *ta*      *púk<sup>w</sup>-a*  
 write-DIR-1SG.SUBJ    DET    rug-DET  
 ‘I wrote the book’.

Further probing is obviously required. The next step is to ask for consultants’ explicit judgments about whether sentences like those in (72) mean that the event culminated. (72’a)–(72’c) give consultants’ comments on (72a)–(72c). From these comments we can see that culmination is judged to have occurred.

(72’a) “Sounds like you ate all of it.”

(72’b) “That sounds like a finished product.”

(72’c) “You’re finished.”

The final step is to determine whether the culminations are entailed or merely implicated. The way to test for this is to attempt to cancel the culmination and see whether or not one obtains a contradiction. The results for St’át’imcets demonstrate that culmination is not part of the truth conditions for accomplishments but is only an implicature. All speakers freely accept all sentences of this form. (See Matthewson [in press *a*] for more examples using a variety of accomplishment predicates.)

(73a) *čáq<sup>w</sup>-an-łkan*      *ti*      *n-kíks-a*      *łk<sup>w</sup>únša* *k<sup>w</sup>u*      *šqít*,  
 eat-DIR-1SG.SUBJ    DET    1SG.POSS-cake-DET    now      DET    day  
*łú?*      *qəł-xál-łkan*      *k<sup>w</sup>u*      *k<sup>w</sup>ík<sup>w</sup>əna?*      *łú*      *natx<sup>w</sup>*  
 but    save-MID-1SG.SUBJ    DET    few      until    tomorrow  
 ‘I ate my cake today, but I saved a little for tomorrow’.

(73b) *q̇əč-ən-łkán*      *ti*      *čəšpíč<sup>?</sup>-a*,      *łú?*      *x<sup>w</sup>ay*      *łú?*  
 knit-DIR-1SG.SUBJ    DET    sweater-DET    but    NEG    just  
*k<sup>w</sup>-š*      *čúk<sup>w</sup>-š-an*  
 DET-NOM    finish-CAUS-1SG.CONJ

‘I knitted a sweater, but I haven’t finished it’.

(73c) *ʔ<sup>w</sup>əl-ən-łkán*      *ʔi*      *špámš-a*,      *łú?*      *ʔay*      *łú?*  
 burn-DIR-1SG.SUBJ    DET    firewood-DET    but    NEG    just  
*k<sup>w</sup>-ən-š*      *ka*      *ʔ<sup>w</sup>əl-š-a*  
 DET-1POSS-NOM    OOC    burn-CAUS-OOC

‘I tried to make a fire, but it wouldn’t burn’.

(Literally: ‘I burned the firewood, but I wasn’t able to burn it’.)

By using a variety of elicitation techniques, we were able to establish a quite subtle fact about the meaning of accomplishments in St'át'imcets: culmination is not completely absent from sentences containing accomplishments. In out-of-the-blue contexts, consultants judge that culmination has taken place. However, the culmination can be canceled without contradiction and is therefore not entailed but only implicated.

**6. Conclusion.** I have argued that for the purpose of collecting useful information about meaning, direct elicitation is an indispensable technique. Evidence that pure text-collection or the collection of only naturally-occurring data is insufficient was provided, along with a detailed set of guidelines for conducting semantic fieldwork. With regard to use of a meta-language, I have argued that it is legitimate and sometimes even preferable to use the meta-language when constructing discourse contexts and eliciting judgments. I believe that the collection of translations is a relatively minor part of the semantic fieldworker's "job," since translations do not provide direct evidence about meaning and are subject to certain drawbacks. Throughout, I have emphasized that one must resist the temptation to ask consultants to conduct analysis. Consultants' comments should be given the same weight as translations—they are clues to meaning.

Collecting information about meaning is a nontrivial task which involves intensive work with native-speaker consultants. For this very reason, it is also urgent. The endangered status of almost all Amerindian languages, combined with the impossibility of extracting semantic information solely from texts, as well as the importance of semantic information for language learners, makes semantic fieldwork one of the most important tasks Amerindianists can undertake.

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