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8 Receptive Multilingualism

8.1 Introduction

Multilingualism is part of daily life for a large part of the world's population (see Chapters 2 through 5, this volume). For many people, multilingualism causes a communicative challenge. If speakers with different native language (L1) backgrounds want to communicate, they need to find a way to cross linguistic borders. However, language acquisition is mostly hard work. It requires mastering grammatical rules, memorizing word lists, and practicing pronunciation. Many speakers feel insecure about speaking or writing in a language that they have not mastered well. Furthermore, it is only possible for an individual to learn a limited number of languages. Many people have not learned other foreign languages up to a standard for cross-border communication. Often, the solution is to use a *lingua franca,* a language that makes communication possible between people who do not share a first language. Various lingua francas are used in different parts of the world, but English has become the global lingua franca of the 21st century. However, results of surveys (e.g., EF EPI 2017) show that people vary to a large extent in their level of English proficiency depending, for example, on gender, age, level of education and country. Many people have difficulties understanding and speaking English. Therefore, alternative modes of communication have been explored (Backus et al. 2013).

In many situations, a level of mutual understanding sufficient to exchange information can be achieved if the speakers avail themselves of what is often referred to as receptive multilingualism (RM).[1] The RM model is based on the observation that some languages are so closely related that they are mutually intelligible. In such a situation, the speakers are able to communicate rather successfully while both are using their own language. The advantage of this kind of communication is that it is easier and more efficient for most speakers to express themselves in their native language than in English or in another foreign language. The fact that both participants in a conversation can speak the language they master best, their native language, results in an inherent fairness

1 Other frequently used terminology that cover approximately the same concepts are *plurilingual communication, semi-communication, intercompréhension*, and *lingua receptiva*. The choice of terminology mainly depends on the research paradigm being used.

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and equality between speakers who both have to make an effort to understand the other language. Furthermore, language is an essential part of identity; therefore, it is important for many speakers to use their native language when communicating with others. Sometimes the motivation for engaging in RM may not be a lack of proficiency in the language of the interlocutor but rather a socio-political motivation to stress the belonging to a certain cultural or ethnic group (ethnic marking). Bilaniuk (2010) shows how speakers of Ukrainian and Russian use RM to defuse the contested issue of language choice even though they speak both languages. She notes that this kind of RM is characterized by resistance to linguistic accommodation and an attitude of purism.

Communication by means of RM typically involves languages and dialects that are genealogically related and share many grammatical, lexical and phonological features. The human language processing mechanism shows a remarkable robustness with respect to incomplete or unfamiliar information. Many possible features are not realised in a normal linguistic utterance. Usually however, understanding is not in any way hampered by this. To the listener, closely related languages and dialects show similarity with different kinds of imperfect and unfamiliar languages; therefore, speakers of languages that are mutually intelligible to various degrees can still communicate.

RM can also be used in situations where the languages are less closely related but where the interlocutors have acquired sufficient passive competence in each other's languages to be able to communicate. A distinction can be made between *inherent* and *acquired* RM (Kluge 2007). The former relies on language features that are available to interlocutors prior to language learning because of the close relationship between L1 and L2, whereas the latter presupposes some acquired knowledge and typically involves less closely related languages. The differences are gradual rather than dichotomous. Furthermore, situations where speakers use third language intervention to communicate are also considered as RM (*mediated* RM, Branets et al. 2019). An example is Estonian L1 speakers with knowledge of Russian who can understand Ukrainian (Branets et al. 2019).

For many speakers, it feels rude and impolite at first to use RM. This could be because it goes against our natural eagerness to accommodate to the speaker (Giles and Ogay 2007). However, through history, RM has been an important means of communication. For example, RM was used in face-to-face trading communication and political consultations in northern Europe between speakers of Low German and Scandinavian (Braunmüller 2007) and in the Romance language area (Blanche-Benveniste 2008) during the late Middle Ages, until nationalism and linguistic standardization and the resulting ideal of linguistic loyalty and monolingualism led to a more restricted use of this kind of communication. For many other historical situations, there is a lack of

primary reports on the use of RM. We also have no information about the number of languages or the number of speakers involved in RM today. However, it can be assumed that RM was often the only possible manner of communication in the past and still is in situations where the speakers have not learned any other language than their native language or have not learned an L2 that the interlocutor can also understand.

Scandinavia provides one of the best documented examples of communication by means of inherent RM and has received the most attention from linguists (e.g. Delsing and Lundin Åkesson 2005; Schüppert 2011; Zeevaert 2004). Many people from Denmark, Sweden, and Norway favour RM above a lingua franca when talking to persons from the neighboring countries. For example, a Danish tourist visiting Sweden will often speak Danish to the Swedes he meets with the Swedes answering back in Swedish. Some research has been carried out on RM in the rest of the Germanic language area (e.g. Beerkens 2009; Gooskens et al. 2015; Ház 2005) and other Indo-European languages, in particular the Romance language area (Conti and Grin 2008; Jensen 1989) and the Slavic language area (Golubović 2016; Jágrová et al. 2019; Nábělková 2007).

Outside Europe, there was a vivid interest during the 1950s to establish the mutual intelligibility of American Indian languages (Hickerton et al. 1952; Voegelin and Harris 1951). The aim was to investigate the genealogical relationship between language varieties and to develop a single orthography for multiple closely related language varieties in the context of literacy programs (e.g. Anderson 2005; Casad 1974). More recently, there has been research on mutual intelligibility between *inter alia* Chinese dialects (Tang and Van Heuven 2009), Arabic language varieties (Čéplö et al. 2016), Finnish and Estonian (Härmävaara 2014) and Turkish and Azerbaijani (Sağın-Şimşek and Ünlü 2017). RM has also been described as a widespread mode of multilingual interaction in Australian indigenous communities (Singer and Harris 2016).

RM has received less scientific attention in other parts of the world. It is not possible to draw up a complete list of language pairs that are mutually intelligible to such an extent that they can be used for RM. To do so, we would first have to define when two language varieties are similar enough to be used for RM. Furthermore, it is unknown to what extent and between which languages RM is used worldwide. It should be noted that although research has been carried out to establish the level of mutual intelligibility between particular language pairs, it does not necessarily mean that the speakers of the involved languages actually use RM for communicative purposes. Furthermore, RM may not be used even though the linguistic preconditions are present. Quantitative data about the actual use of RM has only been collected for specific language combinations. For example, the results of a survey among 252 Dutch and German respondents who

either work for governmental or civil society organizations in the Dutch-German border area (Beerkens 2009) showed that RM was said to be used at least in one situation by 27% of the respondents. RM was used less often than L1-L2 or L2-L2 combinations involving English, German and Dutch.

Whether RM is chosen as the mode of communication often depends on the individual interactants involved and the particular situation and domain in which it is used (Beerkens 2009). RM is commonly used for discourse in families where parents have different language backgrounds and inter-generationally among immigrant families. For example, the children of Turkish immigrants in Germany may speak German to the parents who then answer in Turkish (Herkenrath 2012). Such children are often productively bilingual and their choice of language may depend on various factors such as the content and context of the conversation and the presence of outsiders who may not understand one of the languages. The application of the RM mode may also depend on the language policy of particular institutions, such as educational institutions (Vetter 2012), governmental organizations (Ribbert and ten Thije 2007), the army (Berthele and Wittlin 2013), and the work place (Lüdi 2013). RM can be used for spoken as well as for written communication, but the processes leading to mutual understanding may be different. In spoken communication, the listener will mostly get only one attempt to process the input and the processing time is limited, whereas in written communication, there is no time limit and the reader can reread the message and search for additional cues in the context if necessary. On the other hand, in spoken communication there is often more interaction, and both speaker and listener can check mutual comprehension during the conversation. In most of this chapter, I will focus on spoken communication, but many aspects of RM discussed can be generalized to written communication as well.

Research on RM is interesting from a theoretical perspective. It provides a greater understanding of the robustness of the human language processing system. It may provide answers to questions of how deviant language can be before it is no longer intelligible to the listener and what factors play a role in successful communication by means of RM. Knowledge about the determinants of RM is useful for language planning at the national and international level. It is important to know how linguistic distances can be bridged. If smaller languages are to survive, it is important to understand the mechanisms involved in using one's own language for communication with speakers of other languages. RM is promoted by the European commission to increase the mobility of European citizens and to support linguistic diversity (European Commission 2007). At the level of the individual language user, engaging in RM can be seen as a way to build up broad communicative competence and cognitive linguistic flexibility (Melo-Pfeifer 2014).

8.2 How can we measure receptive multilingualism?

An important prerequisite for successful RM is that the interlocutors can understand each other's languages. Therefore, to be able to determine under what conditions RM works and what its preconditions and its limits are, we need to be able to measure mutual intelligibility. Mutual intelligibility is mostly defined as a property of a pair of languages, and in this definition, the level of mutual intelligibility is a consequence of objective lexical, phonological and grammatical similarities between the languages themselves. However, it is not a straightforward task to quantify linguistic similarity since languages may differ at all linguistic levels, and at each of the linguistic levels, languages may vary on many different parameters. For example, consonant similarities have been found to be more important for mutual intelligibility than vowel similarities (Berthele 2011), and similarities of word onsets have been found to be more important than similarities in the rest of the word (van Heuven 2008). In recent years, objective techniques for quantifying the linguistic similarity of language varieties have become more and more sophisticated (see Section 8.3). However, there is not a priori way of weighing the different linguistic dimensions in order to express how well speakers of two languages can understand each other. Furthermore, the level of mutual intelligibility is dependent on a large number of non-linguistic factors such as the background and experience of the interlocutors and their attitude towards the L2 and its speakers (see Section 8.4). For this reason, it is necessary to use behavioral tests to quantify the level of mutual intelligibility.

Ideally, we would like to be able to express how well speakers of two languages understand each other's languages by some standard measuring procedure. However, for several reasons, it is problematic to develop such a measurement. Firstly, mutual intelligibility is gradual rather than absolute, reflecting the fact that related languages are often part of a dialect continuum. It is not clear how similar two language varieties should be to be mutually intelligible and whether an intelligibility threshold can be defined. For example, how many L2 words should a listener be able to understand to engage in successful RM? Whether the exchange of information between speakers of two varieties in such a continuum is successful also depends on the purpose and the subject of a conversation. Secondly, the background and personal characteristics of participants influence how well they understand the test language (see Section 8.4) and it is impossible to select a group of participants that would be representative of all speakers of a language. When we test mutual intelligibility of two languages, we

are therefore forced to test one or more specific subgroups, e.g. a specific age group, speakers from a certain geographical area and/or educational background. Thirdly, the nature and purpose of the intelligibility test will have a bearing on the results as the same participant may be more successful in one kind of test than in another.

Many different tests have been developed to test mutual intelligibility (see Gooskens 2013 for an overview). The choice of a method for measuring intelligibility depends on a number of factors such as the purpose of the measurements, available time and resources, literacy of the participants, and familiarity of the researcher with the test languages. An easy and efficient way to measure intelligibility of a language is to ask subjects to rate along a scale how well they think they understand the language at hand (opinion testing). However, a person's reported language behavior may not correspond to his or her actual language behavior. It rather provides information about people's subjective ideas about the intelligibility of languages. Therefore, most researchers prefer to test actual speech comprehension (functional testing). Examples of such tests are open questions or multiple-choice questions about a text, retelling and translation tasks, cloze tests and various kinds of behavioral or reaction time tests.

The disadvantage of functional testing is that it is generally difficult to abstract away from individual speakers and test situations. Doetjes (2007) investigated the effect of six different test types (true/false questions, multiple-choice questions, open questions, word translation, summary, and short summary) on the measurement of the intelligibility of Swedish among Danes. On average, the subjects gave the highest percentages of correct answers to the true/false questions (93%) and the lowest percentages when asked to write short summaries of a text (66%). This shows that it is not possible to give an absolute answer to the question of how well subjects understand a language. In addition, the researcher should attempt to avoid priming effects, ceiling effects, too-heavy memory load and other unwanted effects. These considerations make it rather time consuming to develop and carry out the tests.

In the context of RM, it is important to note that most methods measure the intelligibility of language A among speakers of language B. Mutual intelligibility can be measured by also testing the intelligibility of language B among speakers of language A. Speakers of language A may have more difficulty understanding language B than the other way around. By understanding the reasons for asymmetric intelligibility, we can get insight into the factors determining the level of intelligibility. Asymmetry has been observed between many language pairs, for example between Spanish and Portuguese (Jensen 1989), Dutch and Afrikaans (Gooskens and van Bezooijen 2006) and between Czech and Slovak (Nábělková 2007). The best-documented case of asymmetric intelligibility is Danish-Swedish

mutual intelligibility. Danes generally understand spoken Swedish better than Swedes understand Danish (Gooskens et al. 2010; Schüppert 2011). Various linguistic and extra-linguistic factors to be discussed in detail in Sections 8.3 and 8.4 can explain these findings.

8.3 Linguistic determinants

As discussed in the introduction, a distinction can be made between inherent and acquired RM. Simons (1979: 3) defines inherent intelligibility as "Theoretical degree of understanding between dialects whose speakers have not had contact". This means that in the case of inherent RM, speakers can communicate on the basis of the linguistic overlap between their L1s. Genealogically related languages are likely to show lexical overlap; therefore, mutual intelligibility can be expected to correlate with the genealogical characterization of the languages. In addition to lexical differences, differences between languages can be found at all other linguistic levels (phonology, orthography, morphology and syntax), but some of these levels are more important for intelligibility than others (Gooskens and van Heuven 2019). Note that linguistic differences can be asymmetric and can be part of the explanation for asymmetric mutual intelligibility (see Section 8.2). For example, Danish might have two synonyms for a concept, which has only one equivalent in Swedish. An example is *rom* 'room' in Swedish and *rum* or *værelse* in Danish. A Swede will probably understand the Danish cognate word *rum* but not the non-cognate *værelse* unless he or she has somehow learned it. On the other hand, a Dane will easily understand Swedish *rom*. Phonetic, morphological and syntactic transparency may also be asymmetric. Below I will discuss linguistic factors that have been shown to play a role in the explanation of the level of mutual intelligibility between closely related languages.

8.3.1 Lexical differences

The intelligibility of words is the most important and central aspect of speech intelligibility. A listener needs to be able to recognize words to understand a message. If he has had no previous exposure to the language, he will only be able to understand words that are historically related to the corresponding words in his own language (cognates), unless he knows them from a cognate in another language that he is familiar with. Lexical differences between languages are often

expressed quantitatively as the percentage of non-cognates (historically unrelated words) in the two lexicons (Séguy 1973). The percentages of non-cognates have been shown to correlate negatively with scores on tests of mutual intelligibility between closely related languages: the larger the proportion of non-cognates, the lower the intelligibility. For example, Gooskens and van Heuven (2019) found significant correlations of -.95 for 14 Germanic language combinations, -.69 for 15 Romance combinations and -.80 for 29 Slavic language combinations ($p < .01$). These results confirm the importance of lexical similarities for intelligibility, but they also show that they can only predict intelligibility to a certain extent. There are a number of explanations for this finding.

First, some non-cognate words in a text can easily be interpreted from the context or have little negative influence on intelligibility. The meaning of other words may be more difficult to predict or be more important for understanding the text. Salehi and Neysani (2017: 4) refer to such words as "critical words". It is often assumed that content words (nouns, adjectives, numerals, main verbs) are more important for intelligibility than function words (articles, conjunctions, prepositions, pronouns, auxiliaries, modals, particles, adverbs) because they express the content of the message (van Bezooijen and Gooskens 2007). The importance of content words becomes clear when looking at the vocabulary in telegrams and newspaper headlines. To express a message as shortly as possible, most function words are left out; yet it is possible to understand the message. And even within the group of content words, some words are more important than others in certain contexts. Salehi and Neysani (2017) found that Turkish listeners had more difficulties guessing the meaning of Iranian-Azerbaijani verbs and nouns than the meaning of adjectives and adverbs. They explain this by the higher semantic load of nouns and verbs. This means that it may be possible to improve lexical distance measurements as predictors of intelligibility by weighing differences in verbs and nouns more heavily than differences in function words, adjectives and adverbs.

It is often assumed that false friends, i.e. pairs of words in two language varieties that sound similar but differ in meaning, form a major problem for the mutual intelligibility of closely related languages. While non-cognates will in principle hinder intelligibility, so-called false friends may cause even larger problems because they may actually mislead the listener. In addition, listeners are less likely to use contextual cues to guess the meaning of false friends than in the case of other unknown words because they do not realize that they are non-cognates. Salehi and Neysani (2017) found that false friends have a stronger negative effect on intelligibility of Turkish among Iranian-Azerbaijani speakers than other unknown words. It should also be noted that there are words that could be considered semi-false friends. Those are words that have a broad meaning in one

language and a narrow meaning in the other language, e.g. *yapmak* meaning 'to make' in Turkish and 'to bake' in Azerbajani (Salehi and Neysani 2017) or words that have several meanings and are false friends in one of these meanings, e.g. German *befestigen* meaning 'to fasten' or 'to confirm'. The Dutch equivalent *bevestigen* means 'to fasten' but does not have the meaning 'to confirm'.

8.3.2 Phonetic differences

As stated above, lexical similarities between two languages are likely to play a major role in the mutual intelligibility of two languages. However, cognates in two languages can sometimes be unrecognizable for the listener because of developments in pronunciation; therefore, phonetic similarity is likely to be an important predictor of intelligibility as well. In recent years, dialectometric methods for measuring phonetic distances objectively have been developed and refined. Even though the methods were primarily developed with the aim of characterizing dialect areas and drawing dialect maps, dialectometric measurements have also proved to be good predictors of the mutual intelligibility of closely related language varieties. The most widely used method for measuring communicatively relevant phonetic distances is the Levenshtein algorithm (Nerbonne and Heeringa 2010). Phonetic distances between two language varieties are computed for aligned cognate word pairs by computing the smallest number of string edit operations needed to convert the string of phonetic symbols in language A to the cognate string in B. Possible string operations are deletions, insertions and substitutions of symbols. The total number of points is then divided by the length of the alignment (number of alignment slots) to yield a length-normalized Levenshtein distance. The overall phonetic distance from language A to language B is the arithmetic mean of the normalized distances for all cognate word pairs. A number of investigations have found high correlations between intelligibility measurements and Levenshtein distances (Gooskens 2007). Jágrová et al. (2019) and Moberg et al. (2007) used other algorithms (adaptation surprisal and conditional entropy) that are able to capture the asymmetric mutual intelligibility found between many language pairs.

The simplest version of the Levenshtein algorithm uses binary differences between alignments; more advanced versions use graded weights that express acoustic segment distances. For example, the pair [i, o] is seen as being more different than the pair [i, ɪ]. However, for the purpose of modelling intelligibility, it is not clear how the differences should be weighted. The optimal weighing is likely to differ for each language combination and depends on predictability and generalizability of sound correspondences. Improvements of the algorithm should take

into account the human decoding processes. For example, Gooskens et al. (2008) found that consonants are better predictors of the intelligibility of Scandinavian dialects among speakers of Standard Danish than vowels and that consonant substitutions are better predictors than insertions or deletions. Kürschner et al. (2008) correlated the results of an experiment on the intelligibility of 384 frequent Swedish words among Danes with eleven linguistic factors and carried out logistic regression analyses. Phonetic distances explained most of the variance. However, they also found that individual characteristics of words can influence intelligibility. Word length, different numbers of syllables in L1-L2 words pairs, Swedish sounds not used in Danish, neighborhood density, and word frequency also influenced intelligibility significantly. Gooskens et al. (2015) found that minor phonetic details that could hardly be captured by Levenshtein distances may sometimes have a major impact on the intelligibility of isolated words.

8.3.3 Morpho-syntactic differences

Previous studies of mutual intelligibility have focused largely on the role of lexical and phonetic factors. Still, there is evidence that differences in morphology and syntax might also affect the ability to comprehend a closely related language. For example, Gooskens and Van Bezooijen (2006) found that Dutch speakers tend to understand Afrikaans better than vice versa. One of the reasons for this is the simplified grammar of Afrikaans. Similarly, by means of reaction time and correctness evaluation experiments, Hilton et al. (2013) investigated whether Danes' comprehension of Norwegian sentences is impeded by certain Norwegian grammatical constructions. Their results showed that when listeners were presented with sentences with word-order and morphological differences, they needed more time to decide whether the content of the sentences was correct, and they made more mistakes. This means that morpho-syntactic differences should not be disregarded in studies of the linguistic dependencies of RM. This is confirmed by Gooskens and van Heuven (2019) who found significant correlations between syntactic distances and intelligibility (r = .72 for 14 Germanic language combinations, r = .77 for 15 Romance language combinations and r = .53 for 29 Slavic language combinations, $p < .01$).

8.3.4 Paralinguistic factors

In addition to linguistic factors, paralinguistic factors may also play a role in RM. Paralanguage includes pitch, volume, speech rate, modulation, and fluency.

Non-vocal phenomena such as facial expressions, eye movements, and hand gestures are often included in the list of paralinguistic factors (Lyons 1977). Little research has been carried out to experimentally test the role of paralinguistic factors for the success of RM.

It is, for example, logical to assume that high speech tempo will influence the intelligibility of a message. Speaking quickly increases the demands on the articulatory apparatus; therefore, the speaker is likely to reduce specific sound entities when speaking fast. This makes it difficult to find lexical boundaries between words, resulting in intelligibility difficulties. Furthermore, a short time frame makes it challenging for the listener to decode the message. He or she needs to decompose and process the stream of speech sounds more quickly and this is demanding for working memory. In his H & H ("hyper"- and "hypo"-articulation) theory, Lindblom (1990) argues that speakers of any language are constantly balancing between *hyperspeech*, i.e. clear articulation to maximize intelligibility in the listener, and *hypospeech*, i.e. unclear speech to minimize the articulatory effort for the speaker. Generally, these two opposing efforts lead to speech which contains a certain amount of reduction phenomena but is still fairly intelligible to the listener. The Danish language seems to be a case where speakers have a preference for hypospeech. Recent research suggests that Danish is spoken significantly faster than Norwegian and Swedish (Hilton et al. 2011) and this may be one of the reasons why Danish is difficult for Swedes to understand (Schüppert et al. 2016). Bleses et al. (2008) report a delay in vocabulary development in Danish infants and children compared to that of their peers from ten European countries and from the U.S. and Mexico. They suggest that this delay could be attributed to the high number of reduction and assimilation processes in Danish compared to other languages which makes it difficult to find lexical boundaries in the speech signal.

8.4 Extra-linguistic determinants

In the previous section, I discussed linguistic and para-linguistic differences between languages that may determine how successful RM is. However, not all speakers of the same L1 may understand an L2 equally well. The level of understanding between two interlocutors with different L1s also depends on a number of individual speaker and listener competencies and activities.

8.4.1 Personality traits

Individual personality traits identified within psychology have been shown to exercise influence on language learning; therefore, they can also be expected to play a role in RM. Examples of such traits are the ability to adapt to new situations, knowledge of the world, sociocultural resources, and cognitive resources. Only few investigations have been carried out to experimentally test the role of such individual factors for RM. Lambelet and Mauron (2017) quantified five major personality factors (neuroticism, extroversion, openness, agreeableness, and conscientiousness) by having 181 French-speaking Swiss secondary school children aged 13 to 15 years old fill out a questionnaire with 60 five-point Likert-scale questions. The children also completed four reading comprehension exercises to test their understanding of Italian and answered questions pertaining to the appreciation of the task. The results showed significant correlations between appreciation of the task and comprehension but no significant correlation between comprehension and personality traits. However, there was a clear relation between task appreciation and the personality traits "openness" and "extroversion"; therefore, the authors concluded that personality traits should not be ignored as a factor of importance for RM.

Another individual characteristic that may influence intelligibility is the age of the listener. Vanhove and Berthele (2015) had 159 German-speaking Swiss participants aged 10 to 86 translate 45 written and 45 spoken isolated Swedish words with German, English or French cognates. The results showed that in the written modality, cognate guessing skills improve throughout adulthood, while in the spoken modality, cognate guessing skills remain fairly stable between ages 20–50 but then start to decline. The authors explained the different age trends in the two modalities by a differential reliance on fluid intelligence (reasoning and problem-solving skills) and crystallized resources (in particular, L1 vocabulary knowledge). Fluid intelligence tends to increase sharply into young adulthood and then declines, while crystallized resources stay stable or even increase throughout adulthood. Vanhove and Berthele (2015) found crystallized knowledge to be a stronger predictor of written cognate guessing success, whereas fluid intelligence is the most important predictor in the spoken modality. As possible explanations for these results, they suggest that it may be more cognitively challenging to compare spoken phonemes across languages than letters and graphemes and that it may be the time pressure associated with auditory stimulus presentation that causes the difference.

8.4.2 Attitudes

There are large inter-individual differences in attitudes towards RM as a mode of communication and towards the language and country of the speakers of other languages. Such attitudes may affect the willingness and motivation to understand an L2 speaker (Lambelet and Mauron 2017). Negative attitudes or social stigmas attached to languages are often seen as a potential obstruction for successful communication between speakers of different languages. If people do not have the will to try to understand each other, linguistic similarity between languages is of little help. Inhabitants from neighboring countries often have an ambivalent attitude towards each other. For example, it has repeatedly been suggested that the asymmetric intelligibility between Swedes and Danes can be traced back to the less positive attitudes among Swedes towards the Danish language, culture, and people than the other way around. Significant correlations between attitude and intelligibility have been found (Delsing and Lundin Åkesson 2005). However, it is difficult to establish whether negative attitudes are a result of poor intelligibility, or whether poor intelligibility is a result of negative attitudes, caused by some other factor.

Various sources of attitudes towards languages can be distinguished. Giles et al. (1975) formulated two hypotheses, termed the imposed-norm hypothesis and the inherent-value hypothesis. The imposed-norm hypothesis stresses the importance of non-linguistic factors such as social connotations and cultural norms. A language variety would be considered attractive when its speakers are socially privileged. This would explain why English listeners locate Received Pronunciation (RP or BBC English) at the top of the aesthetic hierarchy, regional English accents in the middle, and urban English accents at the bottom (e.g., Trudgill and Giles 1978). RP would be placed at the top because of cultural prestige, whereas regional accents are judged more positively than urban accents because the former are associated with a more attractive lifestyle and environmental setting. The inherent-value hypothesis claims that language attitudes are (at least partly) triggered by qualities that are intrinsic in language. It argues that some languages (or language varieties) are intrinsically more esthetically pleasing than other languages due to their sound characteristics.

It is not a straightforward task to measure language attitudes. This may be part of the explanation for the weak relation between intelligibility and attitude found in previous research. Direct questioning may elicit opinions that are different from subconsciously held language attitudes (cf. Kristiansen 2009). Evaluations of recordings of languages may be affected by individual speaker characteristics such as voice quality, mean pitch level and intonation (e.g. Zuckerman and Driver 1989). A way to collect less consciously held attitudes

and neutralize the influence of voice characteristics on esthetic judgments is to use the "matched-guise" technique. A matched-guise test consists of lexically identical speech samples from a balanced bilingual speaker (i.e., a bilingual with equally high proficiency levels in both languages). The recordings of the bilingual are played interspersed with other recordings (distracters) to avoid listeners being aware of hearing the same speaker twice. Listeners are then asked to evaluate the speakers that they are hearing for different personality traits such as kindness, richness and beauty. Since the two varieties spoken by the bilingual are in fact produced by the same speaker, language usage is the only feature between the two recordings that differs. This matched-guise technique was first used for the investigations of language attitudes in the French-English bilingual setting in Quebec, Canada (Lambert et al. 1960). The results showed that the way participants judged personality traits of the bilingual speaker were strongly influenced by the language spoken. Both English and French-speaking participants rated the speaker more positively on status and solidarity traits when he spoke English, which is believed to reflect the English language's higher status in Quebec.

8.4.3 Exposure

An important factor in explaining the level of intelligibility of a closely related language is the nature and amount of previous exposure to the language. The more exposure listeners have had to a language, the more likely they are to understand it. Previous research (e.g., Golubović 2016; Hedquist 1985) has shown that in the case of closely related languages, only a short language course that makes speakers conscious of the most important differences and similarities between their native language and the language of the speaker can improve receptive proficiency considerably.

Similarly, the amount of exposure to the language of the speaker outside the classroom has been shown to correlate positively with intelligibility and may be part of the explanation for the asymmetric intelligibility between Swedish and Danish. Generally, Danes are more often confronted with Swedish, for example through the media and on vacation, than the other way around (Jørgensen and Kärrlander 2001). Through exposure, the participant will get used to the sounds of the language and how these sounds correspond to those in his own language. He or she is also likely to learn some of the vocabulary.

Exposure can be measured and quantified in various ways. The most straightforward way is to ask participants to indicate on a scale how often they are exposed to the language, for example by reading books and newspapers,

watching television, meeting speakers in person, etc. (Delsing and Lundin Åkesson 2005; Gooskens and van Heuven 2019). Second, participants are likely to be more exposed to varieties spoken in geographically close places than to more remote varieties. Geographical distances can therefore be used to predict intelligibility. Distances can be measured as straight-line distances in kilometers ("as the crow flies") or as travel distances (Gooskens 2005). Finally, exposure can be measured by calculating percentages of non-cognates that the listener can understand. The assumption is that a listener will only be able to understand a non-cognate if he or she has had some exposure to the language variety, so participants with little exposure to a language are expected to translate fewer non-cognates correctly than listeners with a lot of previous exposure (Gooskens and Schneider 2019).

8.4.4 Literacy

Orthographical knowledge may play a role in the intelligibility of a closely related language in the spoken form. This may be at least part of the explanation for the asymmetric mutual intelligibility between Danish and Swedish as can be illustrated by the following example. Literate Danes confronted with the Swedish word *land* /land/ 'country' can probably use their orthographic knowledge to match this word to their native correspondent *land* /lanˀ/. On the other hand, this is not the case for Swedes listening to the Danish word because of the absence of the phoneme /d/, which is present in Swedish pronunciation as well as orthography. Gooskens and Doetjes (2009) showed that there are more Swedish words that Danes can understand by means of the orthography in the corresponding Danish cognates than Danish words that Swedes can use their orthography to recognize. This difference can be explained by the fact that spoken Swedish is close to both written Swedish and written Danish, whereas spoken Danish has changed rapidly during the last century and has undergone a number of reduction processes that are not reflected in the orthographic system. This means that Danes can often understand spoken Swedish due to its close similarity to written Danish, while Swedes get less help from written Swedish when understanding spoken Danish. Schüppert (2011) used event-related brain potentials (ERPs) to collect evidence that online activation of L1 orthography enhances word recognition among literate speakers of Danish who are exposed to samples of spoken Swedish. On the basis of these investigations, it can be concluded that Danish listeners indeed seem to make more use of the additional information that the L1 orthography can provide when listening to Swedish than Swedes when listening to Danish.

8.4.5 Plurilingual resources

It can be assumed that listeners can understand a closely related language because of its linguistic overlap with the native language (see Section 8.3). However, most listeners have knowledge of more languages or dialects than their own L1. Often, this knowledge can also be used to understand the closely related language. Listeners may understand some non-cognate words because they are loanwords from a language they are familiar with. For example, Danish has German loanwords that are not found in Dutch. Most Dutch people learn some German at school and can use this knowledge to understand some Danish words borrowed from German but without a Dutch cognate. Speakers of Dutch might, for example, be able to correctly translate the Danish word *bogstav* 'letter' into the Dutch non-cognate *letter* through the L2 German cognate *Buchstabe* (Swarte et al. 2015). The EuroCom project (e.g., Hufeisen and Marx 2007; Chapter 4, this volume) is based on the principle that learners of a new language can be trained to use their knowledge of a related, formerly learned language during language comprehension.

When listeners are multilingual, they can use several languages when trying to understand an unknown related language. The languages are interrelated in the mind of the listener in a complex and dynamic way, and a number of factors determines which languages are activated and how. Mieszkowska and Otwinowska (2015) provide an overview of such factors. For example, recently and frequently activated languages tend to be more easily activated than less recently and infrequently activated languages; languages that are perceived to be linguistically close are more easily activated; if the degree of proficiency in a language is high, it is more likely to be activated. Multilingual listeners tend to have a higher level of metalinguistic awareness and are better able to use crosslinguistic similarity to understand a language (see also Chapter 15, this volume).

8.4.6 Strategies

As in all kinds of interaction, participants in RM need to master interaction strategies to cope with and prevent misunderstandings. Depending on their proficiency levels, both speakers and hearers can employ various strategies. Many interaction strategies have been described by discourse analytical experts for communication between L1s or L2s and various taxonomies have been proposed within second language acquisition studies. Van Mulken and Hendriks (2015) base their taxonomy of RM and English as a Lingua Franca

communication strategies on some of these studies. They make a distinction between five groups of strategies: showing communicative vulnerability (asking for help, signaling uncertainty), offering help, compensatory strategies (describing, code-switching), meta-discursive strategies (discussing task fulfilment), and paralinguistic strategies. They found that different written communication modes (RM, Lingua Franca, L2-L1) are characterized by a preference for particular strategies. In the case of the RM interactions that they set up for their investigation, participants often resorted to paralinguistic strategies. The authors explain that speakers do not need to focus on resolving lexical deficiencies when using their native language and therefore, feel free to add evaluative cues to the conversation. Maybe for the same reason, metacommunication is the second common strategy used in RM interactions.

Braunmüller (2006) and Zeevaert (2004), summarized in Beerkens (2009), make a distinction between hearer strategies and speaker strategies. If the speaker is monolingual, he can only adapt his language according to his knowledge about his own language and communication with other L1 speakers. He may, for example, speak slowly and reformulate sentences. He may also avoid using words he knows to be difficult in his own language. Such words may in fact be a cognate in the language of the listener and therefore actually could have helped to improve mutual intelligibility. A speaker with knowledge of the language of the listener can use additional strategies to reach mutual understanding, such as using particular words from the language of the listener that he knows to be cognates in the two languages and avoiding non-cognates. The hearer on the other side can make clear when he does not understand the speaker and can provide feedback to show he has understood (back-channeling). On the basis of his observations, Braunmüller (2006), cited in Beerkens (2009: 28), formulates the following advice for interaction by means of RM: “don’t speak too fast”, “avoid certain words”, “articulate clearly”, “repeat”, “explain”, and “ask if something is not understood”.

Another set of strategies are of a more linguistic nature. Berthele (2011) shows that interlocutors can use their linguistic knowledge to guess the meaning of cognates in a related but unknown language (inferencing strategies). The competences for good guessing capacities that he mentions are the ability to make a flexible and selective comparison of features and patterns, focusing on consonants and neglecting or systematically varying the vowels, and the ability to use contextual information to make decisions. Furthermore, the interlocutors should know when to stop searching in order not to waste time.

8.5 RM and language policy

The use of RM as a means of communication depends to a large extent on the linguistic overlap between the languages involved and on the backgrounds of the interlocutors. However, language policy at different levels within governmental and civil society is also an important factor that determines when RM is supported and encouraged. In Scandinavia, RM has traditionally been the default communication mode among the speakers of the closely related Scandinavian languages (Danish, Swedish and Norwegian). Speakers of the Scandinavian languages are strongly encouraged by the Scandinavian authorities to use their own language rather than a lingua franca such as English when communicating with other Scandinavians because this can function as a means to unite the Northern countries politically, culturally, and economically (*Deklaration om nordisk språkpolitik* 2006). In other language constellations that may have the same linguistic basis for communicating by means of RM, this possibility is less widely applied. For example, Beerkens (2009) notes that even though the linguistic distance between Dutch and German is small enough for RM to be used as a means of communication, this language mode is not very well-known for this language constellation. At the European level, RM has been acknowledged as a means of communication that can support language diversity and maintenance and improve communication among the speakers of the large number of languages spoken in Europe (European Commission 2007). Many initiatives have been made to develop didactic programs for speakers to learn RM in different language constellations (see section 8.5.1). Such initiatives and a language policy that is supportive of RM are important for the successful use of RM because they can make speakers conscious about the possibility of communicating by means of RM and introduce it for communication at a larger scale.

8.5.1 Acquisition

Worldwide, there are many language combinations that are mutually intelligible to such an extent that the speakers can engage in RM without any prior training. However, even though communication between related languages is often possible at a basic level, in many cases where speakers have to exchange information about abstract, formal, and less familiar topics, successful receptive multilingual communication often requires some training. In various parts of Europe, educational programs have been developed to teach

receptive multilingualism (e.g., the GalaNet and GalaPro,[2] EuroCom,[3] Linee[4] and Dylan[5] projects; see also Chapter 4, this volume) but only little research has been conducted to investigate the effects of these programs. In contrast with traditional language acquisition, the speaker only needs to focus on understanding the L2, and the more challenging language production plays no role. In traditional foreign language acquisition studies, most attention has been paid to the productive aspects of the L2, and the L2 is often very different from the L1. In the case of RM, learners need to develop receptive strategies and discover that they can profit from their own language when trying to crack the L2 code; it is not necessary for them to actively acquire grammatical constructions, words and pronunciation.

Receptive competence can be improved by explicit instruction and focused attention to specific communicatively relevant linguistic similarities and differences between the L1 and the L2. Extensive discussions are found in the literature about the use of focusing on form in language teaching (Doughty 2003). An important assumption underlying explicit instruction is awareness-raising leading to metalinguistic awareness (Schmidt 2001). Due to metalinguistic awareness, learners are assumed to be able to "notice the gap" between features in the input and the learner's own actual performance and this is a necessary step in language acquisition (Schmidt 2001). Frameworks discussed by, for example, Swain (1998) are relevant for the construction of tasks to be used to develop receptive multilingualism. In such tasks, the learners' attention is drawn to lexical and phonetic/orthographic differences between L1 and L2 in order to enhance learners' intelligibility of related languages and to develop meta-linguistic awareness.

Previous studies have shown that for the acquisition of an active command of an L2, explicit instruction (tutored input with instruction and feedback) is more effective than implicit instruction without specific instruction or feedback (Spada and Tomita 2010). The situation in the case of receptive multilingualism may be different from a situation where a less closely related or unrelated language must be learned, since listeners may more easily be able to infer correspondences with their native language from untutored input than in a situation where the languages are incomprehensible for the learner.

2 http://www.aidenligne-francais-universite.auf.org/spip.php?page=sommaire_galpro_galnet
3 http://www.eurocomprehension.eu/
4 https://cordis.europa.eu/publication/rcn/11712_en.html
5 http://www.dylan-project.org/

8.6 Conclusion

There is a large number of interacting linguistic and extra-linguistic factors that should be taken into consideration when explaining or predicting how well speakers of two languages can communicate in the RM mode. RM has been suggested as a valuable addition to other modes of communication for crossing language barriers. However, more knowledge and awareness both among linguists and language professionals and among language users and policy makers are needed for this manner of communication to be more widely accepted and used.

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