Intelligibility and Global English-language Use: An Introduction

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Abstract

In a relatively short period of time, the demographics of English-language users have diversified remarkably and so have the domains of English-language use. The global spread of the language encourages novel approaches to its study and has opened new avenues of inquiry. An apt example is embodied by the term *Englishes*, which has become comfortably entrenched in the lexicon of linguists in order to better describe contemporary communicative scenarios, without bias toward idealized models. *Intelligibility* is an often evoked construct among researchers interested in processes underlying communicative effectiveness. Research findings suggest that intelligibility is established and maintained by compromise and consensus among interactants, influenced by individuals' linguistic repertoires as well as momentary interactional demands. This paper will review two prevalent conceptualizations of intelligibility and consider some empirical findings that promote speculation into influential phonological factors.

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1. Introduction

"As a means of interaction between people, language is a social phenomenon. It enables us to give public expression to private experience and to communicate and commune with others, to arrive at agreed meanings and to regulate relationships" (Widdowson, 1996, p. 20).

For many people, the English language facilitates communication both locally and globally. Its spread and use worldwide has stimulated new avenues of inquiry. World Englishes research, for example, has contributed greatly to our understanding of the roles that English takes on locally in different regions (e.g., Kachru, Kachru, & Nelson, 2009) while at the same time highlighting the complex functions that co-existing linguistic codes serve in multilingual societies (e.g., Kirkpatrick, 2010; Pakir, 1993; Pefianco Martin, 2014; Schneider, 2016). The world Englishes paradigm promotes

an encompassing view of linguistic varieties which adds granularity to analyses and interpretations of communicative functions of linguistic forms in localized settings. Bolton (2005, p. 78) identified the paradigm's "consistent pluralism and inclusivity" as holding potential "for advancing linguistic research, literary studies, cultural studies and education". Indeed, the acknowledgement of the existence of international varieties has encouraged much debate and discussion regarding language change, language policy, and educational models, among other topics.

These discussions are further complicated when one considers that people are communicating on a global scale and many of them use English to do so. Technology and the internet have changed the ways and means by which people communicate. The domains of English-language use are rapidly expanding while the demographics of English-language users are radically diversifying. As Pakir (2010) observed, there seems to be "an emerging pattern with respect to the spread of English as a global language, driven by accelerated IT use and the complex phenomenon of globalization" (p. 330). For English-language speakers, the chances that they will find themselves in situations where English is the chosen medium of international communication are increasing. Along with this increase in unanticipated encounters comes a great deal of unknown variables regarding the linguacultural background of interlocutors, that is, the amount of shared knowledge that will be available to facilitate communication. In other words, English-language users can no longer depend on preconceived assumptions regarding the characteristics of their interlocutors.

Findings from research into English as lingua franca (ELF) are suggestive of the relevance of communicative strategies in establishing and maintaining mutual understanding in globalized contact scenarios. Intelligibility is an often evoked construct in discussions of effective and successful communication. It has been observed that intelligibility is established and maintained by compromise and consensus among interactants, influenced by individuals' linguistic repertoires as well as momentary interactional demands (e.g., Mauranen, 2012; Seidlhofer, 2011; Setter & Jenkins, 2005). Mauranen (2012) identified communicative strategies such as mirroring, echoing, repetition, and increased explicitness as cooperative acts that promote shared understanding among participants using English as a lingua franca in academic settings. Other researchers have noted that ELF users intentionally manipulate linguistic forms in non-standard ways in order to increase communicative effectiveness among conversation partners (e.g., Carey, 2013; Pitzl, 2012; Seidlhofer, 2011). Current understanding of the use of English as a link language highlights the importance of a flexible disposition and a willingness to engage in order to achieve communicative ends. Intelligibility can thus be described as an interlocutor-dependent phenomenon. Firth (2009) posited that communicative alignment, adaptation, local accommodation and attunement rather than uniformity of form appear to underpin successful lingua franca interactions.

Relating specifically to pronunciation, the Lingua Franca Core (LFC) proposed by Jenkins

(2000) has encouraged research into the role of production and perception strategies among ELF users. The LFC identifies certain phonological features as influential in facilitating mutual intelligibility based on observations of ELF interactions among university students. Jenkins' proposition raises questions regarding pronunciation norms and instructional targets. Subsequent research has further examined the validity of the LFC (Deterding, 2013; O'Neal, 2015; Setter & Jenkins, 2005) and highlights the *situationality* factor (Hülmbauer, 2009) at play in ELF interactions. Variable speech productions across speakers and interactions indicate that certain features of pronunciation have more impact on communication than others. Precisely which features those are has been difficult to ascertain (see O'Neal, 2015 for discussion). This paper will review two prevalent conceptualizations of intelligibility and consider some empirical findings that promote speculation into influential phonological factors.

2. Two prevailing conceptualizations of intelligibility

The notion of intelligibility is not a new one. Nelson (2008) and Munro (2010) provided insightful perspectives on how the term has been used in the field of world Englishes (WE), on the one hand, and second language pronunciation (SLP), on the other. Munro made reference to publications by pedagogues such as Sweet (1900), Abercrombie (1949), and Gimson (1962) in order to illustrate how well entrenched the notion of intelligibility is in foreign language education circles. It is a useful reminder of the fact that some educators long ago embraced the idea that effective communication is a type of negotiated practice between conversational partners, dependent on identifying mutually satisfactory manners and means of expression. Nelson referred to the work of Catford (1950) who addressed various aspects of participant interaction in his notion of intelligibility. Catford's view of the construct took into account both utterance production and observable responses to an utterance. In other words, Catford proposed that intelligible speech is evidenced by some visible behavior on the part of the listener, thus encompassing "purposeful encoding" by the speaker and "successful decoding" by the listener (Nelson, 2008, p. 299). These ideas will resonate with those readers who are familiar with conversational analytic approaches to the description of interactional dynamics.

Although the term *intelligibility* has a rather long history, consensus on what it means remains to be achieved. The three-dimensional conceptualization developed by Smith and colleagues (e.g., Smith & Bisazza, 1982; Smith & Rafiqzad, 1979) has been widely influential in the domain of world Englishes. The Smith paradigm distinguishes between *intelligibility*, *comprehensibility*, and *interpretability*. These dimensions can be seen as relating to, respectively, physiological processes underlying decoding the speech stream, cognitive processes underlying one's ability to associate word forms with meanings, and pragmatic processes underlying how and to what extent an individual assimilates those meanings into their world view, so to speak.

In the domain of second language pronunciation (SLP), Munro and Derwing's (1995) tripartite model has been applied extensively. In this model, one's manner of speech production is described in terms *intelligibility*, *comprehensibility*, and *accentedness*. *Intelligibility* addresses how much speech a listener actually understands, *comprehensibility* a listener's experience of how difficult it is to understand speech, *accentedness* how different someone's speech patterns seem to a listener.

The two models offer different perspectives on factors that impact how speech is produced, processed, and perceived. They clearly differ in the conceptualization of intelligibility. The Smith paradigm isolates it and confines it to biological mechanisms underlying perceptual processing. The SLP model presents it as a measure of perceived effort on the part of the listener needed to 'understand the speech'. The fact that the SLP model includes accent as one of its descriptive parameters can be seen as indicative of the purposes for which the framework has been conceived, developed, and applied (i.e., to investigate experiences of migrant residents living in Canada). The Smith paradigm takes sociolinguistic precepts of Speech Act Theory as its guide, drawing on notions of locutionary force (comprehensibility) and illocutionary force (interpretability). This seems to reflect sociolinguistic perspectives related to situational considerations and a tacit acknowledgement that diversity in speech patterns (viz., accent) is a natural consequence of multilingual people interacting in plurilingual environments such as world Englishes (and English as a lingua franca) scenarios.

3. A review of some empirical findings

Smith and Nelson (2009) report on a study that used the Smith paradigm to devise a comprehensive and informative investigation into English used as an international language. The study involved three groups of subjects listening to interactions between dyads of speakers of nine different national varieties. The subject groups were categorized as *Non-native English speakers* (n=10 Japanese L1 speakers; *Native English speakers* (n=10 American English speakers), and *Mixed* (n=9; one each from Burma, China, Indonesia, Japan, Korea, the Philippines, Thailand, the US). The subjects were described as highly intelligent and well educated, but varying in experience with using English for international communication.

The experimental design was multifaceted. Listening passages were produced from recordings of mixed dyads (Speaker-Respondent) discussing forms of address used in their home country when interacting in international scenarios. Five paired recordings (i.e., China-Taiwan; India-Philippines; Japan-China; UK-Papau New Guinea; US-Indonesia) were prepared from these longer interactions. To assess intelligibility, subjects first listened to a paired recording about 10-minutes long. Then, they completed a cloze test with 10 target items while listening to a part of the longer interaction they had not heard before. The comprehensibility test was comprised of 3 multiple-choice

questions based on the initial paired recording. Finally, interpretability was measured by means of paraphrasing three phrases from the initial paired recording. Subjects completed these three tests for each of five paired recordings. Qualitative subject questionnaires were used to complement the quantitative results obtained through the three tests. Subjects responded to 8 questions relating to their self-perceived ability to understand what the participants said and to follow the exchange of information in the interaction. In addition, questions targeted perceptions of nationality and educational level of the participants in the recordings.

Findings suggested that there are observable differences among the three facets tested in the study. Intelligibility seemed easier to achieve than comprehensibility or interpretability. More than 90% of the subjects in each group scored 60% or above on the intelligibility test. Averages were noticeably lower on the tests for the two other components. It is interesting to note that native speakers were among the least comprehensible across the three groups, including the NS group. In the case of interpretability, the Mixed group showed the greatest dexterity in cross-cultural communication. This finding led the authors to suggest that having familiarity with different varieties influences perceptions of understandability positively. The authors emphasized the fact that native speakers were not found to be easily understood nor did they demonstrate superior ability to understand others. Based on their findings, the researchers arrived at the general conclusion that familiarity with different varieties exerts a stronger influence on intelligibility than L1 background.

Similar conclusions have been reached among researchers investigating cross-cultural communication from a SLP perspective. Findings from Derwing, Rossiter, and Munro (2002) indicated that listeners with exposure to and explicit instruction in a particular accent made greater gains on a post-intervention assessment task than a control group unfamiliar with the same accent. Kang and Rubin (2012) found that amount and type of contact among interlocutors increased perceptions of comprehensibility. Findings from the same study led to the conclusion that positive previous experience with communication partners can instill a willingness to listen and understand. We might go further and suggest that a positive disposition toward establishing shared understanding is the fundament upon which communicative effectiveness relies.

Sewell (2010) explored intelligibility with relation to the Lingua Franca Core (Jenkins, 2000). Three interrelated areas were considered: linguistic and psycholinguistic factors as well as evidence provided by examples of language variation and change. Sewell examined the LFC in light of the construct of functional load (FL). The discussion addressed four categories of features included in the LFC: all consonants except for the dental fricatives and dark /l/, vowel length contrasts, initial and medial clusters, and nuclear stress. Brown's (1991) FL rankings provided the basis of exploring why certain consonant and vowel sounds may have been observed by Jenkins to have a greater influence on intelligibility. Sewell proposed that conflation of some phonemic categories

may stem from psycholinguistic tendencies embodied by Trudgill's (2005) conception of speakerlistener equilibrium. Common substitutions for the dental fricatives θ and δ , for example, may be attributed to the speaker's tendency toward 'the principle of least effort'. These sounds are often substituted by speakers of diverse vernacular varieties and appear to be unproblematic for listeners to resolve, possibly due to patterns of distribution. Hence, Sewell proposed that the speaker-listener equilibrium is maintained in cases like these. When it comes to vowel sounds, the need for a discernible system of contrasts was identified as paramount since reduced systems with fewer contrasts have been observed as leading to intelligibility problems. The high front tense and lax sounds /i/ and /I/, for instance, have been found to distinguish a fairly large number of highly-frequent lexical items (Gilner & Morales, 2010). In the absence of perceptible differences between these two sounds, the processing burden may be increased and meaning may not be readily transparent. Sewell suggested that investigating the minimal perceptual distance required to maintain distinction among sounds in a vowel system might lead to modification of the LFC. More research is needed. Sewell pointed to processes underlying lexical access in order to explain the impact of initial and medial consonant clusters on intelligibility. A sequential decoding process relies upon the beginnings of words to activate cognitive word searches. Misunderstanding or mishearing initial sound sequences will misdirect a search and thus interfere with understanding. Nuclear stress was said to have more of an impact at the semantic (comprehensibility and interpretability) rather than the phonological (intelligibility). However, if we consider that nuclear stress is in effect contextualized application of lexical stress, which has also been observed as influencing lexical access (Cutler, 1984; Field, 2005), then its impacts on word-level intelligibility may be underestimated.

Sewell went on to address various implications of the observations gained through this kind of features-based interpretative framework. First, it was suggested that if, as FL interpretations seem to suggest, certain phonological features are important for maintaining intelligibility then these factors broadly apply to all speakers in similar ways. Thus, phonemic systems of internationally intelligible speakers will be somewhat similar, while still allowing for variation at the sub-phonemic level (viz., individuals' accents). Another implication is that intelligibility resides in the speaker (and listener) and is not 'variety-based'. Varieties are not more or less intelligible. Rather, it is the choices made by each individual speaker in interaction that promote mutual understanding. The relevance of communication strategies is clear. In closing, Sewell suggested that analyses of sites of mutually-accepted intelligibility norms among interactants could help identify a "threshold level of pronunciation" that will maintain mutual understanding while allowing for expression of one's linguacultural background.

Findings presented by Deterding (2010) offer some insight into the possibility of a threshold level of pronunciation. Deterding's investigation focused on features of speech patterns observed in

English speakers in various countries in Southeast Asia (SEA). Intelligibility was conceptualized in terms of word-level processing, thus coinciding with that of the Smith paradigm. The study involved analyses of recordings of 33 female undergraduate students at a university in Singapore reading a certain passage designed to facilitate detailed analysis of vowels and consonants of English. Findings from these analyses were supported by published descriptions for Singapore English, Malaysian English, Brunei English, Philippine English, and Hong Kong English provided by various other researchers. The discussion revolved around how certain features of RP British English are realized by speakers in SEA and their influence on intelligibility. Deterding focused on the triphthongs /aIə/ and /aUə/ as in *fire* and *hour*, the diphthong /Uə/ as in *poor*, the back vowels /u/ and /U/, use of reduced yowels, and deletion of final consonants /t/ and /d/.

The discussion of results is informative on various levels. First, Deterding made reference to trends that are currently shaping the pronunciation of contemporary British English, serving as reminder that standard models are static and abstract creations of convenience. The characterizations provided of Singapore English are similarly informative. It was observed that Singapore English speakers, and English speakers in the ASEAN region more generally, tend to pronounce triphthongs as bisyllablic sequences by means of inserting a glide (e.g., /aɪjə/ and / aUwə/). It was proposed that these pronunciations could provide valid norms since they maintain important distinctions between words and are easily intelligible. Speakers in Singapore and other SEA countries were observed to distinguish between /Uə/ and /ɔ:/ thereby maintaining production differences between word pairs such as poor/paw, sure/shore, and tour/tore. It was suggested that such a distinction would enhance intelligibility. Similarly, the tendency among SEA speakers to maintain a distinction between the high back vowels was perceived as contributing to intelligibility. The influence of vowel reduction, or the lack thereof, was discussed in some detail. It was observed that many speakers around the world tend to avoid reduced vowels. Deterding suggested that this tendency results in greater intelligibility among speakers in international scenarios because it more clearly signals differences in meaning. We could further speculate that this tendency would lessen the processing burden if it coincides with listeners' expectations. The influence on speech rhythm was acknowledged and reference was made to Kirkpatrick's (2004) proposition that syllable-based rhythm should be accepted as a common feature of English spoken in ASEAN countries. The data also reveal that consonant cluster simplification was common among the Singaporean subjects. This finding concurs with trends observed in various SEA countries. The same phenomenon has been documented among varieties outside of the SEA region such as American and British vernaculars. In Deterding's view, the fact that this feature results in a loss of important distinctions raises questions regarding its acceptability as a norm. Based on accumulated evidence, Deterding proposed that some of these features may enhance intelligibility even though they are different

from standard referent models. A particularly relevant aspect of the discussion is the influence of situational factors such as the background and experience of the interlocutors in promoting mutual understanding.

Kirkpatrick (2011) also focused on English use in SEA, providing a rather comprehensive survey of distinctive features observed in grammatical forms, pronunciation patterns, lexical choice as well as cultural and pragmatic norms in ELF and world Englishes vernaculars. Certain commonalities are apparent in the non-standard grammatical forms found in Inner Circle (i.e., English is the primary language of the society), Outer Circle (e.g., English functions as official language of a multilingual society), and ELF usage. Kirkpatrick posited that the numerous "shared but distinctive features" (p. 6) cannot be explained by substrate influences alone and that their presence suggests some kind of universal tendencies at work. A description of pronunciation features shared by ASEAN ELF speakers was provided. According to Kirkpatrick, speakers in this region tend to reduce consonant clusters, replace the voiceless (inter)dental fricatives with voiceless alveolar stops, merge long and short vowels, reduce initial aspiration, avoid reduced vowels, stress pronouns, and shift nuclear stress to the end of a thought group. The attentive reader will note that these features corroborate those of Deterding (2010) previously mentioned. Kirkpatrick further observed that speakers' lexical choices and discourse styles will naturally reflect the relevant local cultures. In the case of ASEAN nations, he argued that speakers should be encouraged to retain their pragmatic norms when interacting in ELF scenarios since they are likely to be shared by other interactants and, consequently, facilitate mutual understanding.

Kirkpatrick proposed a multilingual model for the SEA region based on these insights and in light of social, economic, and political considerations. He posited that successful multilinguals provide both role models of effective communicators and sources of situationally-determined linguistic norms. The proposition that L2 speakers should be measured against successful bi- or multilingual speakers rather than monolinguals (House, 2002) was reinforced. In Kirkpatrick's view, adopting a multilingual model would provide more appropriate pedagogical goals and targets, encourage individuals to maintain their sense of identity, and ultimately promote communicative competencies relevant to plurilingual, cross-cultural interactions.

4. Closing remarks

This paper has reviewed two prevalent conceptualizations of the construct of intelligibility and presented some empirical findings related to their application. The discussion has touched upon different operationalizations of the term that coexist within the field of linguistics, describing salient perspectives maintained in separate branches, particularly sociolinguistics as exemplified by WE and psycholinguistics as exemplified by SLP. Findings from various researchers have helped

describe some of phonological features that are thought to influence word-level intelligibility. These same findings offer ideas about how the LFC might be updated and modified. Although limited in scope, this elaboration serves to illustrate the understanding that has accumulated in the years since the LFC was conceived. It goes without saying that there remains much work to be done.

The JSPS grant that I have received will partially support an investigation designed to quantify some phonological features of the vocabulary that dominates ELF interactions. This type of characterization could be useful to theorists and practitioners alike.

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