Ideologies of Intelligibility Onscreen: The Sociolinguistics of Intralingual Subtitling

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Abstract
Intralingual subtitling—specifically, translation of audio in one language into non-optional text of the same language—can be used when a speaker's dialect is considered difficult for target audiences to understand. Thus, these subtitles and the commentary surrounding them offer insights into ideologies of within-language intelligibility. In the present study, we investigate such ideologies from two approaches: by documenting how intralingual subtitles are being used in practice in two reality-based, US cooking shows, and by looking at published complaints about intralingual subtitles (primarily in US/UK English contexts). We find more subtitles for L2-English vs. L1-English speakers in the shows, and metacommentary around subtitling similarly suggests that L1-English subtitling is perceived as more salient and offensive, reflecting broader associations of unintelligibility with non-native speech. The use of subtitles for L1 English outside of noisy environments appears to be limited to certain varieties, such as Scottish or Indian English, suggesting that some L1 varieties of English can be acceptably codified as unintelligible. While the purpose of intralingual subtitles is ostensibly to facilitate communication and have been framed in the literature as tools for breaking down boundaries, both the practice and commentary around these subtitles highlight the largely negative connotations of marking someone as unintelligible.

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1 Introduction

Sometimes, understanding speech is more difficult than usual. This can be for a variety of reasons, including a weak signal to noise ratio (SNR) or difficulties with processing an unfamiliar dialect (Munro and Derwing 1995, Clopper and Bradlow 2008). Relative difficulties with less familiar dialects are predictable in most models of language processing (e.g. Clopper et al. 2016), as a product of reconciling a robustly represented system of sound-to-phoneme mapping with a sometimes conflicting, more weakly represented system. That is to say, it is conceivable that challenges in communication could be viewed as unremarkable and socially neutral.

There is strong evidence, however, that intelligibility is a socially complex and often socially fraught ideological construct. First, there is often asymmetry in intelligibility in ways that appear to reflect structural power differences, such that speakers of one dialect show costs or report difficulties listening to speakers of another dialect, but the reverse is not true (Weener 1969, Sumner and Samuel 2009). Furthermore, intelligibility can be impacted by things outside of the speech signal, such as the perceived ethnicity or language background of a speaker (Kang and Rubin 2009, Vaughn 2019), and there is evidence that the perceived intelligibility of a speaker is not equivalent to listener accuracy with that speaker in a comprehension task (e.g. Munro and Derwing 1995). Dragojevic and Giles (2016) have also argued that people may evaluate speakers more harshly on social attributes when it is more difficult to understand them (see also Rickford and King 2016, compare Hall-Lew et al. 2020).

In the current paper, we seek to further understand ideologies around intelligibility in a US context by looking at open, intralingual subtitles (Liu 2014). Unlike closed captions (text you toggle on or off), open subtitles are not optional and are instead “burned” into the video, often by the original production team, and are intended for general audiences who are not expected to have difficulties processing audio. These are commonly used when the language onscreen is not a language that target audiences are expected to understand—that is, they are used to translate between languages (interlingual subtitles). Intralingual subtitles (sometimes called “bimodal input”) are when the language heard onscreen and the language of the subtitle text are the same (Figure 1), and are used when it is assumed that target audiences will have trouble understanding speech in a language that they do know. There are two main reasons this would be the case: because the SNR is weak (there is competing noise, the speaker is whispering, the speaker is far from the microphone, etc.) or because the audience is expected to have “problems with dialects” (Liu 2014: 1105).

Figure 1: Screenshots of open intralingual subtitles in Diners, Drive-Ins and Dives (left) and The Final Table (right).

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In the absence of a clear SNR issue then, when editors apply intralingual subtitles to a speaker, they are marking the speech of that person as hard for their audience to understand, which gives us insight into who they think their target audience is, whom they think that audience will find hard to understand, and also when they think it is socially acceptable to mark someone as hard to understand. Therefore, we can look at the practice of subtitling to capture mainstream ideologies around intelligibility. Indeed, Vandekerckhove, De Houwer, and Remael (2009) showed that Dutch intralingual subtitling practices in Flanders differed depending on the nature of the television show (fiction vs. nonfiction) and appeared to reflect tensions and changes in standard language ideology in the region. Like them, our analysis includes looking at how subtitles are used in practice, but as part of our larger project, we have also been investigating metacommentary (usually complaints) around the use of such subtitles.1

Research shows that the pairing of written text with an auditory signal does aid in intelligibility (Price 1983, Shepherd et al. 2017, Vaughn and Whitty 2020), and there is some evidence that this increased intelligibility from orthography may also positively influence social ratings (Dragojevic 2020, though see Vaughn and Whitty 2020). Subtitles have also been argued to allow for more auditory representation of dialects onscreen (Longo 2009). In our analysis of metacommentary about subtitling, we found some similar arguments that subtitles aided in intelligibility, increased accessibility, and allowed speakers to freely use their native accents without worrying about intelligibility for outsider audiences (1-2).

(1) “There is no doubt that subtitles [for Glaswegian speaker] make [a show] much more understandable and therefore watchable for many non-Glaswegians.”
(2) “The people in the programme had their [sic] words subtitled because the programme makers thought what they had to say was important and gave the viewer the best available opportunity to understand them.”

At the same time, in marking some speakers as unintelligible, subtitles are often criticized as being driven by racist, ableist, nativist, classist, and regionalist attitudes towards certain speakers (3-4), as well as homogenous and condescending assumptions about the audience (5-6). Other comments suggest that being marked as unintelligible comes with negative connotations (7-8).

(3) “I think it is discrimination. Carmen [who is subtitled] wears hearing aids.”
(4) “The one thing that I noticed from a skeptical p.o.v. was the fact that they had subtitles whenever ‘Sean’ the highschool football star spoke; it was so condescending and elitist I was fuming. I know that they did it to play up the ‘Apalachian [sic] hick’ aspect…”
(5) “I have often watched, disbelieving, as any range of accents from Jamaican patois to somebody vaguely French have been subtitled for my viewing pleasure, as if I were a visiting Victorian unaccustomed to the ways of those bloody foreigners.”
(6) “You are just assuming that what you find difficult to understand is the same as what everybody else does. This is precisely why it grates - the message is ‘this programme wasn’t made for people like you.’”
(7) “…subtitles work to make speakers sound (or, rather, look) not only unintelligible but also deficient and illegitimate.”2
(8) “It may give an impression… that you regard the Scots as foreigners.”

In the present study, we look at current subtitling practices in US-based reality cooking shows. Reality television shows were chosen because they are unscripted, the production team may not desire or be able to do retakes, and they often include cast members/guests who are not professional entertainers. Additionally, because cuisines are classically associated with regions of origin, cooking

1 Metacommentary about subtitles was primarily found online through searches for things like “subtitling” paired with words like “issues,” “complaints,” “necessary.” We also followed leads in Shepherd et al. (2017). Comments were typically on blog or Reddit posts, and in news articles about subtitles and the corresponding comments sections. In a few cases, we include comments found in books (including by linguists). We limit our focus to comments that were clearly about intralingual subtitles (vs. interlingual subtitles or closed captions).
2 www.languageonthemove.com/the-politics-of-subtitling/
shows often have cast members/guests from a variety of linguistic backgrounds. The relatively natural and diverse speech present in these shows allows us to look for patterns in the types of speakers who are (or are not) being subtitled, giving us insight into mainstream US ideologies of intelligibility.

2 Methods

In this paper, we present an analysis of intralingual subtitle use in two US-based reality cooking shows: *Diners, Drive-Ins and Dives* and *The Final Table*. We watched these shows in 2020-2021 on Hulu and Netflix respectively, from the US. For each episode that we analyzed in these shows, we recorded all instances of intralingual English subtitling. In order to standardize our procedure across coders, we counted an “instance” as an occurrence of an intralingual subtitle being shown in its own segment of text onscreen. For example, if a subtitled utterance was split across two separate subtitle cards onscreen, it would be counted as two instances of intralingual subtitling. The coding for each episode was double-checked for reliability by a researcher who was not the original coder.

We also made note of every speaker’s country of origin and assumed first language(s) (L1), defined here as a language they likely spoke before high school, or, in the case of L1-English speakers, their assumed regional dialect. We say assumed because speakers typically did not give explicit information about their linguistic background, so we largely relied on contextual cues, including the speaker’s country or region of origin\(^3\) and our perception of the speaker’s dialect. We acknowledge that this introduces a significant subjective bias into our coding and replicates a problematic and vague native/non-native speaker distinction (see Cheng et al. 2021). However, we believe that as a team of predominantly L1-US English speakers, our assumptions are likely to match those of the US production teams’ and can provide insight into how these assumptions shape subtitling practices.

One place we may have differed from editors is our default categorization of speakers from India as L1 speakers of Indian English, since speakers of this “outer circle” variety (Kachru 1985) are often perceived as non-native speakers of English (see Kutlu 2020).

3 Results

3.1 Diners, Drive-Ins and Dives

*Diners, Drive-Ins and Dives* (DDD) is hosted by American celebrity chef Guy Fieri and runs on the Food Network. Each episode of DDD typically follows a simple and formulaic structure; Fieri visits three different restaurants and conducts interviews with each respective chef while they cook a few key dishes from their menus. The show proudly presents itself as an accessible, low-brow exploration of restaurants across America, or a “tour of Flavortown”; in essence, it serves as a counterpoint to the more elitist attitudes of food critic culture (Contois 2018). Fieri’s “Flavortown” is staunchly inclusive of diverse cultures and cuisines, but this inclusivity is still anchored to a white, Anglo-American point of view, and Fieri is often portrayed to be introducing immigrant food to his audience.

For DDD, we watched 61 episodes across seasons 26-29 (first aired 2017-2019). We limit our analysis of subtitles in this paper to the featured chefs\(^4\) (typically three per episode), and to chefs who were filmed in the US and spoke English. This left us with a total of 185 chefs: 141 L1 speakers of English and 44 L2 speakers of English. For the L1-English speakers, the overwhelming majority were speakers of a US English dialect, though there was diversity in terms of their regional and ethnic backgrounds.

Across the 185 chefs, only 17 were ever subtitled (see Figure 2). Of these, all but one was an L2 speaker of English. That is, around one-third of L2-English speakers were subtitled at least once, whereas <1% of L1-English speakers were ever subtitled. Moreover, it is worth noting that the single

\(^3\) While this was usually explicitly stated or could be found online, for some DDD chefs, we needed to make guesses using other cues, such as the type of cuisine they were cooking.

\(^4\) Other speakers included restaurant patrons and friends/family of Fieri or the featured chef. Guy Fieri was only subtitled intralingually once for humorous purposes, in an interaction with a chef from Eritrea (who was never subtitled) who had just said “I don’t know if I speak English very well right now.” Fieri replies “You’re doing fantastic. Hey, they have to put subtitles on me.” [subtitles: They have to put subtitles on me.]
subtitled L1 speaker was a speaker of Indian English from Punjab, whom editors may have perceived as a non-native speaker (see Section 2). We also noticed that no one speaker was ever entirely subtitled: some of these 17 speakers were subtitled just once, and the most a single speaker was subtitled was around 50% of the time.

![Subtitled vs. No Subtitles](image)

**Figure 2:** Count of featured chefs who were intralingually subtitled at least once in DDD.

### 3.2 The Final Table

*The Final Table* (FT) is an international cooking competition on Netflix, which was filmed in the US and features an American host, food writer Andrew Knowlton. 12 teams of two chefs each (usually from different countries) compete in each episode until the finale, where the chefs in the remaining two teams compete as individuals. In contrast to DDD, FT presents itself as a prestigious event where only the best chefs in the world can compete (many already have Michelin stars), and the judges of the competition are critically acclaimed chefs, food critics, and celebrities in their respective countries. The international emphasis means that many cast members regularly speak in languages other than English, and a few of the judges never speak English at all. Thus, interlingual subtitles are frequently used to translate other languages into English. At the same time, the competition is still fundamentally conducted in English, and all of the competing chefs are fluent in English.

In addition to the type of culinary work celebrated in the show, the competition format of FT also means that it differs from DDD in ways that impact our analyses below. First, while all chefs in DDD have roughly similar amounts of screen time (interviewed for one-third of each episode), in FT, different cast members appear in different numbers of episodes (Table 1) and have varying amounts of screen time per episode. Second, while the recording environment is fairly stable across chefs in DDD (typically one-on-ones with Fieri in a quiet kitchen, with no overt time pressures), there are many different types of recording situations in FT, including ones where the production team has more/less control over the SNR (i.e., there is more/less background noise), and where speakers are more/less clearly talking to camera (versus, for example, just talking to their teammate).

We analyzed the entirety of the only season to date of *The Final Table* (2018), which consisted of 10 hour-long episodes. There were 60 total cast members, but some of these included guests who never spoke English (i.e., they were entirely interlingually subtitled). For the remaining 56 cast members, we split them up into the different roles they had in the show: 24 were chefs in the competition, 24 were guest judges, 7 were final judges, and 1 was the host. We break down the linguistic backgrounds of these speakers in Table 1. In Figure 3, we plot the number of speakers who were intralingually subtitled at least once, for direct comparison with Figure 2 from DDD. Immediately we can see that there were more L2-English (n=29) speakers than L1 speakers (n=27), a marked difference from DDD that highlights the international nature of FT. 23 participants were intralingually subtitled speaking English at least once, and more L1 speakers were ever subtitled (44%) compared to L2 speakers (38%).

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5 “Final judges” were internationally acclaimed chefs who were each brought in during the second half of an episode to decide on elimination, and then again for the finale episode to help decide the winner. “Guest judges” were celebrities that could or could not be associated with the culinary world; they each appeared in the first half of one episode only.
Given the fact that there are large differences in screen time across chefs and a range of recording environments, in the analyses that follow, we take a more fine-grained look at subtitling use in the show, counting the number of times a speaker was subtitled and dividing that by the number of episodes they appeared in (a crude denominator for the amount of speaking time), as well as taking into consideration whether a recording situation was “formal” (the speaker was the only person meant to be talking on set and the crew had high audio control) or “informal” (usually during competitive cooking challenges, or in asides between cast members in more formal sections). When we do this, we see a story more similar to that of DDD: in formal situations, where the production team had maximal audio control, L2 speakers are subtitled ten times more often than L1 speakers (2.55:0.25, Figure 4). In informal situations, however, the subtitles are similar across the two groups.
This result is rather misleading, however, since the L2 numbers in formal situations are clearly being driven by one speaker in particular (Figure 5): a competitor from Japan, Shin Takagi, who appears in three episodes before being eliminated. His English (described as “very fluent” in a 2011 Gourmantic interview⁶) is almost always subtitled. Of the four other cast members from Japan on the show (all guest judges), two only spoke Japanese (so were not included in this analysis), and the other two spoke English that was never subtitled. Thus, it’s hard to say how much these results represent a stance that the show is taking to L1-Japanese English versus a stance to Takagi’s speech in particular. Speakers with other L1 backgrounds were either rarely (Spanish and Portuguese) or never (Italian and French) subtitled when speaking English in formal situations.

We now focus on subtitling of L1-English speakers based on their regional dialects. We can see that the only L1 speaker who was subtitled in formal situations was the Scottish chef Graham Campbell (Figure 6). He was also subtitled the most in informal situations, though all the other L1 groups were also subtitled in informal situations at least a little. If we look at subtitles in informal situations more closely (Figure 7), splitting them by situations where there was a particular SNR issue for that utterance (competing noise beyond normal background noise or whispered signal), we see that US and Canada speakers were rarely subtitled when there weren’t overt noise issues (neither were the Australian and New Zealand chefs), but the Scottish chef was subtitled over two times per episode in these cases, with Jamaican chef Collin Brown following at 1.5 times per episode).

Figure 5: Average intralingual English subtitles per episode, based on L1 and recording situation.

Figure 6: Average intralingual English subtitles per episode, based on L1-English dialect and recording situation.

One last remark about The Final Table is how inconsistent the subtitling practices were across the show. Figure 8 shows the number of intralingual subtitles per episode, which ranged from almost 40 per episode in 3 and 7, to none in 4, 5, and 6. While Takagi was featured heavily in Episode 3, we couldn’t see a reason for the increase in subtitling in Episode 7. Moreover, we noticed that the formatting of subtitles was inconsistent across utterances: sometimes italicized, sometimes including the speaker’s name, etc. There were also a number of minor typographical errors in the intralingual subtitles, such as “waterfall” being spelled “watterfall” or “it’s” being written as “it.” Essentially, it did not seem like there were rigid guidelines regarding subtitling, or at least, that guidelines were being followed consistently.

4 Discussion and Conclusion

Looking across both shows, we see that L2 speech is treated differently from L1 speech. In DDD, English subtitles were almost exclusively applied to L2 speakers of English. In FT, speakers of L1 and L2 varieties of English initially appeared to be subtitled at similar rates, but a closer analysis showed that L2 speakers were subtitled more in high-audio-control situations—though notably, this was driven by one L1-Japanese speaker.

The distinction between L1 and L2 speech permeates the comments we analyzed as well. Complaints were mostly (though not entirely) about L1-English speakers being subtitled, implying that questioning the intelligibility of native speakers was especially offensive (9-11).

(9) “I was horrified to see that the producers used subtitles, as if the subjects’ eastern Kentucky
dialect was a foreign language.”

(10) “... gave Jamaican-accented English the on-screen translation normally reserved for foreign languages”

(11) “Catching up on #theultimategamefighter English subtitles for the English guy? Haha awesome only in America”

Relatedly, the most subtitled L1-English chef in Final Table, Graham Campbell, did a post-show interview with the Scottish publication Daily Record. The article was titled “Sweary Scots chef subtitled on Netflix after viewers baffle by his broad accent” (November 27, 2018) and was featured in the Scottish News tab of the website. In the interview, Campbell says:

“... Americans find it hard to understand anything other than American-English and I’m the only Briton beyond the first round... I’m the only person subtitled. It makes it easier for people to understand me.” (emphasis added)

Apart from the fact that many speakers were interlingually subtitled on the show (which highlights the perceived difference in the two types of open subtitled practices), overwhelmingly, L2-English speaker Takagi was the most intralingually subtitled participant, but Campbell appears to disregard those subtitles in these calculations.

Overall then, it seems that marking an L2-English speaker as unintelligible is not as salient or controversial as marking an L1 speaker as unintelligible, presumably because it is ideologically accepted (what Rajadurai calls a “(m)isconception” that “(n)on-native speech lacks intelligibility” (2007:92). While a number of studies do suggest that L2-accented speech is harder for L1 listeners to understand than L1-accented speech (e.g., Munro and Derwing 1995, Borghini and Hazan 2018), Rajadurai highlights how the designs of these studies—often focused on bottom-up processing—rarely match naturalistic speaker interactions and therefore likely overstate how difficult L2-speaker processing is. Indeed, in the shows we analyzed, our L2-English speakers’ interlocutors appeared to understand what was being said in the moment without difficulty—for example, Guy Fieri appeared to understand what the subtitled chefs he interacted with were saying without clarification.

There is also the question of who the audience is—even decontextualized studies suggest that fluent L2 speech is not less intelligible than L1 speech to L2 listeners (Bent and Bradlow 2001, see also Bayyurt 2018). Additionally, we know that perceptions of native/non-native speaker status impacts listener performance (Vaughn 2019, see also Kang and Rubin 2009, Kutlu 2020). This is all to say that the decision to mark L2-English speakers as hard to understand reflects common but challengeable beliefs both about the audience (monolingual L1-English listeners who struggle more with L2 accents than the cast did) and about L2 speech (unintelligible).

We do see evidence of distinctions among L1-English dialects, and Campbell, a speaker of Scottish English, was the most subtitled L1-English speaker in The Final Table. Scottish English was also the subject of many of the discussions we found online, including ones suggesting that Scottish speakers were both aware of and proud of being unintelligible to outsiders (12-13). Like L2 speech then, Scottish English appears to be codified as lacking intelligibility, especially to US audiences (cf. Diaz Cintas and Remael 2012:17).

(12) “The BBC said the show’s stars were happy to be subtitled—even acknowledging themselves that they might be hard to understand.”

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8 www.theguardian.com/tv-and-radio/tvandradioblog/2012/jul/19/subtitling-risk-racially-offensive

9 www.dailyrecord.co.uk/news/scottish-news/sweary-scots-chef-subtitled-netflix-13648152

10 There could be an ideological link between interlingual subtitles and intralingual subtitles for L2 speakers. If a speaker can speak in another language that would be subtitled (and Takagi does speak subtitled Japanese), this association with translation may color perceptions of intralingual subtitles for that speaker.

11 Campbell’s interpretation of the subtitles used in FT seems to suggest that our separation of formal vs. informal contexts was meaningful to him as well: other L1-English chefs were intralingually subtitled, but he was the only one subtitled in the formal contexts.

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(13) “I think if anything, people (rightly) take pride in the local peculiarities of their dialect, and its opaqueness to outsiders.”

The other L1-English dialects that appeared to be subtitled at higher rates were ones with majority non-white speakers: the only L1-English speaker subtitled in DDD was a speaker of Indian English, and the second-most subtitled chef in normal SNR environments in FT was Jamaican chef Collin Brown. With so few observations it is difficult to interpret this as indicative of a clear bias, but it would be consistent with work suggesting that speaker ethnicity and the racialization of varieties of English interact with perceived accentedness (see Kutlu 2020 for a discussion).

There is some evidence that shows are aware of the potential offensive nature of subtitles. First, no English-speaking person on either show was entirely subtitled. This seems to indicate a stance by producers that particular utterances by a speaker are unintelligible, rather than speakers themselves. We do note in these circumstances that it wasn’t always clear to us why certain utterances were subtitled over others.

We also think editor sensitivity can be seen in who is not subtitled. In addition to the low rates of intralingual subtitles for L1-English speakers, we occasionally noticed speakers who might cause intelligibility problems for some listeners outside of dialectal issues, either because of pathological profiles of the speakers, or because we heard the speaker as markedly mumbly. For example, famed US chef Grant Achatz who guest judged for two episodes on The Final Table has suffered from a cancerous tumor on his tongue and has some atypical pronunciations from the resulting surgery. These speakers were never subtitled despite the potential for intelligibility issues, which could reflect that ideologies around intelligibility are so centered on accent that they ignore other potential sources of difficulty, but we also wonder if this reflects an editorial concern that marking someone as unintelligible for other reasons is offensive.

Throughout this paper, we have been referring to editing choices, but at the current stage of this project, we have not spoken with any production teams/editors, and so do not know if they had set explicit criteria for the use of intralingual subtitles. However, inconsistencies across episodes in The Final Table (see 3.2) suggest that there probably aren’t any rigid guidelines (see also Remael et al. 2007). Work analyzing the usage, effectiveness, and implications of subtitling can therefore not only give us insight into ideologies around intelligibility, but also highlight the potential for linguists to collaborate with production teams to develop well-motivated guidelines around the use of open subtitles in the future.

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