



Emma Trentman
The University of New Mexico

Sonia Shiri
The University of Arizona

THE MUTUAL INTELLIGIBILITY OF ARABIC DIALECTS: IMPLICATIONS FOR THE LANGUAGE CLASSROOM¹

Abstract:

Studies of the mutual intelligibility of related languages and dialects have demonstrated that comprehension can be predicted by linguistic factors such as phonological and lexical distance and by extralinguistic factors such as degree of contact and attitudes (Gooskens and van Bezooijen 2006; Tang and van Heuven 2009). Arabic learners must learn Modern Standard Arabic (MSA) and dialects if they are to function competently in Arabic-speaking communities, but research on the mutual intelligibility of Arabic dialects is limited (see Čéplö et al. 2016; Soliman 2014a, 2014b; Trentman 2011). The current study examines the extent to which listening proficiency and variety identification ability in familiar dialects and MSA predict the ability to comprehend unfamiliar dialects and explores beliefs about how Arabic dialects should be taught. Native speakers (NS) (n=55) and non-native speakers NNS (n=62) of Arabic listened to samples in four regional dialects and MSA and completed a background questionnaire. Regression analysis demonstrated that while proficiency in a familiar dialect or MSA was not a predictor of unfamiliar dialect comprehension, variety identification ability was a predictor for NNS. Chi square tests also revealed significant differences between NS and NNS in terms of beliefs about teaching dialects, with NS preferring an MSA plus one dialect model and NNS preferring a multidialectal model. Pedagogical implications are discussed.

Keywords: Arabic ♦ dialects ♦ mutual intelligibility ♦ multidialectal pedagogies

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Literature Review

Arabic was one of the examples chosen by Ferguson (1952) in his conceptualization of diglossia, due to the existence of a High variety (Classical Arabic) and Low varieties (regional dialects). Research on Arabic speech demonstrates that while these varieties are perceived as separate and distinct, speakers produce utterances along a continuum between Classical Arabic and local dialects depending on various contextual factors, including education level and the formality of the situation (Bassiouney 2009; Holes 2004; Versteegh 2001). Modern Standard Arabic (MSA) is a variety of Arabic developed during modernization efforts primarily by expanding the vocabulary of Classical Arabic and reducing some of its morphosyntactic features (Holes 2004; Sayahi 2014; Versteegh, 2001). MSA is a generally uniform variety across the Arabic-speaking world, albeit with some regional variation in both written and spoken forms (Hole 2004; Sayahi 2014). There is much greater variation on phonology, morphosyntax, and lexicon between the regional dialects, even the prestige forms associated with urban centers (Bassiouney 2009; Holes 2004). For example, the letter /q/ in MSA can be realized as /q/, /g/, /ʔ/, or /k/ depending on the variety and lexical item, negation is realized in a variety of ways, and many common everyday lexical items differ between the dialects. Focusing on these differences leads to the perception that major regional dialects are linguistically distant (Sayahi 2014). However, the limited empirical research available indicates a high degree of mutual intelligibility between closely related dialects for native speaker participants listening to words, sentences, and texts (Čéplö et al. 2016) and between more distantly related dialects in interactional situations (Abu-Melhim, 2014; Soliman 2014a; 2014b).

Both MSA and regional dialects exist in spoken and written forms. MSA is the traditional written form, particularly in formal and educational settings. However, regional dialects also have a written tradition (e.g vernacular poetry, political cartoons) and the advent of informal writing on social media has greatly contributed to their appearance in written forms. While regional dialects are the preferred spoken form in everyday life, MSA/Classical Arabic may be used in media broadcasts and educational and religious settings.

Teaching Arabic as an Additional Language

Arabic learners who wish to engage in everyday interactions as well as in more formal settings need to also acquire the ability to shift their language along the continuum from MSA to regional dialects according to contextual factors. However, traditional approaches to teaching Arabic as an additional language have focused on teaching MSA only, often with the

expectation that students can acquire a dialect during study abroad. Arabic textbooks also tend to be MSA only, sometimes incorporating minimal dialect in a song or video. However, learning only MSA or having minimal exposure to dialects does not provide learners with the ability to engage competently with Arabic speakers in everyday contexts. This lack of linguistic competence can be particularly frustrating for students during study abroad (e.g. Shiri 2013; 2015; Trentman 2013).

Recent calls for integrating dialect instruction in the Arabic as an additional language curriculum (e.g. the chapters in Al-Batal 2018a) are now providing a larger number of learners with some exposure to varieties of Arabic such as Levantine and Egyptian and to a lesser degree Moroccan. Programs that teach both MSA and dialect typically follow either a separated or integrated approach. In the separated approach, MSA and a regional dialect are taught in different classes, and sometimes with separate textbooks (an MSA textbook and a dialect textbook). In the integrated approach, MSA and a regional dialect are taught alongside each other in the same class. This approach has been long followed to teach MSA and Levantine dialect at Cornell University (Younes 2006), and is included in the textbooks integrating Levantine and Egyptian dialects produced by this program: *'Arabiyyat al-Naas* (Younes, Weatherspoon, and Foster 2014) and *'Arabiyyat al-Naas fii Masr* (Younes et al. 2019). The most recent (3rd) edition of the *Al-Kitaab* series (Brustad, Al-Batal, and Al-Tonsi 2010, 2011, 2013) dominant in the United States also introduced an integrated approach, including Egyptian and Levantine dialects alongside MSA (with the expectation that teachers will choose one). While to our knowledge some programs adopted this approach with the new edition, others continued to use the 2nd edition (MSA only), or simply ignored the dialect content in the 3rd edition. In both the separated and integrated approaches, there is a focus on MSA plus one regional dialect, although it may be possible for students to take multiple dialect classes (in a separated program) or a class focused on one dialect in the first year and another in subsequent years (in an integrated program).

Whether or not to teach regional dialects, and if they are taught, how to teach them in addition to or alongside MSA, remains a pressing and contested question in the field of teaching Arabic as an additional language. In support of teaching regional dialects is the value Arabic learners place on interacting with Arabic speakers and learning multiple dialects (Al-Batal 2018b; Al-Batal and Belnap 2006; Shiri 2013; Younes 2006). However, there remain numerous challenges in implementing the teaching of regional dialects, from ideological perceptions that MSA is the “correct” form of Arabic, to questions about which of the regional dialects to teach. Since both the separated and integrated models tend to focus on one dialect plus MSA, it can be difficult to know which dialect to choose if a program has teachers from a variety of dialect backgrounds

and students study abroad in multiple locations. Furthermore, not all regional dialects are equally well supported in terms of teaching materials. If a program focuses on Levantine Arabic, but students interact with speakers of another variety or study abroad in a non-Levantine speaking location, will this be useful? In general, even in programs that advocate for teaching regional dialects, there are a variety of approaches followed as the diverse studies in Al-Batal (2018a) indicate.

Thus, one of the pressing questions that underlies confusion and uncertainty about teaching regional dialects is the question of how mutually intelligible these dialects are. Despite a plethora of beliefs about the extent to which these dialects are mutually intelligible, empirical research remains extremely limited (Čéplö et al. 2016; Soliman 2014a, 2014b; Trentman 2011). The current study tackles this question by investigating the issue of the mutual intelligibility of Arabic dialects for native and non-native speakers, and what factors predict the comprehension of unfamiliar dialects.

Mutual Intelligibility and Accent Studies

Studies of the mutual intelligibility of closely related languages and dialects typically examine the extent to which native speakers of one variety can understand the other varieties, and the factors that predict comprehension. These investigations can include both functional measures (where participants engage in tasks requiring comprehension of words, texts, or sentences in another variety) as well as opinion measures (where participants rate the extent to which they think they can understand) (Gooskens et al. 2018). The most extensive mutual intelligibility studies have been carried out among Scandinavian languages, where receptive multilingualism is a common communication strategy also encouraged by the Nordic Council (Gooskens 2007, 2006; Hilton, Gooskens, and Schüppert 2013; Schüppert and Gooskens 2012). Mutual intelligibility studies have also been pursued among a variety of other language groups including Germanic languages (Gooskens 2007; Gooskens and Swarte 2017; Gooskens et al. 2018), Romance languages (Gooskens et al. 2018), Slavic languages (Gooskens et al. 2018), Chinese dialects (Tang and van Heuven 2009), Turkic languages (Sağın-Şimşek and König 2012; Salehi and Neysani 2017), Vanuatuan languages (Schneider and Gooskens 2018), and Arabic dialects (Čéplö et al. 2016).

Although mutual intelligibility studies typically focus on native speakers, the current project is specifically interested in the mutual intelligibility of Arabic dialects for non-native speakers as well, including those at lower proficiency levels. While there is limited research on the mutual intelligibility of closely related languages and dialects for non-native speakers, Trentman

(2011) examined the ability of non-native speakers of Arabic to comprehend Arabic dialects and found that their listening ability in a familiar dialect was a better predictor of their ability to understand unfamiliar dialects than their listening ability in MSA. This indicates that learners are likely using their knowledge of familiar dialects to help them understand unfamiliar ones, and Trentman posits that this is due to shared linguistic features among the dialects compared to MSA. Similarly, Soliman (2014b) found that by training advanced learners of Arabic on the strategies used by native speakers to understand unfamiliar dialects, learners were able to improve their post-training scores on a test translating sentences from unfamiliar dialects into English. Other studies that include non-native speakers typically focus on their ability to understand a variety of English accents, with the general finding that it is more difficult for non-native speakers to understand non-standard varieties of English, whether these are native or non-native varieties (Eisenstein 1982, 1986; Eisenstein and Verdi 1985; Major, Fitzmaurice, Bunta, and Balasubramanian 2002; Major, Fitzmaurice, Bunta, and Balasubramanian 2005; Ockey and French 2014; Sabatini 2000). Research on German learners reports similar findings, in that learners have more difficulties understanding non-standard accents, even if they are able to identify them (Lam and O'Brien 2014).

Linguistic Factors

Within both mutual intelligibility and accent studies, researchers have found both linguistic and extralinguistic factors that affect comprehension (Gooskens 2018). Linguistic factors include lexical, phonological, orthographic and morphosyntactic differences. Phonological features are nearly always a predictor of mutual intelligibility in spoken tests, including among Scandinavian languages (Gooskens 2006, 2007; Hilton, Gooskens, and Schüppert 2013), Germanic languages (Gooskens 2007; Gooskens and Swarte 2017; Gooskens and van Bezooijen 2006; van Bezooijen and Gooskens 2005), Turkic languages (Salehi and Neysani 2017; Sağın-Şimşek and König 2012), Chinese dialects (Tang and van Heuven 2009) and Arabic dialects (Čéplö et al. 2016). On the island of Pentecost in Vanuatu, where there are four languages and multiple smaller dialects, phonetic distance impacted Suru Mwerani speakers' comprehension of Suru Kavian (a related dialect) and Raga (a related language) cognates generally (Schneider and Gooskens 2018). However, some variables impeded intelligibility more than others and there were exceptions to this general pattern that were difficult to explain (Schneider and Gooskens 2018). While all of these studies were conducted with native speakers, Pikho (1997) found that prosodic features impacted the ability of Finnish learners to understand nine varieties of English.

Lexical factors can also impact mutual intelligibility. Gooskens (2007) and Gooskens and Swarte (2017) found lexical distance to be a factor for Germanic languages, and Tang and van Heuven (2009) found that lexical distance impacted the mutual intelligibility of Chinese dialects. Lexical distance as well as asymmetries in the number of unrelated words for which there is no related cognate in the L1 impacted the asymmetrical mutual comprehensibility of Dutch and Afrikaans (Gooskens and van Bezooijen 2006). Similarly, van Bezooijen and Gooskens (2005) posit that greater lexical distance and fewer cognates explain the lower intelligibility of Frisian texts compared to Afrikaans texts for Dutch speakers. In the case of Turkic languages, for both Azeri speakers listening to Turkish (Salehi and Neysani 2017) and Turkish speakers listening to Azeri (Sağın-Şimşek and König 2012) lexical differences also impacted comprehension. The role of false cognates and Arabic/Persian loanwords was notable, particularly when these words were in critical locations in the sentence.

The impact of morphosyntactic differences on mutual intelligibility is the least studied linguistic factor; however, the research that does exist demonstrates that these variables can play a role in mutual intelligibility. Čéplö et al. (2016) found that morphological differences between Maltese, Tunisian Arabic, and Libyan Arabic impacted the mutual intelligibility of these varieties of Arabic, and Hilton, Gooskens, and Schüppert (2013) reported the role of morphosyntactic differences in Danes' ability to understand Norwegian.

In written tests, orthographic differences can also play a role. Gooskens and Swarte (2017) found that orthographic differences predicted most of the variation in a written test of mutual intelligibility among Germanic languages. At the same time, written texts usually demonstrate greater mutual intelligibility than spoken ones, and one reason may be that the written forms of the language reflect earlier versions of the language where there is less divergence between mutually related languages (Gooskens and Swarte 2017). Another reason might be that the written forms seem to afford a greater potential for intelligibility based on shared stems compared to the spoken forms that might obscure those similarities and make them seem more divergent than they are. Finally, written texts contain no phonological differences.

In several cases, mutual intelligibility studies have reported or surmised that listeners draw on their knowledge of languages other than those being tested to understand test languages that are more closely related to these languages or have loanwords from them. For example, Gooskens et al. (2018) speculated that one reason Romanian speakers were able to understand other romance languages so well was their ability to use their knowledge of French as well as Romanian to understand Spanish, Italian, and Portuguese. Similarly, Azeri speakers were able to use knowledge of English to understand Turkish sentences containing English loanwords not

used in Azeri (Salehi and Neysani 2017). In Vanuatu, Suru Mwerani speakers were able to use their knowledge of Suru Rabwanga to understand Raga cognates (Schneider and Gooskens 2018). However, listeners were not always able to draw on these skills, as Turkish speakers sometimes failed to understand English loanwords in Azeri, despite studying at an English medium university, to the researchers' surprise (Sağın-Şimşek and König 2012).

Extralinguistic Factors

Extralinguistic factors also play a role in the mutual intelligibility of closely related languages and learners' abilities to understand different accents. The primary extralinguistic factors that have been examined in these studies are exposure and attitude (Gooskens 2018).

Perhaps unsurprisingly, exposure tends to be the strongest extralinguistic predictor of both mutual intelligibility and accent comprehension. Among Germanic languages, Gooskens and Swarte (2017) found that exposure was the greatest predictor of mutual intelligibility. In accent comprehension studies, greater familiarity with an accent positively impacts comprehension (Pihko 1997). Examining cross-dialectal conversations in Arabic, Soliman (2014a, 2014b) reports that speakers understood 50% of the lexical items that differed from their native dialect as a result of having heard those lexical items during previous exposure to their non-native dialects through media or personal contacts.

Although positive and negative attitudes towards different language varieties are often posited to play a role in mutual intelligibility, researchers have found it difficult to determine the exact nature of this relationship (Gooskens 2006, 2018; Gooskens and van Bezooijen 2006). Examining Scandinavian languages, Gooskens (2006) found that while positive attitudes correlated with mutual intelligibility, they were not a significant predictor, making it difficult to determine causality — did speakers understand varieties they had positive attitudes towards or did they have positive attitudes towards varieties they understood better? Gooskens and Swarte (2017) found that attitude was not a significant predictor of the mutual intelligibility of Germanic languages. Eisenstein (1982, 1986) found that while learners' ability to understand multiple English dialects increased with proficiency, so did their negative attitudes towards the marginalized varieties of working-class English and Black English. In this sense, they were acquiring not only the linguistic competencies of native speakers, but also their judgements. Similarly, Pihko (1997) found English learners perceived NS varieties (whether standard or non-standard) as “real” English, and NNS varieties as “strange” English.

In the case of Arabic, North African varieties tend to be stigmatized and considered less comprehensible, with speakers of other dialects often expecting North Africans to

accommodate to them, and North Africans consenting to this asymmetrical accommodation (S'hiri 2002; Soliman 2014a, 2014b). North African dialects are not incorporated into published textbooks following an integrated approach, and are often not taught at all, despite the fact that Morocco remains a popular study abroad destination.

Age is another factor that can play a role in mutual intelligibility, particularly regarding language change. For example, Sağın-Şimşek and König (2012) found that older Turkish speakers were more easily able to translate Azeri words borrowed from Persian than younger speakers, due to the decline of Persian loanwords in Turkish. In the Scandinavian context, Schüppert and Gooskens (2012) found that the asymmetrical relationship between Danish and Swedish (where Danish speakers understand more Swedish than Swedish speakers understand Danish) did not exist in young children, indicating that extralinguistic factors, such as attitude, contact, and literacy, likely account for this asymmetry in adults.

Interactional Studies

In mutual intelligibility and accent studies, the data examined typically involve written or oral comprehension, rather than interaction. However, since speakers using receptive multilingualism to communicate are also likely to modify their speech to support comprehension, this makes these studies conservative estimates of the potential for communication using receptive multilingualism (Gooskens et al. 2018). For this reason, another relevant body of literature is that examining interactions between speakers of theoretically mutually intelligible language varieties. This is sometimes referred to as receptive multilingualism in cases where each speaker in the interaction uses their own language, but draws upon their knowledge and mutual understanding of the other speakers' languages to communicate. Looking at inter-Scandinavian communication, Zeevaert (2007) notes a variety of strategies to support understanding, including pausing or providing synonyms for potentially problematic words, relying upon common background knowledge for understanding, and back-channeling to demonstrate comprehension. In a case study of Dutch-German receptive multilingualism, Ribbert and ten Thije (2007) emphasize the role of institutional knowledge and keywords in supporting this type of communication. In the case of Arabic, researchers examining conversations between Arabic speakers from geographically diverse backgrounds have found a high degree of mutual intelligibility (Abu-Melhim 2014; Soliman 2014a, 2014b). Contrary to theories that Arabic speakers of different dialect backgrounds converse in MSA, Abu-Melhim (2014), S'hiri (2002), and Soliman (2014a, 2014b) found that speakers drew from a variety of MSA and dialectal resources to communicate and even on multilingual resources (S'hiri 2002). Soliman (2014a, 2014b) additionally examined interactions containing words that

differed in the dialects of the two speakers, and found that these rarely impeded comprehension (in only 10/64 cases) because participants employed a variety of strategies for understanding. Half of the time, they were familiar with the word due to their previous exposure to the dialect through media or personal contacts, but if they were not, they could guess from context or using the Arabic root and pattern system, or ignore the word because it did not impact the overall message. Al Masaeed (2020) demonstrates that these strategies are not limited to native speakers: in conversations between Arabic learners studying abroad and their local language partners, all parties drew from a variety of MSA and dialectal resources to communicate, and at times multilingual resources as well, in spite of the fact that these conversations were supposed to be conducted in MSA only according to program guidelines.

Teaching closely related language varieties

Based on the mutual intelligibility of closely related languages, as well as the skills speakers use to communicate using receptive multilingualism, researchers have made recommendations for contexts where students are learning a language closely related to one they already know (e.g. Spanish speakers learning Portuguese). These recommendations typically center on increasing exposure and training in metalinguistic awareness of the similarities and differences between the two varieties (the ways in which phonological, morphosyntactic, and lexical items differ in predictable ways) (Carvalho, Freire, and Da Silva 2010; Gooskens and Swarte 2017; McCann, Stegmann, and Klein 2003; Soliman 2014b). Analyzing Spanish speaking learners of Portuguese, Carvalho, Freire, and Da Silva (2010) emphasize the opportunity to use authentic materials at early stages of learning due to the high mutual intelligibility. In the case of Arabic, Soliman (2014b) examined the impact of training in the strategies used by NS to understand unfamiliar dialects on NNS's abilities to understand unfamiliar dialects. These strategies included contextual clues, predicting phonological differences, using knowledge of the root system to guess related cognates, and recognizing morphemic affixes. She found that this training improved learners' ability to translate dialectal sentences into English on the post test, and proposes that while programs should teach both MSA and a dialect, which dialect to choose should be less of a concern than teaching learners the strategies used by native speakers in cross-dialectal communication.

The current study contributes to the field of mutual intelligibility research and Arabic pedagogy by further examining the mutual intelligibility of Arabic dialects for native and non-native speakers. It asks the following research questions:

1. Are there relationships between unfamiliar dialect listening proficiency and listening proficiency or variety identification ability in familiar dialects and MSA?
2. Does listening proficiency in familiar dialects of Arabic and MSA predict unfamiliar dialect listening proficiency?
3. Does the ability to identify familiar dialects of Arabic and MSA predict unfamiliar dialect listening proficiency?
4. What beliefs do participants have about teaching and learning varieties of Arabic?

Method

Instrument

The instrument consisted of a web-based survey containing a listening test plus a participant background questionnaire. It was put online using the Qualtrics program and took approximately 30 minutes to complete.

Listening Test

The listening test consisted of five passages, one in each of the following varieties of Arabic: North African, Egyptian, Levantine, Gulf, and Modern Standard Arabic. These varieties were chosen as they represent major geographical groupings (Čéplö et al. 2016; Versteegh 2001). To make the passages, native speakers of the first four varieties (from Morocco, Egypt, Palestine, and Saudi Arabia respectively) were selected. These native speakers were living in the United States at the time of recording to pursue their graduate studies. They were asked to translate five passages describing a daily routine from English into their dialect and then record the passage. The Egyptian speaker (who also taught MSA in a university setting) followed the same procedure to create the MSA passages. A daily routine was chosen as the topic for each passage to make the passages similar and also accessible to learners of Arabic at the American Council on the Teaching of Foreign Languages (ACTFL) Intermediate level (at least in familiar varieties).

The recordings were used to make five separate listening tests, each one containing one passage in each of the varieties of Arabic, for a total of five input passages, as detailed in the chart below (Latin Square Design). Although the speech rates of the individual speakers were not controlled for, the recordings were similar lengths (averaging just under a minute) and there was not a consistent pattern of certain texts or speakers being longer or shorter.

Text	Test 1	Test 2	Test 3	Test 4	Test 5
1	North African	Egyptian	Levantine	Gulf	MSA
2	Egyptian	Levantine	Gulf	MSA	North African
3	Levantine	Gulf	MSA	North African	Egyptian
4	Gulf	MSA	North African	Egyptian	Levantine
5	MSA	North African	Egyptian	Levantine	Gulf

Table 1. Listening Tests

Participants were randomly assigned to one of the five tests and took on average half an hour to complete it. To attempt to balance the number of speakers from each background taking each test, participants were asked to identify the Arabic dialect with which they were most familiar and also whether they identified as a native speaker who grew up in an Arabic-speaking country, a native speaker who moved to a non-Arabic-speaking country as a child, someone whose family speaks Arabic but grew up in a non-Arabic-speaking country, or a non-native speaker prior to being assigned to the test.

While taking the test, each of the five passages were automatically played twice for participants. The participants then answered two multiple-choice questions in English about each passage. Each question was worth one point, for a total of two possible points on each passage. The questions were multiple choice and asked about a particular part of the daily routine (e.g. How does Hassan go to the university? What does he do after dinner?). Participants were also asked to identify the passage from among the following choices (North African, Egyptian, Levantine, Gulf, MSA) and to rate how easy it was for them to comprehend on a five-point scale from Very Easy to Very Difficult.

Background Questionnaire

The background questionnaire was administered after the listening test, and consisted of information on participants' Arabic study (e.g. how many years of Arabic study, had they lived in an Arabic-speaking country), current weekly use of Arabic (e.g. in what contexts and with whom), and beliefs about teaching different varieties of Arabic (e.g. should regional dialects be taught, in what sequence with MSA).

Participants

The online link to the instrument was shared by the researchers via email and Facebook, and participants received a small gift certificate for completing the project. A total of 444 responses were received. However, many of these responses were incomplete, contained very low scores, or were completed in less time than it took to listen to the passages. As a result, incomplete responses (n=130), responses where the total score (out of 10) on the listening test was two or less (less than chance) (n=49), and responses where the entire survey was completed in less than five minutes (n=30) were eliminated. There were also entries that contained potential discrepancies in the background questionnaire (such as identifying as a non-native speaker of Arabic, but reporting using Arabic on a daily basis with siblings in Arabic-speaking countries). While these discrepancies may certainly match the lived experiences of participants, concerns about the quality of the data generally led to the elimination of these responses as well (n=59). Finally, to answer the research questions, participants who scored zero on the MSA listening passage and on the passage in the dialect they identified as their most familiar were eliminated (n=35). This was intended to ensure that participants had some level of proficiency in both MSA and their familiar dialect if these were to be used as predictor variables. Finally, one native speaker who identified as equally familiar with all of the dialects was eliminated as they could not be considered to have an unfamiliar dialect to measure. The final number of participants after excluding the above categories was 140 in total. Table 1 lists the participants by type of speaker and familiar dialect background. The heritage speaker category combines those who identified as native speakers that moved to non-Arabic speaking countries as children and those whose families speak Arabic but grew up in non-Arabic speaking countries.

	Native speaker	Heritage Speaker	Non-Native Speaker	Total
North African	8	3	9	20
Egyptian	10	4	22	36
Levantine	12	11	19	42
Gulf	15	1	3	19
Multiple varieties	10	4	9	23
Total	55	23	62	140

Table 2. Speaker and dialect background

While the number of non-native speakers with Gulf Arabic as their most familiar dialect seems relatively small, this reflects current trends in Arabic pedagogy and study abroad. Egyptian and Levantine dialects are the most commonly taught, and there has been a surge of study abroad to Morocco in particular after the Arab Spring. As the heritage sample was no longer large enough for the regression analysis used in this study, the analysis focuses on the NS and NNS groups only.

Analysis

In order to answer the research questions, it was necessary to operationalize listening proficiency and variety identification as variables measured on the listening test. Listening proficiency in a variety was measured as the score on that passage in the listening test (0,1, or 2). Variety identification was measured as the ability to correctly identify the variety in that passage in the listening test (0 or 1). This resulted in the following six variables:

Ability	Variable	Measure
Familiar dialect listening proficiency	Familiar dialect score	Score on the passage on the listening test in the dialect identified as the most familiar (or average of familiar passages for those identifying more than one familiar dialect)
MSA listening proficiency	MSA score	Score on the passage on the listening test in MSA
Unfamiliar dialect listening proficiency	Unfamiliar dialect score	Average score on the passages on the listening test in non-familiar dialects
Familiar dialect identification	Familiar dialect ID score	Identification score on the passage on the listening test in the dialect identified as the most familiar (or average of familiar passages for those identifying more than one familiar dialect)
MSA identification	MSA ID score	Identification score on the passage on the listening test in MSA
Unfamiliar dialect identification	Unfamiliar dialect ID score	Average identification score on the passages on the listening test in non-familiar dialects

Table 3. Variables for analysis

To answer the first research question about relationships between unfamiliar dialect listening proficiency and listening proficiency and variety identification in familiar dialects and MSA, correlations between these variables were calculated. Because the data were not normally distributed and there were numerous tied ranks, Kendall's tau was used. The native and non-native speakers of Arabic were analyzed separately.

To look at the second and third research questions concerning whether or not proficiency and variety identification ability could predict unfamiliar dialect proficiency, a regression analysis was conducted, using unfamiliar dialect score as the outcome variable, and the other variables as predictor variables. Once again, the native and non-native speakers of Arabic were analyzed as separate groups.

In order to answer the fourth research question concerning participants' beliefs about teaching and learning Arabic, participants' responses were categorized according to frequency. For open-ended responses asking participants to name dialects, participant responses were mapped onto one of the categories examined in this study: North African, Egyptian, Levantine, and Gulf. For example, if a participant responded "Tunisian" it was mapped onto "North African" and if they responded "Jordanian" it was mapped onto Levantine. In addition to the four varieties tested in this study, two multidialectal categories were added, one for "Levantine and Egyptian" as a combination and the other for "multiple dialects". For example, if a participant responded "Egyptian and Syrian" this would be classified as "Levantine and Egyptian" and if they responded "All of them" or "Lebanese and Iraqi" this would be classified as "multiple dialects". The choice to distinguish between "Levantine and Egyptian" as a combination and combinations including other dialects was made due to the frequency with which Levantine and Egyptian dialects were combined in the data and the fact that these are the most commonly studied dialects (as also reflected by the L2 speakers in this study).

Results

Listening Test

Descriptive Statistics

Tables 4 and 5 list the means and standard deviations for the variables measured for NS and NNS. In terms of listening proficiency, NS tended to score highest on their familiar dialect (96%), followed by MSA (95%), and then unfamiliar dialects (89%). NNS on average scored highest on MSA (96%), followed by their familiar dialect (91%), and then unfamiliar dialects (83%). In terms of dialect identification, NS were able to identify all of the varieties over 80%

of the time, with the highest score for the ability to identify their familiar dialect (92%), followed by unfamiliar dialects (89%), and then MSA (82%). In contrast, NNS were able to identify MSA 84% of the time, their familiar dialect 77% of the time, and unfamiliar dialects only 59% of the time. Thus, for this particular sample based on Intermediate level texts, differences between native and non-native speakers were represented in their ability to identify varieties more than their listening proficiency in these varieties.

NS	Mean	Standard Deviation	Minimum	Maximum
Fam. Dialect Score	1.92	.26	1	2
MSA Score	1.89	.32	1	2
Unfam. Dialect Score	1.78	.28	1	2
Fam. Dialect ID	.92	.26	0	1
MSA ID	.82	.39	0	1
Unfam. Dialect ID	.89	.25	0	1

Table 4. Descriptive Statistics (NS)

NNS	Mean	Standard Deviation	Minimum	Maximum
Fam. Dialect Score	1.82	.38	1	2
MSA Score	1.92	.28	1	2
Unfam. Dialect Score	1.66	.37	.33	2
Fam. Dialect ID	.77	.41	0	1
MSA ID	.84	.37	0	1
Unfam. Dialect ID	.59	.36	0	1

Table 5. Descriptive Statistics (NNS)

Correlations

For the NS group, there was a weak, but significant, correlation between unfamiliar dialect score and unfamiliar dialect ID ($\tau=.253$, $p<.05$), indicating a relationship between these variables. None of the other variables correlated significantly with unfamiliar dialect score for NS.

For NNS, there were moderate and significant correlations between unfamiliar dialect score and familiar dialect ID ($\tau=.442$, $p<.01$) as well as MSA ID ($\tau=.411$, $p<.01$). There was a weaker, but still significant correlation between unfamiliar dialect score and unfamiliar dialect ID ($\tau=.259$, $p<.05$).

Regression

In the regression models for NNS and NS, the unfamiliar dialect score was used as the outcome variable, and the remaining variables as predictor variables. In the regression analysis for NS native speakers, none of the variables were significant predictors of the unfamiliar dialect score.

NS	B	SE B	Beta	t	Sig.
Constant	1.142	.369		3.097	.003
Fam. Di Score	.164	.220	.146	.747	.459
MSA Score	.044	.134	.047	.330	.743
Fam. Di ID	.095	.261	.085	.366	.716
Unfamiliar Di ID	.257	.209	.215	1.232	.224
MSA ID	-.098	.131	-.128	-.747	.458

Note: $R^2=.112$

Table 6: Regression Model (NS)

For the NNS, the significant predictors were the ability to identify the samples in one's familiar dialect and in MSA.

NNS	B	SE B	Beta	t	Sig.
Constant	.748	.313		2.386	.020
Fam. Di Score	-.026	.121	-.027	-.217	.829
MSA Score	.214	.143	.161	1.499	.140
Fam. Di ID	.415	.107	.467	3.880	.000
Unfamiliar Di ID	.022	.121	.022	.183	.856
MSA ID	.251	.125	.255	2.008	.050

Note: $R^2=.38$

Table 7. Regression Model (NNS)

Beliefs about teaching and learning different varieties of Arabic

In response to the question “How do you think Arabic programs in non-Arabic speaking countries should approach teaching Modern Standard Arabic (MSA, al-fuSHa) and Arabic dialects?” most participants felt that both MSA and dialect should be taught. Of the three participants who responded “Other”, two indicated that they thought MSA and dialect should be taught in separate classrooms. Most NS felt that MSA should be taught first, then dialect, whereas NNS split evenly between teaching MSA then dialect and teaching MSA and dialect in the same class. However, a chi square analysis did not reveal a significant difference between the groups, $\chi^2(5)=5.283$, $p=.382$.

	MSA Only	MSA, then dialect	MSA and Dialect in the same class	Dialect, then MSA	Dialect Only	Other	Total
NS	4	25	12	8	1	1	51
NNS	1	25	24	8	1	2	61
Total	5	50	36	16	2	3	112

Table 8. Beliefs about how to learn Arabic

In response to the question “Which Arabic dialect(s) are the best for Arabic learners to study?” most NS chose one dialect, usually Egyptian or Levantine. However, NNS tended to choose a multidialectal option, whether the Egyptian and Levantine combination, or other dialect combinations. In this case, a chi square test did reveal a significant difference between NS and NNS, $\chi^2(5)=16.67$, $p=.005$.

	North African	Egyptian	Levantine	Gulf	Egyptian and Levantine	Multiple Dialects	Total
NS	1	12	14	6	8	5	46
NNS	0	13	6	2	17	19	57
Total	1	25	20	8	25	24	103

Table 9. Beliefs about the best dialect(s) to study

In response to the question “Which Arabic dialect(s) do you think are the most widely understood among Arabic speakers?”, NS again tended to choose either Egyptian or Levantine, while NNS tended to choose the combination of Egyptian and Levantine. A chi square test revealed significant differences between the groups, $\chi^2(4)=13.48$, $p=.009$.

	North African	Egyptian	Levantine	Gulf	Egyptian and Levantine	Multiple Dialects	Total
NS	0	27	10	3	8	1	49
NNS	0	17	8	2	27	3	57
Total	0	44	18	5	35	4	106

Table 10. Beliefs about the most widely understood dialect(s)

In response to the question “Which Arabic dialect(s) do you think sound the most beautiful?” both NS and NNS preferred the Levantine dialect.

	North African	Egyptian	Levantine	Gulf	Egyptian and Levantine	Multiple Dialects
NS	1	9	25	3	1	9
NNS	4	4	33	4	3	11

Table 11. Beliefs about the most beautiful dialect

Discussion

This research project examined the abilities of native and non-native speakers of Arabic to understand MSA, familiar dialects, and unfamiliar dialects. In particular, it asked whether there were relationships between unfamiliar dialect listening proficiency and listening proficiency and variety identification ability of familiar varieties (MSA and a familiar dialect), and if any of these proficiency or variety identification could predict unfamiliar dialect listening ability. Listening proficiency was operationalized as participants' scores on their MSA and familiar dialect tests, and variety identification ability was measured as participants' abilities to correctly identify the varieties (see Table 3 for the full description of these variables). The study also compared NS and NNS beliefs about teaching and learning Arabic dialect(s).

For native speakers of Arabic, scores in the comprehension of the familiar dialect were highest (96%), followed by Modern Standard Arabic (95%), and then followed by unfamiliar dialects (89%). However, all of these scores were high. While Arabic dialects are sometimes described as mutually incomprehensible, or challenging to comprehend, this study supports previous empirical research (Abu-Melhim 2014; Soliman 2014a, 2014b; Čéplö et al. 2016) which indicates that this is not necessarily the case, as native speakers generally scored highly on the comprehension of all varieties of Arabic. While the texts of the listening test were at the ACTFL Intermediate level, and thus these results cannot be generalized to higher level texts, it is worth noting that many daily interactions are at the Intermediate level, even if participants are capable of engaging in higher level tasks.

Native speakers of Arabic were also relatively adept at identifying the various varieties of Arabic, identifying their familiar variety of Arabic correctly 92% of the time, unfamiliar varieties of Arabic correctly 89% of the time, and MSA correctly 82% of the time. At the same time, given that the five varieties tested represented major regional dialects and MSA, it is somewhat surprising that the identification abilities of native speakers were not higher.

For non-native speakers of Arabic, scores on MSA comprehension were highest (96%), followed by familiar dialect (86%), and then followed by unfamiliar dialects (83%). Although NNS scored lower than native speakers in their comprehension of familiar and unfamiliar dialects, they actually scored slightly higher in their comprehension of MSA. This likely reflects the focus on MSA that prevails in Arabic-as-an-additional-language classes. However, here again, it should be noted that non-native speakers did relatively well comprehending unfamiliar dialects at the ACTFL Intermediate level, belying claims that these are mutually incomprehensible.

In terms of variety identification, NNS were most proficient at identifying MSA (84%), followed by their familiar dialect (77%) and unfamiliar dialects (59%). Again, this likely reflects the emphasis on MSA in Arabic-as-an-additional-language classes, and students' lack of exposure to multiple varieties. These scores also demonstrate a greater variation in variety identification for NNS than for NS (who tended to score uniformly high), likely because of the wide range of Arabic learning experiences reported by the NNS.

Correlations demonstrated a relationship between variety identification ability and unfamiliar dialect listening ability, but not between listening proficiency in familiar varieties and unfamiliar dialect listening ability. For NS, the only relationship was between unfamiliar dialect variation identification ability and unfamiliar dialect listening score. This may be due to ceiling effects as NS scored highly with little variation in both listening proficiency and variety identification for MSA and their familiar dialect(s). For NNS, there were relationships between unfamiliar dialect scores and each variety identification variable (MSA, familiar dialect(s) and unfamiliar dialects). While it is not possible to determine the exact nature of these relationships from correlations, it seems that the ability to identify a variety plays a larger role than listening proficiency in familiar varieties in helping both NS and NNS understand unfamiliar dialects. Given that Arabic dialects differ from each other and MSA in predictable ways (Holes 2004), this makes sense as the ability to identify a dialect may help listeners predict what phonological, morphosyntactical, and lexical items to expect.

Regression analysis can make causal predictions. In this study, proficiency in familiar varieties (MSA and familiar dialect) did not predict proficiency in unfamiliar varieties, a finding that contrasts with that found in a more limited previous study (Trentman 2011). This difference is potentially due to differences in the study design, as the previous study tested a smaller number of NNS only, looked primarily at transfer between the popularly taught Egyptian and Levantine varieties, and had more limited semantic control between the samples. For native speakers of Arabic, variety identification ability was also not a predictor of the comprehension of unfamiliar

varieties. However, these results should be interpreted with caution as it is possible that the high scores of native speakers on the comprehension and identification of all the varieties led to a ceiling effect. For this reason, future studies may want to consider testing native speakers on higher level texts, more challenging tasks (such as the cloze test used in many mutual intelligibility studies), or a greater and more diverse number of dialects.

However, variety identification ability in MSA and familiar dialects did predict unfamiliar dialect comprehension for non-native speakers, with the ability to identify one's familiar dialect a stronger predictor than one's ability to identify MSA. This indicates a role for variety identification in understanding unfamiliar dialects. Again, this makes sense given the predictable ways in which the varieties differ from each other.

In terms of NS and NNS' beliefs about teaching MSA and dialects, both groups expressed a preference for teaching both MSA and dialect. NS tended to prefer a system of teaching MSA, then dialect, where NNS showed an equal preference for teaching MSA, then dialect and teaching MSA and dialect in the same class. This may be due to their learning experiences, where they preferred or alternatively disliked the way they were taught. However, the difference between these two groups did not reach significance on this question, although this may also be due to the small sample size. Given the preference of both groups for teaching dialects, the study also looked at beliefs about which dialects were best for learners to study, which were most widely understood, and which were most beautiful. Both NS and NNS felt that Levantine dialects were most beautiful. In terms of the dialects most widely understood, NS tended to choose one dialect (usually either Egyptian or Levantine), while NNS chose the multidialectal combination of Egyptian and Levantine, and there was a significant difference between the two groups on this question. In terms of the dialects best for learners to study, NS again tended to choose one dialect (usually either Egyptian or Levantine), while NNS tended to choose multidialectal options (either Egyptian and Levantine together or another dialect combination).

Implications for Teaching

The results of this study have pedagogical implications for the field of Arabic language teaching, where the question of how to teach Arabic dialects along with MSA and which dialect to teach, if any, are much debated issues. One clear finding of this study is that both native and non-native speakers are able to comprehend unfamiliar varieties of Arabic relatively well, a finding that is counter to popular beliefs about the degree of mutual intelligibility of dialects but one that is also supported by studies examining native speakers only (Abu-Melhi 2014; Soliman 2014a; Čéplö et al. 2016). While this finding is limited to Intermediate level texts in

major varieties, it is nevertheless a disservice to students to represent these varieties as mutually incomprehensible or extremely difficult to understand.

Second, the role of variety identification in predicting the comprehension of unfamiliar varieties for NNS needs further attention in the Arabic language classroom. The most plausible explanation for this outcome is one related to metalinguistic awareness, or the ability to analyze and predict patterns across related varieties. After all, the historical development of Arabic varieties means that they differ from each other in predictable ways phonologically and morphosyntactically, and there are many features shared by diverse regional dialects compared to MSA (Bassiouny 2009; Holes 2004). Lexical variation is less predictable, but there is also an expectation that words found in basic daily social situations are more likely to vary than those found in the discussion of more advanced topics. The results of this study indicate that developing students' abilities to identify elements that vary between varieties of Arabic and identify them in familiar varieties may aid their ability to identify and comprehend unfamiliar varieties, as they are able to predict which variations they are likely to hear. This is in line with the findings of Soliman (2014b) that training NNS in the strategies used by NS to understand unfamiliar Arabic dialects improves their ability to comprehend these dialects. Metalinguistic training has also been successful for learners of closely related languages (Carvalho, Freire, and Da Silva 2010; Gooskens and Swarte 2017; McCann, Stegmann, and Klein 2003).

While further research is needed to examine exactly what types of metalinguistic awareness tasks are effective (but see Soliman 2014b), this study demonstrates a role for them. These include tasks such as being able to identify the phonological, morphosyntactical, and frequently used lexical elements likely to vary in Arabic, potential realizations of them in multiple varieties, and which features are likely to cluster together in certain varieties. In addition, the important role of exposure in the mutual intelligibility literature (Gooskens 2018) makes it clear that students will need practice listening to these elements in various contexts — it may not be sufficient to simply tell them that the letter qaaf (/q/ in MSA) can also be realized as /g/ or /ʔ/ or /k/ in different varieties.

Third, most participants felt that learners should learn both MSA and dialect. In terms of which dialect to teach, native speakers tended to focus on choosing a single dialect as most widely understood or best for learners, while non-native speakers tended to express a preference for learning multiple dialects, even if these were not the ones they found most beautiful or considered the most widely understood. While further research is needed on this topic, there is clearly a shift in the field away from an MSA-only model. For non-native speakers, the move beyond an MSA-plus-one-dialect model into a multidialectal one may be indicative of the

greater exposure learners are experiencing to the wide array of Arabic dialects. This exposure might be heightened by learners' easy access to Arabic media, including social media where dialects thrive, and through first-hand mobility in the Arabic-speaking region through increased opportunities for study abroad.

Taking a multidialectal approach to Arabic learning that includes a focus on developing students' metalinguistic awareness can help better prepare learners for tackling real-life interactions that are driven by variation. This approach would alleviate some of the challenges inherent in the MSA-only or MSA-plus-one-dialect models prevalent in the field of teaching Arabic as an additional language. While the MSA-only model has been heavily critiqued for its inability to prepare students to interact in everyday situations (Al-Batal 2018a), it remains prevalent in Arabic-as-an-additional-language classrooms. While some programs and instructors continue to believe that dialects should not be taught, others are, however, open to the possibility but unsure of the process. One reason is the dominance of the MSA-plus-one-dialect model when dialects are taught, which leads to confusion about which dialect to choose given that teachers may possess different dialect expertise, students may travel to a variety of geographical locations or have varying family dialect backgrounds, and pedagogical materials do not equally represent even major national varieties of Arabic.

A multidialectal model addresses this question by expanding the focus on one national variety plus MSA to an approach that teaches Arabic as a transnational language. Taking a multidialectal approach does not entail a goal of developing learners' proficiency equally in all dialects, nor does it mean randomly adding multidialectal resources in the classroom. Rather, a multidialectal approach teaches students to embrace the sociolinguistic variation present in Arabic by separating goals in receptive and productive modes, and using training in metalinguistic awareness to help students develop a toolkit and mindset to use when encountering new varieties, while also developing their general proficiency through thematic units and a focus on language functions (e.g. introductions, asking questions). This type of multidialectal approach can be used at all levels, and not just for advanced students.

In the receptive mode, this means deliberately and continually choosing resources that provide learners with exposure to multiple varieties while still adhering to the theme of the unit to build general proficiency related to this topic. For example, in a unit focused on education in a classroom where the teacher's familiar varieties are MSA and Egyptian, learners could also listen to videos describing school day routines in one or more other Arabic varieties, building on their knowledge of MSA or Egyptian. Crucially, the teacher would not simply provide videos in multiple varieties, but also must guide students' attention to the metalinguistic features that

can help them recognize patterns within and across dialects. This could include common phonological variants (q-g-ʔ-k), morphosyntactic features that differ in their phonetic realization but are shared across multiple varieties, such as present progressive verbal prefixes (k-, b-, ʕam b-, d-, t-), and lexical items that are likely to differ, such as realizations of “I want” (byiit, ʕaayiz, bididi, abyā, ureed). Metalinguistic awareness training should also draw students’ attention to the social meanings of these linguistic features, particularly when speakers are varying their speech contextually along the continuum between MSA and regional dialects, or mixing dialects in cross-dialectal conversations. It is crucial to remember that multidialectal communication is a common phenomenon, rather than an exception, among Arabic speakers from different backgrounds (Al Masaeed 2020; S’hiri 2002; Soliman 2014a).

Providing continuous exposure to multiple varieties in the receptive mode in this manner thus helps learners develop the ability and desire to recognize and understand multiple varieties, a skill necessary to engage with content and speakers from across the Arab world, which remains the primary goal of most students (Al-Batal and Belnap 2006). Even in situations where there is a clear reason to focus on a particular national variety (e.g. studying abroad in a specific country), a multidialectal approach is beneficial due to the sociolinguistic variation within individual national varieties of Arabic. This variation may be governed by gender, class, education, or urban vs. rural identities for instance, and being prepared to engage with that variation instead of being merely intimidated by it can only prepare that learner better for operating successfully in their host country.

In the production mode, a multidialectal approach does not expect learners or teachers to be able to speak or write multiple varieties equivalently. Rather, it gives them the agency to choose to use the varieties that reflect their own exposure or desired identities, while also developing their abilities to shift their language in situations where they may wish to accommodate to other speakers or contextual factors. For this reason, raising metalinguistic awareness remains crucial in the productive mode, as this helps learners draw upon their resources in multiple varieties of Arabic to perform certain identities and stances, and achieve their interactional and social goals. This includes varying their language along the continuum between MSA and regional dialects in contextually appropriate ways, and may also include mixing regional dialects to accommodate to other speakers, or as their desired identities shift over time. A promising methodology for developing these types of activities is concept-based instruction (Van Compernelle 2014) which focuses on tying linguistic features to social contexts based on speakers’ expectations and desired identity performances, which may at times also be in conflict (e.g., if speakers have different expectations/desires for familiarity or formality).

A multidialectal approach can also help prepare students for the multilingual situations they will encounter in Arabic-speaking contexts, where colonial languages (e.g. English, French or Spanish), or indigenous languages (e.g. Tamazight or Siwi in North Africa), frequently function as additional linguistic resources. Learners with strong metalinguistic awareness abilities can use these skills to incorporate multilingual as well as multidialectal resources in achieving their language learning and social goals. This is particularly important for study abroad students, as research demonstrates that contrary to expectations of monolingual immersion in the target language, study abroad is an inherently multilingual experience (Trentman 2021; Tullock and Ortega 2017). Research on interactions between L1 and L2 Arabic speakers abroad demonstrates how both parties engaged in translanguaging practices drawing from a variety of multilingual and multidialectal resources to negotiate language learning as well as achieve interactional and social goals (Al Masaeed 2020; Shiri 2015; Trentman 2021).

Overall, the focus of a multidialectal approach is to provide learners with a toolkit and mindset that will allow them to encounter new varieties of Arabic strategically and patiently, rather than with frustration and fear. Teaching with a multidialectal approach may also require teachers to acquire new skills and mindsets. These include developing their own comfort with working with resources in less familiar dialects, including researching words or phrases they do not understand. They may also need to develop their own metalinguistic awareness skills if this has not been part of their training. This would allow them to better explain linguistic patterns and the social meanings indexed by particular features to their students, and prepare their students to make informed, rather than random, linguistic choices. At the same time, teachers will need to understand that the ability to make sociolinguistic choices is developmental, and just as Novice learners sometimes conjugate verbs incorrectly, they may also make odd sociolinguistic choices. These choices are not indicative of the failure of a multidialectal approach, but rather of the fact that language learning is a lengthy process.

Conclusion

The implications of this study for addressing the question of teaching Arabic diglossia center on the need to recognize the high degree of comprehension between major varieties of Arabic for NS and NNS and the potential for strategic multidialectal approaches that incorporate metalinguistic awareness to address learners' goals and desires. Future research is needed to examine this issue more in depth, as this study also has clear limitations, including a small sample size, challenges with online data collection, the exclusion of heritage speakers, and the use of Intermediate level texts that may create ceiling effects and flatten differences between NNS and NS. Future research with more balanced samples from different dialect backgrounds

and a more extensive listening test could provide more information on the influence of dialect background on comprehension as well as the role of language ideologies. A further focus of future research should be on multidialectal approaches in the classroom, including the design, inclusion and assessment of metalinguistic awareness activities. While this study alludes to the potential of these activities, it cannot make predictions about what the best activities are or how they should be incorporated into the curriculum.

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