

GENERAL AND LOCAL ISSUES IN FORENSIC LINGUISTICS: ARABIC AS A CASE STUDY²⁸

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Abstract: This paper is concerned with four main aspects or parts of forensic linguistics: Forensic linguistics in speech mode and in writing, the special status of Arabic, linguistic problems and possibilities of translation for forensics, and Language Analysis for Determination of Origin (LADO). After presenting these issues in the introduction, we describe the language situation of Arabic, mainly in Israel, in the context of these four issues. The discussion is based on the literature concerning problems of translation and LADO in courts of justice in various countries, including Israel. We consider LADO as a developing field of forensic linguistics, and demonstrate by examples some problems that may rise from speech recordings of Arabic speaking asylum seekers. Based on this survey, we point out in the conclusion some research needs of general forensic linguistics and Arabic-related forensic linguistics.

PROBLEMATYKA OGÓLNA I LOKALNA W LINGWISTYCE SĄDOWEJ NA PRZYKŁADZIE JĘZYKA ARABSKIEGO

Abstrakt: Artykuł koncentruje się na czterech aspektach lingwistyki sądowej: lingwistyka sądowa jako sposób formułowania treści mówionych i pisanych, szczególny status języka arabskiego, problemy lingwistyczne i możliwości tłumaczenia w sądach, zastosowanie analizy językowej do ustalenia pochodzenia. Po przedstawieniu tych kwestii opisana zostanie w ich kontekście sytuacja języka arabskiego, głównie w Izraelu.

עניינים כלליים ומקומיים בבלשנות משפטית: ערבית כמקרה מבחן

תקציר

המאמר דן בארבעה היבטים או חלקים של הבלשנות המשפטית: בלשנות משפטית בדיבור ובכתיבה, ייחודה של השפה הערבית, בעיות בלשניות ואפשרויות תרגום במערכת המשפט, וניתוח שפה לקביעת מוצא (LADO). אחרי הצגת הנושאים האלה במבוא, מתואר מצבה של הערבית בעיקר בישראל בהקשר של ארבעת ההיבטים הנ"ל. הדיון מתבסס על הספרות הדנה בבעיות התרגום ו-LADO בבתי המשפט בארצות שונות, כולל ישראל. אנו סוקרים את LADO כתחום מתפתח של בלשנות משפטית ומדגימים מספר היבטים של LADO בעזרת דוגמאות מבעיות שעלויות להתעורר מהקלטות דיבור של מחפשי מקלט דוברי ערבית. בהתבסס על הסקר הזה, אנו מצביעים בסיכום על מספר צרכים מחקריים של הבלשנות המשפטית בכלל והבלשנות המשפטית המתייחסת לערבית בפרט.

²⁸ This paper is an expanded and modified version of a plenary talk at the International Legi-Linguistics Conference, Poznan, June, 2013.

Introduction

Forensic linguistics

Forensic sciences have been developing very much since the 20th century. They include many areas e.g.: anthropology, ballistics, chemistry, dentistry, drug and poison engineering, pathology, photography, psychology, spectrophotometry, etc., and in addition: forensic linguistics (Conklin et al. 2002). Forensic linguistics focuses on language in its interaction in the legal arena (e.g., O'Barr 1982). This involves authorship attribution, language in libel and defamation cases, analysis of legal documents, law texts, courtroom language and translation, etc. (Coulthard and Johnson 2007, Kniffka, 2007, Shuy 1993). Due to the continuous increase of ASs mostly since the 20th century (Zwaan et al. 2010) a relatively new sub-field of forensic linguistics analyzes ASs' speech and language.

In addition to the above classifications, we can study forensic linguistics by its two modes of application, speech and writing. These modes differ by material and goals: In speech, mainly phonetic aspects of recorded speech samples are examined for goals such as speaker recognition and verification in addition to grammar and lexicon. In written texts, the vocabulary, grammar, style, discourse structure, etc., are examined for goals such as author authentication, handwritten text confirmation (by an alleged author), ambiguities elucidation, etc. The differences between these two modes involve different analysis and work methods in these areas. One of the areas of forensic linguistics is translation at courts of law, which may involve translation of written texts or oral translation, i.e., interpretation.

A brief background survey of Arabic

A survey of the literature on forensic linguistics reveals that it relates mainly to languages used in Europe, USA and Australia. Relatively less research examines forensic linguistics of Middle Eastern Semitic languages, such as Arabic, which is the dominant language of that region or Hebrew, which is dominant in Israel. We therefore aim here to contribute to forensic linguistics by focusing on Arabic in Israel.

Before embarking on the linguistic description, we should mention some general facts about Arabic. This is a Semitic language (Voigt 2009) with a long history and many dialects. Its original speakers have been spreading out from the Arabian Peninsula to the north, east and west since the 7th century (Behnstedt and Woidich 2005). In time the Arabs reached Turkey and Spain in Europe, and Iran, Kazakhstan, Afghanistan, Northern India and even Malaysia in Asia. Arabic is now dominant in the Middle East and North Africa (MENA). It is the 5th world language by number of speakers (Holes 2004), with above 260 million native speakers, and more for whom it is a 2nd/foreign language. Many native speakers of Arabic have been emigrating to Europe, the Americas and Australia since the end of the 19th century, in constantly increasing numbers. These facts affect the whole world.

The wide geographical spread and long history have created numerous Arabic dialects²⁹. The spoken dialects vary between different regions of the MENA. Indeed, certain Arabic dialects (e.g., Maltese; Mifsud 2008) differ so much from one another that they could be considered different languages.

Arabic also has a Modern Standard Arabic (MSA) variety. It developed along the centuries since the Classical Arabic period (the 8-9th centuries CE) and is its written variety. Since the Koran, the Muslim most important and prestigious document written in classical Arabic, its modern descendant (MSA) is also highly prestigious, even revered. MSA is conventionally considered as uniting the native speakers of the Arabic dialects which are not always mutually intelligible. Recent research has found, however, differences between MSA varieties in different Arabic countries (Ibrahim 2009). Most of the native speakers of Arabic still consider their language a single entity, referring to MSA, while dialects are usually considered inferior to MSA and unworthy of the term "language." MSA is, however, also spoken on various, mainly official occasions, which include religious preaching, lectures, news on the media, etc. For every-day matters, however, spoken colloquial dialects are used.

The current relations between MSA and the colloquial dialects are complex. Spoken dialects are the mother tongue (L1) of native speakers of Arabic (as in other languages). Dialects develop freely wherever their speakers live and communicate, yielding dialectal differences between different locations. MSA, on the other hand, is not a mother tongue: it is acquired by formal study (normally at school) and is thus limited to literate individuals. But since electronic media exist now all over the world, even illiterate people (and children) may be informally exposed to MSA and partly acquire it. The dichotomy between formal/written and informal/spoken varieties in a single language community, found in many languages, was named Diglossia (Krumbacher, 1903, Marçais 1930, Ferguson 1959). It has been later realized that there is a gradation rather than dichotomy between MSA and the dialects³⁰ because MSA and CA have been affecting each other with the spread of literacy in the 20th century: CA dialects have absorbed some MSA elements, and MSA has been somewhat simplified on the way to modernization (compared to Classical Arabic) and now it may use also some CA vocabulary.

Five main general factors affect the development of CA dialects: Geography, Social status and demography, Religion, Gender, and Education (Kaye and Rosenhouse 1997, Behnstedt and Woidich 2005). CA dialects are geographically classified into Eastern vs. Western dialects (the center is in Egypt). These dialects are demographically classified into Sedentary (urban and rural) and Nomadic (Bedouin) dialects. Religion reflects communal distinctions, which are large in some places and small in others (Blanc 1964). Male-female language differences may distinguish speakers in a community (e.g., Rosenhouse 1998, Vicente 2009). Education is particularly relevant for Arabic diglossia and personal (demographic) differences (Al-Wer 2002). Arabic is now considered a mixed language (den Heijer 2012) since there is no clear boundary between MSA and

²⁹ In fact, even before the Muslims spread out from the Arabian Peninsula, Arabic dialects existed and were mainly categorized into Tamimi and Hijazi groups (Rabin 1951).

³⁰ CA dialects differ both among themselves and from MSA on all linguistic domains, though at various rates.

CA any more, and its diglossia has apparently yielded similar results in both past and present.

The linguistic situation in Israel and MENA at present

Although Arabic is the dominant language in the MENA, many other languages are spoken there, e.g.: Western and Eastern Aramaic in Lebanon, Syria and Iraq, Kurdish dialects in Iraq, parts of Syria and Turkey, Coptic and Nubian in Egypt, and Berber dialects in the North Africa. Native speakers of these languages have been living in the MENA for many centuries. Multilingualism in Israel is due to a different process of immigration. Speakers of more than 30 languages (Spolsky and Shohamy 1999, 3-4) immigrated to Israel, where the dominant language is Hebrew, another Semitic language. Native speakers of Arabic make about 20% of the population in Israel.

Many political and cultural changes occurred in the MENA during the 20th century due to strong Western influence, much technological progress, internal political changes and general globalization, among others (cf. Al-Džubaib 2001). As a result, many Arab immigrants and refugees immigrated to other Arabic-speaking and non-Arabic-speaking countries in the MENA and elsewhere. For example, more than two million Iraqi refugees emigrated from Iraq to other Middle Eastern and European countries after the war in Iraq in 2003. More recently, numerous Syrian refugees entered Turkey and Jordan due to the civil war in Syria. In their host countries, refugees form contacts with speakers of different Arabic dialects or other (local) languages. Contacts with such new language communities yield for them (as for other immigrants) new language processes, including erring, dysfluencies (hesitations), borrowing, code switching/mixing, linguistic accommodation, mother tongue attrition, etc. (cf. Behnstedt and Woidich 2011, 2012, Auer 1998, Auer and Wei 2007).

Asylum Seekers' and immigrants' language problems in courts of law (translation and interpretation)

Immigrants and ASs may face language problems when they have dealings with courts of law. When immigrants or ASs – any non-native speaker – go to a court of law for whatever reason they may:

- (i) Not know the local language at all.
- (ii) Know the local language to some extent (partly).
- (iii) Know the local language well, but not like a native speaker.
- (iv) Know the local language so well that a native listener cannot note that they are not native speakers.
- (v) Know also additional dialect(s)/language(s) at various levels³¹.

Such problems follow from the fact that immigrants' and ASs' forensic cases often involve translation and LADO (Language Analysis for Determination of Origin). LADO assumes that ASs' speech reveals their original nationality. However, it may be difficult to define the L1 of an AS who is proficient in more than an L1 dialect or language.

³¹ Unlike the common cases 1, 2, 3, 5, case 4 is rather rare and is not discussed here.

Translation is often needed in court cases where ASs or immigrants are involved. Court translation is notorious for the problems it involves (Morris 1995). Moreover, a study of the situation in various countries is difficult because different situations and laws concerning translation at court exist in the different countries. For example, in certain states (e.g., UK, USA, Canada, Australia, Germany, the Netherlands), litigants who do not know the official State language are entitled (by law) to translation services at court. In certain countries the court is required to supply an interpreter for litigants; elsewhere the litigant has to employ interpreters and pay their fees. This latter situation may encumber litigants who are financially unable to hire a translator/interpreter and may hamper the possibility for them to gain full justice. In addition, even if the law proclaims the use of translation services at court, the application of this law varies in different countries. This problem has been noted in many publications (Schuster and Schlesinger 2007).

It has long been realized (in forensic and translation literature) that professional translation would help solve many problems that rise at court. The literature on this aspect also discusses problems related to translation needs and possibilities, referring to written translation and oral interpretation. These issues include translators' and interpreters' availability, qualification and skills, personal involvement, and understanding the implied sense of a spoken or a written text (cf. Lee 2011, Landau 1999).

Let us briefly discuss here translators'/interpreters' functions. For translators, understanding the implied sense of a written text involves "reading between the lines," analysis of grammatical and vocabulary use, noting orthographic and lexical errors, sociolinguistic considerations, etc. (cf. Lee 2011, Morris 1995, Schlesinger 1991, Landau 1999). Interpreters refer to simultaneous or consecutive speech. They speak "online" usually - whereas translators produce written work. The cognitive load in these two activities therefore differs greatly. But they also share issues of, e.g., availability and qualification. Not everywhere are there schools that train interpreters and translators, and not all schools prepare interpreters/ translators for work with all the languages needed at court. Thus, translators/interpreters are not always available for a specific case.

Interpreters'/translators' personal involvement is also discussed in the literature. Personal feelings and thoughts cannot always be avoided and may affect the resulting translation/interpretation in spite of interpreters'/translators' practiced disregard of emotions: interpreters may modify the litigant's utterances by adding or deleting words, phrases, gestures, pauses and hesitations. Understanding the implied sense of a spoken text is also reflected in interpreters' prosody (intonation, pauses, hesitations etc.), beyond vocabulary and grammar. Sometimes these modifications are misunderstood by the judge, and thus translation/interpretation may affect court processing and ruling.³² Thus, translators and interpreters may not be entirely objective all the time, but translators have more time to (re-)consider their (written) output. Finally, Interpreters/translators cannot be entirely free from the influence of their employer's identity, i.e., the State or the litigant.

³² Experienced professional interpreters/translators can disregard emotional issues but this often involves delayed psychological effects on them, as has been noted in the literature, as well as in Prof. C. J. Driesen's personal communication during the conference in Poznan, June, 2013.

LADO

Immigrants all over the world have been changing the population make-up in nation-states and many studies examine governmental policies which equate place of origin with language in LADO (e.g., Bloomaert 2009, Fraser 2009, Broeders 2010, Detailleur & Spotti 2012). Such studies claim that the official approach is not adequate in many cases, since various linguistic and social factors may modify a speaker's language skills. Such factors include human phonetic imitation abilities (Evans 2010), immigrants' duration away from the homeland, their physical distance from it and the separation from their L1 (Zwaan 2010), the language situation in the home country which can be multi-lingual or multi-dialectal (Detailleur & Spotti 2012, Bloomaert 2009), linguistic accommodation (Rosenhouse 2010), etc.

Although LADO began a few decades ago, not all ASs undergo language analysis as Zwaan (2010, 215) writes: "in 2008 the Dutch Secretary of State also indicated that in ... about 10% of all asylum applications a language analysis is asked for"³³. This situation is not unfamiliar in other Western countries (and Israel), and has raised linguists' awareness of immigrants' and ASs' difficulties in gaining asylum. UNO reports (e.g., UNCHR, 2011) attest that only a limited number of industrialized countries receive refugees, and even those at a small rate compared to refugees' numbers and needs. They also report that in recent years, thousands of refugees and ASs emigrated from the MENA due to wars, faith harassment, financial difficulties, etc. ASs' human rights are often violated in such situations, and various institutes (e.g., UNO) try to rehabilitate the ASs. In this context 19 linguists ("the Language and National Origin Group") published in June, 2004, a 6-page long document entitled "Guidelines for the Use of Language Analysis in Relation to Questions of National Origin in Refugee Cases" (Zwaan et al. 2010, and IJSLL internet site).

Arabic is obviously included in the language list of potential ASs for LADO processes. It seems that governments take Arab ASs seriously, not the least due to their numbers (Rieschild-Robertson 2007). However, a major problem of Arabic-speaking ASs is that not all the dialects are well known, or even just documented, and thus not all Arabic speakers can be correctly identified by their language (even by an expert linguist; cf. Broeders, 2010). If linguists do not know the dialects, it is a question how LADO can be applied. This involves that translation, which is needed to explain the AS's speech, is not always possible in such cases. Governments may recruit translators for LADO tasks from distant locations, but the procedure is time consuming and difficult for all parties involved. Bearing the above issues in mind, we turn now to Israel.

Language in the Israeli law system

Due to historical circumstances, Israeli law is based on three sources: Ottoman laws (due to the Ottoman rule until the end of World War I), British law (due to the mandate rule of the country after the fall of the Ottoman Empire, 1918-1948) and Israeli and religious law since the establishment of Israel (1948). Current Israeli law also includes laws, regulations and procedures enacted since then (Stern 2004). The legal system in Israel

³³ Language analysis is integrated in Dutch asylum procedures.

now consists of (the general) Israeli civil and criminal courts, Rabbinic (Halakhic, Jewish) court, Court martial, Labor court, Traffic court, domestic affairs court, etc., and separate courts for the Muslim (*shar'i*), Druze and Christian communities.

Israeli citizens speak many different languages, but the State of Israel recognizes only two official languages: Hebrew and Arabic. Hebrew is the dominant language and therefore the one mainly used at court. Arabic is usually used in the other faith courts and sometimes in the general Israeli courts. Though not an official language, English is also used at times, perhaps because of its vogue as the current global language.

Language use at courts of law is analyzed by studied by Landau (1999)³⁴. She demonstrates the needs of jurists and judges for linguistic skills in order to give a correct verdict in many cases. She mentions linguists' roles including phonetic and acoustic speech analysis (e.g., for speaker recognition), syntactic, lexical and stylistic aspects for elucidating similar contested trade names, text analysis for determining meaning, analysis of linguistic aspects of libel cases, litigants' ability to understand their rights or and warnings read to them orally or shown in writing, with or without a translator or interpreter, etc. (Landau 1999: 58).

Translation has been recognized by the Israeli legal system as important for litigants who do not know Hebrew or Arabic. See the following excerpt about this subject from the end of an essay on egalitarianism in legal processes by Judge Türkel (2002):

Translation in legal processes

Another obstacle against accessing judicial instances is not-knowing the Hebrew language. About criminal processes the law states that "if it has been made clear to the court that the defendant does not know Hebrew, a translator will be appointed to him, or will himself (i.e., the judge) translate for him" (section 140, criminal law order, combined version, 1982). In addition it has been stated that "the translator's fees will be paid by the State, unless otherwise instructed by the court" (section 142). But in many civil processes (including procedures dealing with labor, domestic affairs and legal execution) there is no such obligation. The result is that the rights of litigants who do not know the Hebrew language may be impaired. It is appropriate for this issue, too, to be regulated by law. (Translated by JR).

More recently, an interesting case was tried by judge T. Bar-Asher-Tsaban (24.6.2012). In this case, two Israeli native speakers of Arabic sued the court since it had instructed them to pay for translation services to/from Arabic in a civil case which they wanted to conduct in Arabic (which is, as noted, an official language in Israel). Following the legal instructions mentioned in the above quotation (enacted in 1999 after a trial on this issue), judge Bar-Asher-Tsaban ruled that the litigants did not have to pay for those translation services.

That being said, the few studies that discuss interpretation/translation in Israeli courts of law described it as being in a bad state (Morris 1998, Hefer 2007, Schuster and Shlesinger 2007). They wrote that litigants often had to "get by" and use occasional interpreters, such as random passers-by, family members or staff members of the institute

³⁴ A few other publications on related issues have been published since then, by e.g., Pinto (2010) or Bakshi (2011).

where they needed to communicate with others, whether a court of law or a medical facility (Schuster and Schlesinger 2007, Sévenier-Gabriel 2007).

Due to lack of translators, the State of Israel has issued instructions for training translators and interpreters at least for Arabic, Russian and Amharic – the languages of the largest language minorities in Israel. But Liphshiz (2008) published a report entitled “Court interpreters fail non-Hebrew speakers, alleges a translator group” referring to a company that had won a government tender for providing interpreting services in all of Israel’s judicial districts. However, Sévenier (p.c. 2013) says that since 2007 this field has made some progress. The general administration of the Israeli law courts has introduced exams in Arabic, Russian and Amharic before employing translators. The exams aim at verifying that employed translators have sufficient language proficiency and only translators who pass the exam in these languages are now allowed to translate at court. Furthermore, there is now an ethical code for translators, and in 2011 a study day on this subject was held for all the active translators. Regarding translation to/from Arabic, she says that most translators at the Israeli courts of law are native speakers of Arabic and they are referred to the courts by companies that have won the governmental translation tender (Sévenier p.c. 2013).

This description implies that the State is acting to decrease linguistic problems at court, but its aims are not yet entirely met. But Israel is not alone in this respect: The problem of translation and translators has not been solved as yet in many countries (including, e.g., USA) and in view of the never ending streams of immigrants, refugees and ASs this is not surprising.

A different issue is translators’/interpreters’ qualification. In Israel, translators/interpreters do not have to be officially qualified, but four academic institutes are to be noted for their translation studies:

- (i) The Translation & Interpretation Studies and Research Department (Bar-Ilan University) is the only university in Israel that bestows MA and PhD degrees in translation/interpretation. It was established as a diploma track in 1972, and received approval to bestow higher degrees in 2001. It was the only professional framework in this field for many years (Shlesinger et al. 2006). Until recently the Source/ Target translation languages were Hebrew, Arabic, English, French, Russian, Spanish and German (Shlesinger et al. 2006). But in 2012 the university implemented severe cuts on this program (as part of general cuts).
- (ii) Tel-Aviv University offers BA graduates a translation diploma. Graduates can continue towards PhD on a topic in translation in the Literature Department. Various languages can be considered in this framework including Arabic, English, French, Russian, Spanish, Portuguese and Chinese.
- (iii) The Hebrew University in Jerusalem has a translation track for MA degree. As in Tel-Aviv, the courses direct students to translation into Hebrew (source languages are not mentioned in the information provided about this track).
- (iv) In Beit Berl College (near Kefar Sava) only English and Arabic are taught for a diploma in translation into/from Hebrew.
- (v) Yet, as noted, in addition to Hebrew and Arabic more than 30 languages are spoken in Israel (Spolsky and Shohamy 1999, Ben Rafael 1994). Thus, it would seem that the higher education hardly supports many individuals’ translation needs.

LADO procedures exist also in Israel, because many immigrants, legal foreign workers, refugees and illegal infiltrators live in the country. In 2009 a new unit, the Population Immigration and Border Authority (PIBA) began operating to regularize the situation of this population according to the Israeli law. Natan (2012) mentions in an Israeli parliament report on this subject that new procedures have been applied in 2011 for Refugee Status Determination (RSD) of ASs before asylum is granted. The RSD procedures report (PIBA 2012) states that before asylum granting, ASs will get an official interview in their original language or in another language which the AS knows, and translation services should be provided if needed. Clearly, Israel is aware of the immigrants' state as described in reports by UNO, European institutes and bodies, etc., and operates to improve it. Much still needs to be done, however, for procedures are not laws and the number of translators for all the languages is still not sufficient.

Arabic related issues in forensic linguistics

Let's return to Arabic and its Arabic-speaking ASs, who have definitely advanced in global awareness recently. The higher awareness of Arabic speakers has yielded more interest in Arabic teaching and learning. In a random web search we found, e.g., YouTube advertisements by USA based companies about Arabic language courses in general/specific legal communication (without specifying the varieties) and a Russian Speech Technology Center which develops voice analysis software and other equipment for forensic language analysis; it advertises also software for Arabic (again, without mentioning varieties). Such institutes may not necessarily focus on forensic goals, but they probably exhibit the generally increasing interest in Arabic.

Forensic linguistics is known also in Arabic-speaking countries of the MENA.³⁵ But as this is a relatively young area, we do not find much information about Arabic forensic linguistics on the web. Still, an Arabic University in Saudi Arabia specializes in forensic sciences (but not linguistics). There are also MENA companies that advertise computer technologies and software for Arabic language and speech (including translation, speech recognition, etc.). In our literature survey we found a paper by Al-Huqbany³⁶ (2008) about the needs for English skills and use of English by Saudi Arabian police officers in the first volume of *'Ayn, the Journal of the Saudi Association of Languages and Translation*. On the other hand, the peer-reviewed *Egyptian Journal of Forensic Science* does not seem to take interest in forensic linguistics. In addition, there are many private translators into/from Arabic who advertise their services on the internet.

A different branch of forensic linguistics is automatic text and speech analysis which has been occupying researchers for several decades now. This interest first addressed computerization of the Arabic alphabet because Arabic texts are usually written without vowel signs (using only consonants)³⁷. In time, statistical methods have

³⁵ An example is the paper (Basim 2012) which analyzes a suicide note to identify its author. It refers to written MSA, however, and not to CA which interests LADO.

³⁶ Dr. Al-Huqbany also translated Olsson's (2004) book *Forensic Linguistics: Introduction to Language, Crime and the Law* into Arabic.

³⁷ Changing vowels or certain alphabet letters can change word structures, syntax, word meaning and thus whole utterances. With the progress of computational technology, many of these problems have been solved also for Arabic, although grammar is still a challenge.

become significant for the analysis in large scale databases for many aspects of forensic linguistics, including Arabic. But currently (i) not many Arabic databases exist for researchers' free use; and (ii) not much work is done in this area about MSA and CA (but see, e.g., Biadisy et al. 2010, Al-Ma'adeed et al. 2008). Such studies, though interesting, do not help identify or discriminate details of CA dialects. Neither do they help in distinguishing between adjacent dialects of some region, because they discuss different and geographically distant dialects in the Arabic-speaking realm (e.g., Barkat et al., 2004). Thus, the current CA research hardly answers LADO needs.

Some phonetic examples will reflect CA "puzzles" in ASs' recorded speech for LADO. Since some linguistic features of CA dialects are shared by other dialects, while other features are different, it can be difficult to determine and distinguish the AS's native dialect from an acquired one. /q/ is a typical Arabic phoneme. It is pronounced in various dialects as [q, g, dž] or [ʔ]. Some of these articulations occur even in one and the same dialect, depending on gender, age or education. But /q/ is also a MSA phoneme; thus, literate speakers, and others who would like to be considered literate, often use [q] instead of the colloquial variant. One may thus hear the same word spoken differently by speakers of different dialects as in these examples:

Example 1. 'Coffee' in various Arabic dialects

/qahwe	ʔahwe	gahweh	ghawa	qahwa/
Judeo-Arabic	Kurdistan	Damascus, Beirut	Szanʔa:ʔ (Yemen)	Mesopotamian
Bedouin	MSA			

Example 2. 'Pot' in various Arabic dialects

/qid↔r	gidir	džidr/
Rural Palestinian	Negev Bedouin	Syrian Bedouin

Bedouin speakers in the MENA use /g/ for /q/; but so do also many urban speakers of cities such as Baghdad (Iraq) and ʔAmman (Jordan). But in ʔAmman, working women tend to use (MSA) /q/, though in their dialect /ʔ/ or /g/ are also used (/g/ by, e.g., older men, /ʔ/ by urban speakers) (Al-Wer 2007: 502). However, this /g/ (< /q/) should not be confused with Egyptian (Cairo) /g/, which is equivalent to /dž/ ~ /ž/ elsewhere as in example 3:

Example 3. 'Camel' in Cairo Arabic and Jordanian Arabic

Cairo /gamal/	ʔAmma:n /džamal/
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How can a LADO language analyst know, then, WHY a certain speech sound occurs or not in an AS's speech? Knowing the varieties of a phoneme and their occurrence in different dialects can help in determining a speaker's phonetic system in some cases, but not all the time. Similar examples exist in morphology and syntax. Of course, one feature (e.g., a phoneme) does not determine a speaker's origin. One should therefore focus on distinctive features of whole systems. But this is not easy, or even possible, if not all the details of a dialect are known (cf. Broeders 2010). Finer phonetic features (Voice Onset Timing, aspiration, etc.) which are often used in speaker

recognition may be important for distinguishing speakers' origin – but they cannot be used for LADO in un-known dialects represented by a single speaker.

Conclusion

We focused here on some spoken and written aspects of forensic linguistics in translation for courts of law and LADO, and mainly about Arabic and its speakers as ASs. Generally, ASs' situation in these contexts is not simple. As Arabic language is a diglossic language, with many dialects in addition to MSA, translation and LADO problems are difficult to solve due to ASs' mixes of multiple dialects and MSA. The linguistic situation in Israel, where Hebrew and Arabic are official languages, was discussed mainly regarding translation and LADO, and a few Arabic phonological difficulties for LADO processing served as examples. We also discussed legal translation problems involving objective and subjective factors, relating to the translated material and the human factor (i.e., the translator/interpreter).

LADO aims are known by now (Blommaert 2009, Zwaan et al. 2010). But in principle, it may be difficult to define an AS's L1 if s/he is proficient in several dialects/languages. To be able to assess the AS's speech, LADO language analysts should be also multilingual and proficient in more than the AS's dialect.

Since countries have different legal system, aspects of court translation/interpretation and LADO should probably be compared by their results for immigrants and ASs in each country. The world-wide situation of legal translations and LADO for ASs who speak different languages, requires more research to solve the problems involved in forensic linguistics. Such studies may eventually contribute to the legal systems, the ASs and the general public. Moreover, studies of languages and legal systems can contribute to the understanding of language and its development as part of human behavior. The discussed case of Arabic ASs is only one drop in the sea of immigrants and ASs. All this means much important work is yet to be done.

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