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## **LADO as forensic speaker profiling**

Paul Foulkes, Peter French & Kim Wilson

### **Abstract**

There has been considerable debate on the role of native speaker consultants working alongside linguists in LADO casework. There is widespread acknowledgment that linguists and native speakers possess different skills and knowledge about language. Logically, therefore, there is potential to integrate the insights from linguists and native speakers, in order to eliminate the gaps and alleviate the flaws of a single approach to analysis. As Patrick (2012: 544) notes, “[t]he real question is not whether, but how, NENS [non-expert native speaker] knowledge should be used in LADO.”

However, little work has explored the strengths and weaknesses of different types of analyst, or tested how collaborative analysis might best be produced. In this contribution we discuss our experience of working with native speaker consultants in other types of forensic case. In many respects LADO can be considered a specialised form of forensic speaker profiling. We consider parallels between LADO and forensic speaker profiling, drawing on our casework experience. In particular we discuss the ways in which the skills and knowledge of a native speaker consultant can be harnessed in a team approach to forensic casework. We consider the kinds of background and training that are required, the in-house training given to consultants that we have worked with, and the ways in which a forensic analyst can best monitor and assess the contribution made by a consultant. We contextualise the discussion relative to other desiderata for LADO, including with reference to linguists, and to current proposals for expert evidence in general.

**keywords:** forensic phonetics, speaker profiling, native speaker consultants, training, team approach, expert evidence

## **1. Introduction**

LADO is now widely used, hotly debated, and scrutinised by members of the judiciary, politicians, and the general public (POST 2015). Academic interest has grown, but with only marginal gains in terms of the practical underpinnings of LADO. Much of the debate has focussed on the role of native speaker consultants in the process (e.g. Fraser 2009, 2011, Cambier-Langeveld 2010b, 2014, Patrick 2012, 2016). Early polarised debate, often centering on the extent to which those consultants have any training in linguistics, has thankfully given way to a more balanced approach. Notably, the recent contributions by Cambier-Langeveld (2014) and Patrick (2016) have made significant headway in resolving native speaker consultant issues and moving the discussion forward. Indeed, before this development, Patrick (2012: 544) had already identified what we regard as the current key question at the heart of LADO: “not whether, but how, NENS [non-expert native speaker] knowledge should be used in LADO.” We aim to further this debate here by discussing how consultants are used in other types of forensic linguistic and phonetic work. We present a forensic phonetic perspective on LADO practice, regarding it as a particular application of the longstanding, widely used and largely uncontroversial practice of forensic speaker profiling. We discuss forensic speaker profiling with reference to cases we have conducted ourselves. From these case studies we develop a set of guiding principles concerning when it is necessary and appropriate to engage consultants in speaker profiling. We argue that it is almost always necessary to do so in cases involving a language of which the analyst is not a native speaker, and thus by implication in many LADO cases. We follow this with a brief discussion of the skills and qualities needed in native speaker consultants, but, given the attention this has already received, our main focus is on the largely neglected issue of the

skills, protocols and standards required of forensic linguists if they are to undertake LADO in a rigorous, transparent and reliable way (cf. Wilson 2009, Cambier-Langeveld 2010b).

## **2. Speaker profiling**

Speaker profiling is a form of forensic speech and language analysis carried out to derive information about a speaker from a recording of his/her voice. This task, which has a long and unchallenged status in the history of forensic phonetics, is undertaken on a regular basis by individual practitioners and laboratories. The second author's laboratory (J P French Associates, henceforth JPFA) has handled between 5 and 20 cases per year since the late 1980s. Despite its pedigree, however, remarkably few published works have addressed speaker profiling in any detail (the few exceptions are Ellis 1994, French and Harrison 2006, Jessen 2008, French and Stevens 2013).

The profiling task focuses on sets of linguistic – primarily phonetic – features that are known to correlate with, or *index*, personal, regional or social dimensions. Within sociolinguistics it is axiomatic that indexical properties can be identified in a voice. In everyday circumstances, people recognise a large number of individuals by their vocal properties, and can also categorise voices into regional or social groups by reference to their features. Neither lay people nor linguists are infallible in their assignation of voices to individuals or groups (Fraser 2011: 125), but this is entirely to be expected where the correlations of features with non-linguistic dimensions may be statistical rather than absolute, phonetically gradient, or simply not present in a particular speech sample. While these factors may impose limits on how successfully certain aspects of speaker profiling can be done in a given case, forensic phoneticians generally do not regard this as grounds for refusing the task, but for expressing their conclusions in an appropriate format with the requisite degree of caution, a point we return to below.

## 2.1 What can be derived?

With regard to what realistically may be gleaned from a recording, French and Harrison (2006) list ten indexical dimensions, further developed in French and Stevens (2013), that can, *in principle*, be identified via profiling:

- sex/gender
- regional background
- social and educational background
- influence of an additional language
- ethnic group characteristics
- speech/voice/language pathology
- whether the speaker is reading or speaking spontaneously
- intoxication
- presence of disguise
- age (with certain reservations).

To provide a concrete example of how a linguistic feature might index speaker information, one might consider the case of someone who pronounces the English consonant /s/ in words such as *this*, *sit*, etc with their tongue tip near to the upper teeth, rather than further back at the tooth ridge. This might be taken as an indication of a 'lisp', i.e. an individual tendency, often regarded as a mild speech disorder. However, it should be understood that a feature may index more than one thing. So, if the speaker in question were not a native speaker of English, a dental pronunciation of /s/, rather than representing a 'lisp', might index the fact that their first language was, say, Castilian Spanish or Bengali, in both of which this pronunciation is the norm. For this reason, the linguist profiling a speaker considers each feature found in a speech sample against the backdrop of other co-occurring features (e.g. in the example cited the presence of other features potentially indicating

a non-native accent). Where there is a very limited range of features available for analysis, conclusions must be expressed with a reduced level of confidence, and plausible alternative conclusions stated too.

Also, it would be highly unusual to find that a speech sample in any given case would contain sufficient features for the linguist to make determinations in respect of all ten dimensions listed above. There are various factors governing the availability of features. The most important of these include the quantity and quality of the recorded material to be analysed, the availability of documentary information on the indexical properties of the language or dialect, and the individual skill of the caseworker in performing the analysis. The caveats apply to *all* indexical dimensions. Even the sex of the speaker, often assumed to be an obvious property in adults (interpretable via observation of average pitch), is not always easy to identify, especially if the speech was produced during intoxication or in situations of heightened stress or emotion (one such case is documented in Boss 1996).

Descriptive documentation of indexical properties is extensive in various subfields of linguistics, most notably dialectology and sociolinguistics, but with much relevant information also available in phonetics and in descriptive ('field') linguistics such as the work undertaken by institutions like SIL.<sup>1</sup> Inevitably, the documentation for some languages and varieties is far richer than for others. (The same problem is particularly acute in the LADO context (see e.g. Rosenhouse 2010).

Having outlined speaker profiling, we now turn to its applications in general forensic casework and present some illustrative cases before returning to considerations of LADO.

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<sup>1</sup> <http://www.sil.org/>

## 2.2 General Casework Applications

The circumstances in which the need for speaker profiling arises are varied, but the most common scenario concerns recordings of criminal events where those investigating the matter have not identified a suspect, and where there is no useable visual information on the recording to assist in that respect. Clearly, purely audio criminal recordings, such as intercepted telephone calls, voicemail messages, and the vast majority of 'intrusive surveillance' recordings from bugged buildings and vehicles, fall into this category. However, many of the recordings submitted for speaker profiling are, in fact, video. These typically include masked robberies captured on CCTV inside banks or casinos, and paedophile recordings where the perpetrators remain off camera but their voices are recorded on the soundtrack.

A second, rather less common, scenario concerns attempts to establish the identity of individuals who from time to time turn up claiming to be suffering from amnesia or to have fallen foul of other circumstances that deprive them of knowledge of their own identity. Those charged with establishing clues to identity may do so by making voice recordings of the nameless person and having them subjected to speaker profiling. A well-known case of this kind concerned the 'Forest Boy', a teenager who presented himself at the Berlin City Hall in September 2011 claiming that, having just emerged from a forest where he had been living wild with his recently deceased father for around five years, he knew little about who he was or where he originally came from. He spoke English, but with a foreign influence of a kind that was not recognised by the German police. Although his identity was eventually established via a photograph as that of Robin van Helsum, a Dutch national (and hoaxer), the police had in the interim sought to gain clues to his background by having speaker profiling carried out from recordings.<sup>2</sup>

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<sup>2</sup> [https://en.wikipedia.org/wiki/Robin\\_van\\_Helsum](https://en.wikipedia.org/wiki/Robin_van_Helsum)

It is worth noting that profiling may be called upon in order to answer two different forensic questions, depending on the circumstances of the case. In some cases the issue is one of *verification* – a specific claim has been made about the speaker’s background, usually by one or both sides in a legal case, or by the subject of the enquiry. The task of profiling is thus one of verifying or refuting that claim. In other cases there may be no specific claim, but instead an open question of what information can be gleaned about the speaker. Following a distinction made in broader forensic science, we refer to this as a *classification* question, and as we shall discuss later, the same distinction applies in LADO cases (Broeders 2010). Classification, being an open question, is almost always expected to be a more difficult task than verification (Moosmüller, 2010: 43). It should also be noted that verification cases may develop into classification ones during analysis if the initial claim is refuted.

### **2.3 Illustrative Cases**

In this section we present analyses from cases relating to each of the two scenarios, verification and classification, and draw from them some general principles concerning when it is necessary and appropriate for forensic phoneticians to involve native speaker consultants.

#### 2.3.1 The Case of the Yorkshire Ripper Hoaxer

The much-cited report by Ellis (1994) was one of the earliest documented cases of any type in forensic phonetics, and it appears still to be the only full published case report on speaker profiling. Ellis analysed a tape recording received by West Yorkshire Police in the 1970s in which a series of murders was discussed. The police worked on an assumption that the man in the recording was the killer, although the tape was eventually found to be a hoax. As part of an appeal to the public for help in identifying the speaker, the recording was played many times on television and radio, and even over loudspeakers in football grounds. However, no identification was made. Ellis was therefore employed to profile the man’s likely regional origin in order to narrow the field of enquiry.



Ellis was a dialectologist and phonetician, and had been a fieldworker for the *Survey of English Dialects* (SED) and its offshoot, *The Linguistic Atlas of England* (Orton et al 1963-1970, Orton, Sanderson and Widdowson 1978). The SED was a major documentary project with the aim of preserving regional (mainly rural) dialects on the hypothesis that they would be lost in the advance of Standard English propagated via the mass media (Chambers and Trudgill 1998). Ellis was able to pinpoint the speaker's origin to the city of Sunderland in the north-east of England, eventually narrowing his conclusion to the northern suburbs. When the hoaxer, John Humble, was eventually arrested in 2005, Ellis's conclusion was vindicated: Humble lived within two miles of the area Ellis had identified.

In reflecting on this case it is instructive to consider Ellis's methods, which had three strands. First, as a professional dialectologist and phonetician, Ellis naturally drew on his academic training and extensive experience. He was able to analyse the phonetic details of the voice and from them he established Sunderland as the most likely region of origin. He noted, for example, that the speaker tended to delete initial /h/ (a marker of those north-eastern dialects lying south of the largest city in the north-east, Newcastle upon Tyne), and that pronunciation of the /ai/ vowel was more typical of Sunderland than the adjacent areas either to the north or south. To support his interpretation he made reference to published sources such as the SED. Second, Ellis compared the voice on the tape to those of other speakers from the Sunderland area: he requested that local police officers be recorded, and he also examined other recordings from Sunderland in his possession from his work related to high school oral English examinations. Third, he recognised the limitations of a purely academic approach:

'Once the target area had been defined in broad terms, I suggested that the reactions of 'lay' listeners local to the area should be sought in an attempt to further circumscribe its boundaries. The speech of eastern county Durham is subject to a great deal of fine-grained geographical variation and I was reasonably confident that the pronunciations would be readily identified by local inhabitants as belonging to a particular district.' (Ellis 1994: 198)

Implicit in Ellis's reasoning is that there was no academic documentation at the level of granularity sufficient to separate the neighbourhoods of a relatively homogeneous dialect area. He recognised the limitations of his own considerable skill, and equally recognised the natural ability of native speakers to make useful judgments relevant to the question at stake (cf. Nolan 2012). Ellis's continued description of his consultation process shows that he interviewed many local residents, and that he *interpreted* their comments rather than accepting them at face value. It is important to note that this case was one of classification – a totally open question of where the speaker came from. The limitations on the academic linguist appear more acute in this context than they might in a verification case, in which a specific hypothesis is being tested.

### 2.3.2 The Case of 'Jassem Miah'

A more recent case from the UK was that of Jassem Miah (a pseudonym), accused in 2013 of falsely imprisoning two men, one British and one foreign. The captor in this case was not recorded but heard extensively, speaking always in English, by the victims of the alleged imprisonment. While the foreign witness could only say from his accent that he was from somewhere in the UK and that English was either his first or second language, the British witness identified ethnic and possible international-regional influences. He repeatedly described the accent as 'Caribbean' and also used the words 'voodoo' and 'patois' to describe the variety. A suspect for the offence was identified, arrested and charged by the UK police. JPFA were enlisted by the lawyers representing the suspect to visit him while being held on remand in the period running up to trial in order to make and analyse a recording of his voice and speech patterns. Insofar as the profiling task involved assessing the claims made by the witnesses about the accent – that it was a Caribbean accent, a UK accent, and/or possibly influenced by another language – the case may be regarded as one of verification.

In making the recording, a structured interview protocol was used, as in many sociolinguistic studies, to steer the conversation towards topics likely to elicit as natural and spontaneous speech as is

possible under such circumstances (e.g. childhood, day to day activities; see Tagliamonte 2006). The 20-minute recording so obtained contained around seven and a half minutes of speech for subsequent analysis.

It quickly became apparent to us that Miah spoke with a Bengali/Sylheti accent, a variety of English with which we have become very familiar over recent years through research literature and forensic casework. Regional South Eastern English features were also present in his speech. The combination of segmental features indicating a Bengali/Sylheti accent included dental realisation of phonologically alveolar consonants; a strong tendency to /h/-preservation and to use of velar rather than alveolar nasals in the '-ing' suffix; stopping of word-initial /ð-/; general non-rhoticity (although occasional tokens of non-prevocalic /r/ occurred); and variable monophthongal realisations of /e/ and /æ/. Segmental features showing influence from south east England in the accent included: open realisation of coda position /-ə/; variable vocalisation of coda /-l/; and glottalling of intervocalic /t/. Miah also produced a number of grammatical errors that are generally not documented for British English dialects and which thus offer a strong indication that he was a non-native speaker: use of present tense verb forms when describing events in the past; omission of the preposition 'to'; omission of definite and indefinite articles; and omission of the possessive marker '-s'. The overall cluster of phonetic and linguistic features was radically inconsistent with the claim he had a Caribbean accent. Our view was that his accent would be readily identifiable by lay listeners from the UK as a form of Asian English associated with communities in the South East of England originating from South East Asia (i.e., India, Pakistan and Bangladesh). We could, of course, have tested lay-listeners' reactions to the accent, but its identifiability in these broad terms seemed so obvious as to be beyond question. Our conclusion in this case was therefore that there was no evidence in support of the claim regarding a Caribbean or native UK accent, but support for the claim that English was not his native language. Our specific conclusion on the latter point was that he was most likely a speaker of Bengali or Sylheti.

In the Miah case we needed to go no further than this – it was not necessary to establish his specific origin in any more detail. Thus in this case the verification claim was refuted but there was no call for classification. However, had we been tasked with classification we would certainly have required the assistance of a native speaker consultant. The reason for this is that the L1 feature interference tendencies that distinguish Sylheti from Bengali English are simply not documented, and there is virtually no information on variation within the Sylhet region (north east Bangladesh) (Hamid, 2011). From experience of previous cases, however, we know that non-linguist native speakers may be able to distinguish Sylheti speakers from Standard Bengali speakers on the basis of their English pronunciations, and, albeit to a more limited extent, the region of Sylhet indexed in the speech.

### 2.3.3 The Case of ‘Lord Buckingham’

Involvement of native speaker consultants is precisely the approach we have taken in other cases, for example that of Charles Stopford. In 2005 Stopford was arrested entering the UK using a fake passport in the name of Christopher Edward Robert Buckingham, further claiming to be a British Lord. The name and personal details in fact matched information on the Register of Deaths, belonging to a child who had died in 1963. When confronted with these details he refused to answer any further questions from the interviewing police officer. He was charged with providing false information on a passport application and was sentenced to 21 months in prison (reduced to 9 months on appeal). On his release from prison the authorities faced a problem: he could not be released into the UK as his identification papers were fake, but nor could he be deported as there was no information about his true origins. His ex-wife and two children all believed the story he had given to the police: he was the son of British diplomats who had been killed in a plane crash; he was educated at Harrow and Cambridge; and held the hereditary title of Earl of Buckingham (a title which, in fact, became extinct in 1687). Further investigation revealed even more intrigue: he possessed letters in the name of Alexei Romanoff sent to an address in Switzerland, prompting

speculation that he might in fact be an Eastern European spy. The police posted appeals to the public for information about the man's true identity, but, just as with the Yorkshire Ripper hoaxer, no useful information was forthcoming. Further theories developed (on what grounds we do not know) that he might be Australian or South African.

We were contacted in this case by a television company producing a film about the story. We were asked to examine 'Buckingham's' police interview recording in order to carry out verification analyses in respect of three specific hypotheses: that he was Australian, South African, or Eastern European. In the event that none of the hypotheses could be supported, we were asked to undertake a classification profile of his likely origins. Once again, therefore, this case began as one of verification but would subsequently develop into one of classification.

We analysed in detail the segmental and suprasegmental material available in the recording, and cross-referred our observations to the extensive published literature on English dialects. We found no compelling evidence in support of a non-native speaker hypothesis and did not pursue that line. Nor did we find evidence of the well documented typical phonetic or phonological features to be expected of Australian or South African speakers of English. The recording was characterised mainly by phonetic and phonological patterns consistent with the standard accent of south-eastern England. However, there were also several recurrent features at odds with this general pattern: the speaker was variably rhotic, i.e. he pronounced the /r/ in words such as *car*; he was a yod-dropper, i.e. he did not pronounce post-consonantal /j/ in words such as *news*; and he pronounced the <l> in the name *Palmer*, which in almost all British dialects is phonologically /pɑ:mə(r)/. He also had a strikingly non-British English pronunciation of his assumed name *Buckingham*, the final syllable of which he pronounced as [-hʌm] or [-hæm] rather than typical British [-əm] (with no /h/).

We also sought wide support from academic colleagues with particular specialisms in the relevant varieties – three Australian phoneticians, one South African sociolinguist/phonetician, one Canadian sociolinguist, and two other British phoneticians – as well as non-linguist native speakers of southern hemisphere Englishes. The Australians and South Africans all concurred with our view that his background was not a southern hemisphere one, while the Canadian linguist did not consider it likely that he was from Canada but was inclined to point to a non-standard British dialect. Our over-riding view, supported by the other British phoneticians, was that the most frequent association of regional features was North American, and most likely the US. Literally a few days after we submitted our report a photograph of the mystery man was identified by his sister in Florida, and his identity as Charles Stopford was later confirmed by fingerprints. He had disappeared after a short spell in a Florida prison in 1983, after which he wove for himself a detailed and exotic new life story.

Leaving aside the intriguing story, a key point about the profiling analysis should be highlighted: this was a case in which the speaker's dominant variety was standard British English, through which a number of North American traits surfaced. No language varieties in the world are better documented than British and American English, and yet, due to the phonetic complexities of the material, a large team of highly experienced linguists – all native speakers of the language – found it extremely difficult to reach a clear and consensual conclusion in the case. As is usual in profiling tasks, rejecting the candidate hypotheses regarding specific origins was considerably easier than answering the open classification question.

### **3. LADO practices and the use of native speaker consultants**

We turn now to LADO, drawing comparisons with forensic speaker profiling before focusing specifically on unresolved issues related to both native speaker consultants and linguists involved in LADO.

As already noted, the question at stake in LADO is either one of verification or classification.

Linguistic analysis is used to determine the authenticity of a claimed origin, or to provide an opinion about the subject's likely origin. In this sense LADO can be viewed as a specific application of forensic speaker profiling. In LADO the verification task appears the more common, invoked principally "to distinguish between related varieties within cross border languages" (Cambier-Langeveld 2010a: 23). For example, if an asylum seeker claims to be fleeing Syria, the task is to assess the hypothesis that the claimant speaks Syrian Kurdish or Arabic rather than another dialect of Kurdish or Arabic, or another language altogether. In other LADO cases, however, there is no specific claim and therefore the linguistic analysis is one of *classification*: can we identify the speaker's likely place of socialisation? This is most likely the issue if an asylum claim is rejected and no further information is forthcoming about the claimant; that is, the verification task develops into a classification task. Linguistic analysis may offer important clues to establish the country to which the claimant should be deported.

There is no single approach taken to LADO. The small number of LADO agencies each have their own working methods, and the field has been marked by a general lack of transparency about them. The approaches can, however, be assigned to one of two broad types. First, analyses by De Taalstudio and LINGUA are generally conducted by a linguist, who is usually but not necessarily a native speaker of the language in focus (Verrips 2010; Patrick 2012). De Taalstudio, for example, claims to work "exclusively with professional linguists, who as a rule are affiliated with a university or research institute, and who have published academic articles about the relevant language."<sup>3</sup> Second, a team approach involving a consultant working under the supervision of an academically-trained linguist is employed by Sprakab, Verified, and the Netherlands Immigration and Naturalisation Service (INS,

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<sup>3</sup> [http://www.taalstudio.nl/taalanalyse/14\\_uk.html](http://www.taalstudio.nl/taalanalyse/14_uk.html). This and all other URLs referred to in this chapter were checked on 15-09-2015.

also referred to as IND and BLT – Bureau Land en Taal). Publicity materials indicate that these consultants are native speakers of the relevant language(s).<sup>4</sup> However, there are claims that in practice this is not always the case (e.g. Verrips 2011:134, who criticises a large number of INS/BLT reports from 2006-9). (LINGUA recruited and trained native speaker analysts in its early days, and still occasionally uses consultants; Baltisberger and Hubbuch 2010.) While defining ‘native speaker’ is not straightforward (Davies 2008), in the LADO context a working definition is offered by Cambier-Langeveld (2010a: 22) as follows: “a speaker who has first-hand, extensive and continuous experience with the language area and with other speakers of the language and the relevant varieties, starting from an early age”.

As noted at the outset of this chapter, there has been considerable debate about the use of native speaker consultants in LADO (e.g. Fraser 2009, 2011, Cambier-Langeveld 2010b, Patrick 2012). Some early commentaries appeared to assume the ‘native speaker’ analyst used in LADO as an untrained person, in effect ‘plucked off the street’. Citing an unnamed source, Daley (2002), for example, claims that some analysts working at the time for Eqvator (a now defunct Swedish company) were themselves former asylum seekers. By implication they were not linguists with recognised or verifiable credentials, and nor was it clear to what extent they had any training for the role. Eqvator were further criticised by an immigration lawyer, Anders Sundquist, because they allegedly required no specific academic qualifications of their language analysts (FECL 1998).

However, it seems now to have been established that consultants at all firms do undergo some sort of in-house training before being employed, although what exactly this consists of remains largely unclear (a point that can also be made of the ongoing training given to linguists as well as native speaker consultants). The INS is the only agency to have published a detailed overview of its recruitment and training methods (Cambier-Langeveld 2010a). Baltisberger and Hubbuch (2010)

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<sup>4</sup> <http://www.sprakab.se/Q%26A.html>, [http://verified.se/eng\\_about.html](http://verified.se/eng_about.html)



offer comments on LINGUA's occasional use of consultants, and some brief information is provided on company websites.

Sprakab claim to invoke rigorous selection procedures in recruitment, followed by training and testing before the consultant is employed in live cases.<sup>5</sup> Training takes "several months" and blind testing is carried out "continuously", including via external independent checks. The native speaker analyst documents linguistic elements "in collaboration with a linguist", and a second linguist is involved before a report is finalised. Patrick (personal communication), however, has raised doubts about how frequently multiple linguists are involved in Sprakab analyses. Cambier-Langeveld (2010a: 23) discusses the INS's team approach, stating that the supervising linguist and native speaker consultant work "in tandem". Verrips (2011) questions the working relationship between the two, emphasising the importance of the linguist taking responsibility for the final report even if drawing upon information produced by the consultant. We return below to the issue of how we have worked with consultants in other types of forensic case.

Much of the controversy surrounding the use of native speakers makes reference to the 2004 publication widely abbreviated as 'The Guidelines' (LNOG 2004). These were originally intended as a guide for government agencies and other interested parties, to assist them in assessing the reliability of LADO reports. Despite numerous calls for revision, no progress appears to have been made in addressing any perceived shortcomings in the 2004 guidelines. Guidelines 3 and 7 have been the source of particular debate. They draw attention to the different capacities of linguists and native speakers without training in linguistics:

*3 Language analysis must be done by qualified linguists*

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<sup>5</sup> <http://www.sprakab.se/Q%26A.html>

Judgements about the relationship between language and regional identity should be made only by qualified linguists with recognized and up-to-date expertise, both in linguistics and in the language in question ...

*7 The expertise of native speakers is not the same as the expertise of linguists*

There are a number of reasons why people without training and expertise in linguistic analysis should not be asked for such expertise, even if they are native speakers of the language, with expertise in translation and interpreting. ...

These two guidelines appear to have been interpreted by some as implying that *only* linguists (specifically 'qualified' linguists) should conduct LADO reports, and that linguistically untrained native speakers should not be involved at all. It has since been clarified that this interpretation is flawed, and that the Guidelines were not intended as barring the involvement of native speaker consultants altogether (e.g. Fraser 2011: 125; Patrick 2012: 545). Note, however, that the potential role of a consultant working under a linguist's supervision is not explicitly acknowledged. In recognition of the different but potentially complementary roles to be played by linguists and consultants, the International Association for Forensic Phonetics and Acoustics (IAFPA) agreed a resolution at its 2009 conference (see also Moosmüller 2010):

In cases involving the analysis of language and speech for the determination of national identity IAFPA recognises the contribution to be made by:

- (1) Linguists and trained native speakers with the latter working under the guidance and supervision of the former;
- (2) Linguists with in-depth research knowledge of the language(s) in question.<sup>6</sup>

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<sup>6</sup> <http://www.iafpa.net/langidres.htm>

It is important in this debate to highlight how little empirical research has investigated the respective skills in verification and classification tasks of academically trained linguists compared with those of people with little or no such training. Fraser (2009) summarises a range of studies carried out to test the abilities of ordinary people to identify and classify speakers by their accents (see also Preston this volume). She concludes that “there are no conditions under which abilities remotely approaching those required for forensic judgments have been demonstrated” (p. 132). However, as Moosmüller (2010: 46) notes, “Fraser provides no evidence that suggests that linguists are better judges of speaker origin than native speakers.” Indeed, two of the very few studies to attempt a comparison of the performance of linguists and non-linguists in the same task have shown native speakers to be at least as good as linguists (Hedegard 2015) and considerably better than some LADO professionals (Wilson 2009, summarised in Foulkes & Wilson 2011).

Whilst these studies were not a direct replication of LADO casework, they were based on routine types of linguistic or phonetic analysis of speech samples. Hedegard’s study involved linguists with specialism in the relevant language, while Wilson’s involved ‘training’ via standard linguistic and phonetic materials made available to both linguists and LADO professionals who had no prior experience of the language in question.

It is also worth noting there is no basis in law for calling someone a non-expert just because they do not have particular academic qualifications.

“The question of whether a witness is competent to give evidence as an expert witness is a matter of law for the judge to decide. It is clear from the case law on the competence of expert witnesses that there is no requirement that an expert witness possesses formal qualifications in the area on which he is to give evidence, or that his skill or experience in the

area arises due to his business or profession; it is sufficient that the witness has skill or knowledge in the area.” (Monaghan 2015: 425–426)

A consensus does now appear to be emerging that recognises the potential of native speaker consultants (e.g. Patrick 2012, 2016). However, questions are rightly raised about who these consultants should be, how they are recruited and trained, and precisely how the consultant and supervisor work collaboratively (Cambier-Langeveld 2010a, Fraser 2011, Patrick 2012, Wilson and Foulkes 2014). We therefore now turn back to general forensic practice to outline how we work with consultants in both speaker profiling and also speaker comparison cases.

#### **4. Working with consultants**

At our laboratory it is standard practice to engage consultants when dealing with forensic cases involving languages other than English. Our work with consultants is most often called for in speaker comparison cases, but occasionally also in profiling cases. We furthermore often refer to consultants when dealing with relatively unusual dialects or complex mixed accents (as illustrated in the Stopford case above), or where the case involves reference to specialist activities (for example, in an investigation of a shipping incident we recruited a specialist in shipping to assist with maritime vocabulary and to interpret activities recorded on the bridge of the ship). With foreign language work we seek, wherever possible, phoneticians/linguists who are native speakers of the language in question. This is in accordance with the principle that *both* academic training *and* native speaker competence/intuition are likely to be helpful in casework, and it is, of course, useful if both are provided by the same person, as that obviates the possibility of misunderstandings in communicating views between personnel. Minimally we seek a reputable Masters-level qualification in phonetics/linguistics. Occasionally no such person can be found. We then approach native speakers who are educated to at least Masters level in some other subject. We interview them to

assess their interest in language and potential aptitude to analyse language using a systematic approach. We might ask the candidate, for example, to listen to a sample of the language (not necessarily from the forensic case) and identify tokens of a particular vowel phoneme.

The general approach when working with a consultant is for a forensic analyst to take overall responsibility for the case, and to undertake specific tasks beyond the expertise of the consultant (e.g. to conduct acoustic analysis). The role(s) of the consultant are clearly defined from the outset. The first role is to check that the recordings do indeed contain the language(s) assumed. (It is not uncommon, in fact, that initial assumptions of the instructing party are proved wrong. Many terrorist cases in the early 2000s were initially assumed to involve Arabic, but were in fact in Pashto, Sylheti, or Urdu.) The consultant is then asked to check the descriptive information pertaining to the language in question that we have located and summarised from published sources. Working samples of the case materials are then produced collaboratively. The consultant checks that only one speaker's voice is included, and that the same language is used throughout. Based on the assembled descriptive information, segmental units such as key vowel phonemes will be identified and labelled in the working sample, if required for detailed analysis.

#### 4.1 The Ghana case

We offer now a detailed illustration of how we worked with a consultant in one particular case. The working relationship was symbiotic, collectively drawing on the different strengths of the team members, but with clearly established duties and a hierarchical chain of responsibility. In 2006 we were approached by the then Attorney General of Ghana, Joe Ghartey, to undertake analysis of a one-hour recording in which five men allegedly discussed a major drugs importation.<sup>7</sup> In principle

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<sup>7</sup> The true facts of this case remain opaque, and it continues to be discussed widely in the Ghanaian media. When the story first emerged, the recording was played on national radio, and it was also played in full at the trial in 2007. An account of the trial is given at: <http://www.modernghana.com/news/148863/1/tagor-and->

the case was one of speaker attribution – that is, all five men had agreed that they were present at the meeting and that no-one else was present other than silent bodyguards. Thus the issue was establishing who said what, with reference to a closed set of candidates. However, in practice the case proved extremely complex, eventually necessitating speaker profiling, speaker comparison, transcription, and technical authentication to assess whether the recording had been edited.

First, the transcription provided by the legal team had been produced by a radio station secretary who, understandably, had no training in forensic transcription. It was immediately clear that it was not an adequate representation of the events recorded and was thus not a suitable basis to inform analysis (see further Fraser 2014 for general discussion of forensic transcription). Most obviously, it was written entirely in standard English, although the conversation clearly switched between Ghanaian English and other languages (subsequently identified as mostly Twi, with some Hausa, and frequent inter-sentential code-switching). The transcript also represented only a brief selection of the more incriminating parts of the conversation, omitting altogether considerable amounts of material present in the recording. In the absence of more detailed instruction in terms of which specific sections of the recording to analyse, we deemed it necessary to transcribe as accurately as possible the entire recording, separating sections spoken in English from those spoken in other languages. As the official language of Ghanaian courts is English we also elected to provide a basic, literal translation of the non-English parts, for the sake of the court. We emphasised in a cover note to the court that we were not professional translators, and also advised the court to focus on the

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[abass-jailed-15-years-in-hard-labour.html](https://www.wikileaks.org/plusd/cables/07ACCRA2534_a.html). Charges were eventually brought against only two of the five men, Tagor and Issah, who were both convicted and sentenced to 15 years hard labour before being acquitted on appeal in 2009. There are claims that Tagor was responsible for making the covert recording, working on behalf of the narcotics board. There are other claims that Issah made the recording. Controversy still surrounds the role of Boakye, a high ranking police officer. Recent posts to Wikileaks, citing communications from the former US Ambassador to Ghana, Pamela E. Bridgewater, further criticise the role of the Attorney General in not bringing charges against Boakye. See, for example: [https://wikileaks.org/plusd/cables/07ACCRA2534\\_a.html](https://wikileaks.org/plusd/cables/07ACCRA2534_a.html).

verbatim transcription rather than any translated parts, given the imprecise semantic mapping between languages (taken as axiomatic by linguists but less obvious to members of the public).

The Attorney General had already recruited a Ghanaian linguist to assist with the case, Dr Kofi Agyekum (henceforth KA) of the University of Ghana. Following our general procedures, his roles as consultant were first established: he would advise on all matters relating to Ghanaian English and the other languages of Ghana; he would lead the first draft of the full transcription; and he would assist us in identifying phonemic units for acoustic and auditory analysis. The primary role of the phonetic analysis was to provide speaker profiles for the five men, so that it could be established how we were able to differentiate their voices even when we could not fully understand the content of what they were saying. We were also asked to conduct forensic speaker comparison for all five men, taking samples of their alleged speech in the evidential recording and samples recorded covertly while the men were being held in prison. The speaker comparison analyses were conducted separately in English and Twi. KA was an ideal consultant – a highly respected academic linguist with expertise in the Akan language Twi and its dialects, and extensive publications focusing on macro-level sociolinguistics, discourse analysis, and linguistic anthropology. He did not have expertise in phonetic analysis, and so was trained to use the software programs Praat and Sony Sound Forge in order to control playback, and to mark difficult or important sections of the recording for discussion or analysis. He was also equipped with high quality headphones, an essential tool to assist in the transcription of poor quality recordings. The UK team compiled descriptive information on Ghanaian English from published sources, focusing on aspects of segmental phonetics and phonology. KA provided parallel descriptive materials for Twi, including information on dialectal differences. Furnished with this descriptive information we were able to devise a protocol for acoustic analysis. KA was asked to identify clear tokens of all contrastive vowels, in prosodically stressed positions. These were marked in Sound Forge, and extracted for formant analysis using the Praat program by JPFA staff. Profiling the five voices also involved this detailed phonetic-phonological information,

combined with analysis of long-term vocal setting and voice quality, and general information about usage of different languages and regional and ethnic dialects. KA provided the latter information, based on his academic expertise and native speaker capacities. The vocal setting analysis was in fact to a large extent possible independently of the content of the speech: the five voices were relatively easy to distinguish through differences such as overall pitch and voice quality. All pertinent observations were discussed and agreed by all members of the team. Table 1 summarises some of the key elements in each profile (Laver 1980 explains terminology in detail).

Table 1: vocal profiles of the five suspects

speaker	<b>Boakye</b>	<b>Tagor</b>	<b>Issah</b>	<b>Acheampong</b>	<b>Moro</b>
feature					
pitch	low f0 <sup>8</sup> + falsetto esp. when agitated			very low f0	low f0
vocal setting	lowered larynx				lowered larynx
phonation	murmur	harsh/breathy	breathy/ hoarse even when agitated	modal, little creak	
tempo			fast	fast	slow
segmental		discourse marker: <i>wote aseε</i> ; open & repeated hesitation marker [ε- ε- ε-]	high frequency [s]; affricated [t]; very open /ɔ/; very open /ɑ/	low frequency [s]; low overall F3 <sup>9</sup>	low frequency [s]; heavy friction on /k g/
dialect	Ashanti <sup>10</sup>	Ashanti	non-native Ashanti	Ashanti	non-native (likely Hausa speaker)

KA assumed responsibility for the transcription of Twi sections. The English sections were the joint responsibility of KA and the first two authors (PF and JPF). A systematic approach to the

<sup>8</sup> f0 = fundamental frequency of vocal cord vibration, the physiological correlate of perceptual pitch.

<sup>9</sup> The average third formant of vowels, representing the third lowest resonance of the open vocal tract. For adult men this is generally around 2500 Hz, varying across individuals from around 2200-3000 Hz.

<sup>10</sup> The most widely spoken and most prestigious dialect of Twi.



transcription was established. KA produced a first draft working alone (in part through necessity, as his other duties required him to be resident in Ghana). Over 13 working days in York, KA and PF then collaboratively produced a second draft, refining the original draft through joint listening to the entire recording in short, repeated sections. This same process was then undertaken for a third and final draft, this time involving all three analysts. In forensic casework it is a general principle that an analyst must provide an independent view of the evidence, and in particular must exercise caution where suggestions are made by other parties. Requirements to this effect are specified in the UK Practice Directions for Experts,<sup>11</sup> and the Criminal Procedure Rules on Expert Evidence.<sup>12</sup> The IAFPA, for example, records this principle in its Code of Practice (see further below).<sup>13</sup> Clearly this is a difficult principle to adhere to when the analyst is not an expert in the language in question, and is therefore working with a specialist consultant. Indeed, Fraser (2011) criticises the IND's approach to LADO for contravening this principle, if the supervising linguist merely 'signs off' another analyst's work (a similar point is raised by Verrips 2011). We therefore needed to establish a pragmatic approach to the task in order to ensure that we, as British phoneticians with limited experience of Ghanaian English and none of Twi, could be satisfied that the transcription was as accurate as possible. In order to do this we ensured that the second and third drafts were produced collaboratively. Every potential discrepancy from the earlier drafts was discussed, and notes taken in order to document the reasons for any amendment. We would examine KA's transcription and listen to ensure we heard the same material, at the level of phonetic syllables. If additional syllables were heard we raised KA's attention to them, and additions would be made to the transcription (almost always these were single unit utterances in the background, such as *yes*, *no*, or *uhuh*). If we could not hear all transcribed syllables we discussed why this might be. Twi is characterised by extreme syllable reduction in fast speech, rendering the spoken form sometimes very different from the written. (The orthographic system was established as recently as 1978, and has very close

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<sup>11</sup> [http://www.justice.gov.uk/courts/procedure-rules/civil/rules/part35/pd\\_part35](http://www.justice.gov.uk/courts/procedure-rules/civil/rules/part35/pd_part35)

<sup>12</sup> <http://www.justice.gov.uk/courts/procedure-rules/criminal/docs/2015/crim-proc-rules-2015-part-19.pdf>

<sup>13</sup> <http://www.iafpa.net/code.htm>

correspondence to the citation form of the language. For example, special graphemes,  $\epsilon$  and  $\upsilon$ , based on IPA vowel symbols, are used to distinguish these more open vowels from  $e$  and  $o$ .)

A small number of illustrative examples of changes are shown in Table 2. These examples were raised by PF/JPF in the production of the final transcription. The numbered examples in the first column are for the purposes of the present chapter. ‘Turn number’ refers to the turns in the final transcription, which were numbered for ease of reference in court. The transcription conventions used include material placed in parentheses to indicate a low level of confidence, while ‘...’ indicates speech that was audible but could not be transcribed with sufficient reliability. English words are shown in bold, Twi in plain type. Initials refer to speakers, with M used to refer to ‘unidentified male speaker’, i.e. no specific attribution could be made.

Table 2: collaborative transcription changes.

example	turn number	transcription or attribution, second draft	agreed change, final version	literal English translation
(1)	42	ɔyɛɛ deen?	(ɔyɛɛ deen? ... Alhaji.)	(What did he do? ... Alhaji.)
(2)	47	IA?	M	
(3)	106	M	TG	
(4)	256	<b>Yeah. Hello.</b>	<b>Yeah. Hello. Yeah.</b>	
(5)	338	Na mo, mo din, mo hwan?	Na mo, mo din, mo hwan, <b>me</b> ?	And you, your names, whose names, me?
(6)	862	Obi kɔgyee <b>hundred thousand</b> sɛ ɔde rebɛɛ polisini.	Obi kɔgyee <b>five hundred thousand</b> sɛ ɔde rebɛɛ polisini.	Somebody went for five hundred thousand that he was going to give it to a policeman.

Example (1) indicates that we agreed with the words originally transcribed, but suggested they be presented at a lower level of confidence (for example on account of being spoken in noise or overlap), and also that additional words were present – speech that was too difficult to transcribe,

followed by the name of one of the men, Alhaji (Issah). Examples (2) and (3) indicate suggested changes to the attributed speaker – in (2) we suggested it was too difficult to attribute the material with sufficient confidence to IA (Issah), while in (3) we felt there was a case to identify TG (Tagor). In both cases we made direct comparison with known samples of the candidates' voices, and the list of defining features illustrated in Table 1. Examples (4) to (6) all indicate that we heard additional material – mundane in (4) but potentially significant in (5) and (6) where specific people and financial transactions are being discussed. Note that in (5) we recorded an example where we heard an additional syllable, [mi]. We were initially unsure whether the word was Twi, as was the rest of the utterance, or (as turned out to be the case) English *me*. The problem was resolved by the native speaker.

The final transcript ran to 124 pages and 1,174 turns. We estimate it required around 200 hours of work. Clearly this is an extreme example, but the processes adopted ensured that responsibilities were clear and the work with the consultant was genuinely collaborative. The final product was agreed upon by all parties, and we had detailed records to justify any changes made in the production of the final version. The same arrangement of responsibilities was adhered to during the trial (despite the best efforts of the defence barristers to engage us all with questions outside our own expertise). KA dealt with all issues related to Twi and Ghanaian English, while witnesses from JPFA remained within their own fields of expertise and remit for the case, and explicitly deferred to KA when issues related to Twi or Ghanaian English came up (see Fitzmaurice this volume on varieties of African English).

#### 4.2 Summary

Forensic phoneticians strive to recruit consultants in recognition of the limitations of their academically-acquired expertise. Consultants are chosen with clear criteria in mind, and trained and

assessed in their capacity to conduct the appropriate analysis thoroughly, accurately, and objectively. An experienced analyst works in collaboration with the consultant, whose work is monitored and checked to ensure that the supervisor agrees with it. The ultimate success of the approach depends very much on the skills and mutual understanding of the team members – the linguist/supervisor as well as the consultant (cf. Köster et al 2012). The forensic phonetic cases discussed above all demonstrate clear parallels with the questions often asked in LADO cases, and thus suggest that there might also be useful parallels in the practice of working with consultants in the LADO context.

## **5. Desiderata for the linguist working in LADO**

Our final set of comments concern the skills, protocols and standards required of the linguists involved in LADO, drawing again on our experience in forensic practice. There has been remarkably little focus on ‘the linguist’ involved in LADO. The Guidelines refer to ‘qualified’ linguists, elaborating as follows:

with recognized and up-to-date expertise, both in linguistics and in the language in question, including how this language differs from neighboring language varieties. This expertise can be evidenced by holding of higher degrees in linguistics, peer reviewed publications, and membership of professional associations. Expertise is also evident from reports, which should use professional linguistic analysis, such as IPA (International Phonetic Association) transcription and other standard technical tools and terms, and which should provide broad coverage of background issues, citation of relevant academic publications, and appropriate caution with respect to conclusions reached (LNOG 2004: 262).

There has been some discussion of exactly what background is required for competent analysis. It is generally accepted that a LADO report should include reference to several linguistic levels, i.e. syntax, morphology, lexicon, etc. Patrick (2012) argues that the task is one best undertaken by sociolinguists, while Wilson & Foulkes (2014) emphasise the importance of good practical skills in phonetics/phonology, especially where the task is centred on dialects of a single language (see

further Rosenhouse 2010). Cambier-Langeveld (2010b) reminds us of the forensic (judgmental) nature of the task and thus argues that linguists also require training in forensic principles. Wilson (2009) similarly argues that specialised training is likely to be more valuable than any specific prior background. There is certainly scope to define more narrowly the requisite skills than was done when the Guidelines were prepared, bearing in mind the fact that they were originally pitched as guidelines for interested parties rather than the field itself. Despite calls for revision, the Guidelines have not been updated since they were first published. Some progress was made in this respect in 2008 at a meeting in Leiden, held between members of four LADO agencies. The group established what have been called 'Minimal Requirements' regarding qualifications of both academic linguists and supervisor-consultant teams, and quality testing of analysis. Unfortunately, these were not published, and circulation among the academic community has been limited (and we have not ourselves had any involvement with them).

We therefore now offer some comments on what we consider to be essential or desirable skills, based on our general forensic experience.

### 5.1 Background and skills

Based both on principle and practical experience we would reject the view that simply *any* linguist is suitable to conduct forensic analysis, no matter how extensive their knowledge of the language in question or how eminent their research profile (Wilson 2009, Cambier-Langeveld 2010). This position is also acknowledged in legal circles. In a discussion of forensic voice comparison, for example, Edmond, Martire and San Roque (2011: 67), conclude:

formal qualifications and experience (in linguistics or phonetics) tell us little about a person's ability to make reliable voice comparisons ... [footnote:] It is not our intention to suggest that

formal training as a linguist provides a basis for the admission of opinions based on voice comparison. ...there should be a demonstrably reliable technique. Without evidence of ability (or proficiency), the trappings of academic qualifications and university positions may be merely misleading.

So, what background is required? On the one hand what is clearly needed is a thorough training in practical linguistic analysis, especially in sociolinguistics and phonetics. Linguists working in LADO particularly need knowledge of linguistic variation, as shaped not only by linguistic constraints but also social and situational ones (cf. Patrick 2012).

In general forensic work we would expect even an experienced academic interested in conducting casework to undertake a lengthy apprentice period, shadowing forensic professionals and being mentored by them. This might take as long as two years for someone entering the profession as a career rather than for occasional casework. Successful recruits for forensic casework need to display particular aptitudes in their approach to analysis: accuracy (obviously), thoroughness, and attention to detail. They also need to respect the principle of accountability to the data (Tagliamonte 2012). In essence this means objectivity; an ability to identify and assimilate observations from the data whether or not these observations support a particular hypothesis. Perhaps oddly, this is a quality often lacking in people trained primarily in some schools of linguistics, where theory-driven approaches dominate and exceptions to patterns are rarely addressed.

Skill in interview techniques is also an advantage. In our forensic work we would only work with recordings, and would not attempt analysis during a live interview. Some LADO cases involve interviews made by other parties, while some agencies conduct their own. It is vital for an interviewer to understand the pragmatic issues of the interview context (e.g. Eades & Arends 2004, Channon et al submitted) and to have an ability to put an interviewee at ease or, perhaps, to take

them off guard (see De Fina, this volume; Hubbuch, this volume). They also need to be able to steer interviews to elicit examples of key diagnostic elements.

Once recordings are available, various different linguistic elements may need to be analysed, depending on the case and language(s) in question. Thus the analyst might need practical skills in phonetics (segmental and suprasegmental), phonology, lexis, morphology, syntax, and pragmatics. It is a rare linguist who is competent across the board. Finally, a typical forensic speaker comparison or profiling case, assuming a single evidential recording is to be analysed, generally takes 1-2 days' work. It appears that LADO cases are often handled in a much shorter time frame (Nurse, this volume), which raises questions about the range and extent of analysis that can be conducted in the time available, and thus also about the process through which the analysis is prioritised when there are potentially so many different types of linguistic element to consider.

## 5.2 Report principles and format

It is essential that processes and reports conform to standard practices required of the legal systems in which the case is heard, such as the Criminal Procedure Rules in the UK,<sup>14</sup> and also that they are compliant with professional ethical standards. For members of IAFPA we would expect reports to adhere to the IAFPA code of practice.<sup>15</sup> Among the key tenets of the Criminal Procedure Rules on Expert Evidence it is incumbent on the expert witness to:

- give details of their qualifications, experience and accreditation;
- give details of literature or other information which they have relied on in making the report;

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<sup>14</sup> <http://www.justice.gov.uk/courts/procedure-rules/criminal/docs/2015/crim-proc-rules-2015-part-19.pdf>

<sup>15</sup> <http://www.iafpa.net/code.htm>

- make clear which of the facts in the report are within their own knowledge;
- state who carried out any analysis used for the report, and whether or not such work was carried out under the expert's supervision;
- if there is a range of opinion on the issues in the report, summarise the range of opinion, and explain the expert's own opinion;
- include such information as the court may need to decide whether the expert's opinion is sufficiently reliable to be admissible as evidence.

Most of these principles are also included in the IAFPA code of practice, which further stipulates that analysts:

1. act in all circumstances with integrity, fairness and impartiality.
2. maintain awareness of the limits of their knowledge and competencies.
3. make clear, both in their reports and in giving evidence in court, the limitations of analysis.
4. make clear their level of certainty and give an indication of where their conclusion lies in relation to the range of judgements they are prepared to give.
5. exercise particular caution if carrying out analysis of languages of which they are not native speakers, and exercise particular caution if the samples include different languages.
6. should not attempt to assess the sincerity of speakers.
7. should not include or exclude any material which has been suggested by others (in particular by those instructing them) unless they have formed an independent view.

Note that the last point was pertinent to the Ghana case, as noted earlier. We had to ensure that we 'formed an independent view' of material suggested to us by our consultant in terms of, for example, the transcription of Twi words and the identification of comparable tokens of phones for acoustic analysis. The processes we employed in the analysis, as described earlier, provided a means by which we could establish our (dis)agreement with the consultant's work, and ensured we had a record of why any details were changed in the final version.



It remains unclear to what extent LADO agencies adhere to these principles. Some of the case reports in early published works certainly provide examples that would appear to contravene some of the standard principles, e.g. on objectivity in cases where reports explicitly sympathise with claimants, or advocate against them (see e.g. Eades et al 2003, Cambier-Langeveld 2010b).

There is certainly scope for developing a standard report format across agencies which make such principles explicit and open to scrutiny. One notable exception to the principles outlined above is the accepted practice of maintaining the anonymity of LADO consultants for their own protection (discussed in an appeal case heard by the UK Supreme Court; *The Secretary of State for Home Department –v– MN and KY*; [2014] UKSC 30, paragraph 6; see Craig & Zwaan, this volume).<sup>16</sup>

The law changes frequently, especially in relation to expert evidence. In the near future we anticipate that one new legal requirement will be that of peer review, i.e. checking of key findings and conclusions by a second expert in all cases. This may well apply to LADO if it is brought under regulation in the UK by the Home Office Forensic Regulator via the Speech and Audio Group (currently chaired by Peter French). More widespread changes may result from the harmonisation of asylum procedures in the European Union (Tax 2010), and from the growing acceptance of the likelihood ratio framework for expressing expert opinions based on empirical work (Broeders 2010).

## 6. Conclusions

In this chapter we have argued that LADO can be viewed as a particular application of forensic speaker profiling. We have outlined the procedures we use when working with native speaker consultants in several forensic cases. Our view is that working with a native speaker consultant is not only helpful but essential – very clearly so in the work conducted at our lab, and we see no reason

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<sup>16</sup> [https://www.supremecourt.uk/decided-cases/docs/UKSC\\_2013\\_0202\\_Judgment.pdf](https://www.supremecourt.uk/decided-cases/docs/UKSC_2013_0202_Judgment.pdf)

why this principle would not also apply to LADO. However, we recognise that there remain many issues to address to ensure that native speaker consultants are used effectively and fairly to deliver reliable reports, in LADO and indeed in other types of forensic work.

For the sake of justice there needs to be greater transparency and accountability in LADO practice in general, not just in respect of consultant roles. There is potential for greater transparency in how LADO agencies recruit, train and test both their consultants and their linguists. Formalisation of the processes by which supervising linguists work together with consultants, establishing the roles and responsibilities of both, would also be welcome, following the lead offered by the INS (Cambier-Langeveld 2010a). The *Minimal Requirements* document also offers a framework for discussion and development if circulated for wider review. We hope to have provided here some examples of how the relationship between supervisor and consultant works in other forensic cases, and which therefore might also contribute to the foundation for development in the LADO context.

It is important that the debate on native speaker consultants is not allowed to overshadow other issues in LADO practices. Greater transparency might also be established in respect of linguists specialising in LADO work. We concur with arguments that academic qualifications alone do not guarantee practical competence in specific empirical tasks. In particular, analysts who do not speak natively the language at issue, whether they be supervisors overseeing consultants or academic specialists working alone, need to document very carefully the reasons for their decisions, to open up their conclusions to proper scrutiny. A standard format for reports would further assist in this process.

There have been many calls for the 2004 Guidelines to be revised to take into account the wider range of practices actually used, and to clarify the intent behind those elements that have proven controversial (e.g. Cambier-Langeveld 2010a, 2010b, 2012, Wilson and Foulkes 2014). We echo

those calls. We also echo calls for standardisation of processes and for the establishment of an independent body to monitor LADO practices (cf. Fraser 2009, Severijns this volume). The hitherto partisan nature of the field will make this a considerable challenge, however, and it is unclear who should constitute such a body. Any such body would need considerable influence over the agencies.

Finally, LADO has now passed its 25<sup>th</sup> anniversary, yet the canon of independent empirical research which could lead to improvements in the field is still woefully small. No independent empirical evidence has yet been produced which satisfactorily demonstrates the efficacy of any particular methodology currently used by LADO agencies relative to any other. The majority of published work in the field continues to be characterised by case study critiques and polemic, to the extent that the editors of one journal, the *International Journal of Speech, Language and the Law*, saw fit to take the unprecedented decision of putting a stop on the publication of any further articles unless they report on empirical research. Phrases along the lines of ‘further research is urgently needed’ have apparently been banned from the *British Medical Journal* as a ‘hand-waving, superficially open-minded call’ that is ‘meaningless and unhelpful’ (Goldacre 2008: 57). The call remains, however, wholly apposite in the case of LADO.

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