Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

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Abstract

Forensic linguistics involves the scientific examination of language as evidence in criminal investigations, gaining global importance. However, in India, this field is relatively new and needs substantial research and development. This paper provides an overview of forensic linguistics, discussing its historical development, practices, and advances worldwide. It highlights current issues and scope in the multilingual context, underscoring the potential applications in criminal investigations, the judiciary, and the need for interdisciplinary collaborations. It emphasizes the need for a speech database to support research in forensic linguistics. It discusses the use of English within the legal domain and highlights the necessity of conducting research on courtroom proceedings and legal writing. It proposes the translation of Court judgments into regional languages to eliminate language barriers and increase transparency in the judicial system. It charts the future direction for forensic linguistics in India, urging investment in research and development to promote this emerging field.

Keywords: English, forensic linguistics, India, legal language, multilingualism

1. Introduction

When Islamic State terrorists released the video of the beheading of journalist James Foley, linguists from all over the world tried to identify the masked terrorist known as Jihadi John by analyzing his voice. In 2014, *The Guardian* quoted phonetician Paul Kerswill, saying that the man's accent was Multicultural London English, possibly with a foreign language background (Chulov & Halliday, 2014). Later, in 2015, *The Washington Post* identified that the man was born in Kuwait and grew up in West London. According to the documents released by Edward

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   115
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Snowden, the National Security Agency has analyzed and extracted the contents of millions of telephone conversations. The use of forensic linguistics has started to feature prominently in intelligence investigations. Forensic linguistics is the application of linguistics for criminal investigations and judicial procedures. Forensic linguistics is the study of written or spoken language for legal issues. Spoken or written language is analyzed for investigative purposes with the goal that it very well may be presented as evidence in the courtroom. According to Coulthard et al. (2011), forensic linguistics involves the application of linguistics in three main areas, which include analyzing written legal texts, spoken legal practices, providing evidence in criminal and civil investigations, and courtroom disputes. It is the interface between linguistics and the law. Olsson (2008) describes forensic linguistics as the application of linguistics to legal purposes. It is the implementation of linguistic knowledge in legal cases or proceedings. It is a new subfield of applied linguistics that studies the various crossways between language and legal subjects, which is heavily linguistic by nature. Though the usage of language is central to life, it is relatively a newcomer to the arena of forensic sciences.

Forensic linguistics is the application of linguistic theories to legal issues. These linguistic theories are applied to analyze a language/speech sample for investigation. It is a branch of applied linguistics where linguistic knowledge, methodologies, and analysis are applied to forensic and criminal settings. It implements linguistic knowledge and techniques to the language associated with a legal or criminal context. Forensic linguistics applications can be used in criminal and asylum legal proceedings, counter-terrorism, intelligence, and surveillance. Linguists analyze and, at times, write the legal language linguistically and decode the complexity and its origination. They also help as consultants, implementing their linguistic knowledge in analyzing witness interviews and suspect interrogation for a criminal case. Today forensic linguistics is a widely recognized field, and interest in this area appears to be on the rise. Various movies and TV shows have been made in which linguists are employed as experts, playing a pivotal role in a criminal investigation. One such series is "Unabomber," based on a real case of serial bombing in the US between 1978 and 1995. The case was solved in 1996 when Unabomber sent a 35,000-word essay claiming his motives. The offender was arrested after a linguistic analysis of the manifesto and letters found at his place determined that the same person wrote them.

2. Historical developments of Forensic Linguistics around the world

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   116
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Although forensic linguistics is a significant field in linguistics, it remains a relatively unexplored field. Only a few institutions introduced this arena as a part of linguistics. Therefore, more research is needed to explore this field of language. Though it is claimed to be a nascent subfield of linguistics, it dates back a few decades. Lack of familiarity and lack of proper debut of forensic linguistics, researchers tend to lean toward forensic sciences rather than forensic linguistics. It is challenging to pinpoint the precise moment when forensic linguistics first originated. Since the eighteenth century, researchers have infrequently questioned the authorship of some of the acclaimed literary texts of writers, including William Shakespeare and J.K. Rowling.

The term "Forensic Linguistics" was used by linguistics professor Jan Svartvik in 1968 in his study "The Evans Statements: A case for forensic linguistics." In this investigation, Svartvik analyzed the statements recorded by the suspect and discovered that all the recordings had a different style of speech and grammar. In the early days of Forensic Linguistics, especially in the United Kingdom, many cases involved examining the validity of police statements. One of the first instances where expert testimony was provided on this subject in Court occurred during a 1989 murder trial at the Old Bailey, when Peter French demonstrated the use of police jargon in a self-incriminating statement that the prosecution claimed was entirely composed of the defendant's own words. Later, forensic linguists Peter French and Malcolm Coulthard contributed to other criminal investigations, such as the Birmingham Six, the Guildford Four, the Bridgewater Three, and others.

 The field of forensic linguistics gained recognition and definition in the United States after the establishment of Miranda Rights, which were named after a defendant who was deemed to have received an insufficient warning by the Supreme Court in 1966. Shuy (1997) investigated the Miranda case and pointed out the arrestee's rights to individuality and issues of coercion in the interrogation process in the United States. Shuy and other linguists in the US encompassed areas of civil and criminal practices and created awareness about the laws and rights of the citizens. Levi (1994) studied the misleading inferences in the draft of the letters written by the Illinois Department of Public Aid, which used technical and bureaucratic language. The study pointed out that the legal system and law are linguistically naïve and vulnerable. Another noteworthy case investigated by Genine Lentine and Roger Shuy that led to the development of forensic linguistics in the United States was the McDonald's case. In the 1990s, Quality Inns

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   117
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

International was not allowed to open a chain of hotels named "McSleep" because McDonald's claimed ownership of the attachment of the prefix "Mc."

In Australia, the application of forensic linguistics in legal cases began in the 1980s. Linguists were concerned about the rights of individuals in the legal procedure confronted by Aboriginal people. White Australians thought the dialect spoken by Aboriginals, colloquially known as Aboriginal English, to be a defective form of the English spoken by whites. However, it is a dialect of its own. Thus, raising a concern in police interrogations where Aboriginals claimed that police had verballed them. Gibbons (1996) presented that the structure around interrogation in the courtroom was alien to Aboriginal culture. Several research studies focused on the impact of cross-cultural differences between Aboriginals and whites, which affected the legal procedures involving land claim hearings and understanding of legal procedures by Aboriginals.

In Germany, an early case involving Forensic Linguistics was about an alleged case of slander by a tenant in an apartment complex against another tenant (Kniffka, 1981). The dispute centered on whether the term "concubine" was an insult.

Forensic linguistics is involved in criminal cases and helps in legal disputes over the trademarks of organizations. The legal suit Beatles' Apple Corps bought against Steven Job's Apple Inc. is one of the most well-known cases of legal disputes. Forensic linguists are called as expert witnesses to offer linguistic analysis of legal documents and other documentary evidence.

Another case that needs forensic linguistics intervention is of plagiarism. J.K. Rowling's *Harry Potter* and Dan Brown's *The Da Vinci Code* are famous literature accused of plagiarism. In plagiarism detection, forensic linguists examine language samples from various authors and determine which author's literary style and language match the disputed text the most.

Forensic linguistics is developing considerably, and in 1989, the International Association for Forensic Phonetics (IAFP) was established for linguists actively involved in forensic phonetics. Later, in 1990, *Forensic Phonetics* by John Baldwin and Peter French was the first book in this area and was of direct significance to linguists involved in the legal procedures in the UK. Though forensic linguistics is a relatively young field, it has reached maturity in academic discipline with the establishment of organizations, among them are the International Association of Forensic Linguists (IAFL), The International Association of Forensic Phonetics and Acoustics (IAFPA), American Academy of Forensic Science (AAFS), International

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   118
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Association for Forensic and Legal Linguistics (IAFLL) and Germanic Society for Forensic Linguistics (GSFL). There are journals for publications in this field, such as The International Journal of Speech, Language, and Law (IJSLL) and the Journal of Forensic Science (JFS).

Globally, there has been significant progress in establishing forensic laboratories to aid courts in delivering criminal justice more effectively by identifying perpetrators of crime and exonerating individuals who have been wrongfully accused. Several labs, such as JP French Associates, Forensic Speech and Acoustic Laboratory (UK), and Forensic Communication Associates (USA), work on speaker profiling, author identification, and forensic analysis of voices.

3. Forensic Linguistics: Scopes

Forensic linguistics is the scientific study of language for forensic purposes and context. It includes numerous diverse subfields:

Authorship attribution (Written language) - When a piece of writing, such as an email or text message, has an unidentified author, experts analyze it and draw inferences about the author's background, including their age or education. It is called sociolinguistics profiling. An expert evaluates linguistic similarity and distinctiveness in disputed texts, such as recurrent spelling mistakes, by comparing them to known authorship text samples. The expert offers their assessment of the likelihood that the texts were written by the same author. This is called comparative authorship analysis.

Meaning Analysis (Written and spoken language) - This approach examines words or phrases, often slang or dialect, in speech or text. The expert examines the linguistics material, for instance, looking at its regional provenance, and then makes comments on its context.

Speaker analysis- Speaker profiling involves a sufficiently accurate functional description of speaker characteristics that accurately reflect the speaker's physical, emotional, and cognitive state, dialect, social class markers, and speech patterns. In speech comparison, speech samples of a known person are compared with those from an unknown origin by an expert. The expert determines the similarities and dissimilarities by analyzing the features in all samples and studies whether the results support the view that the recordings are of the same speaker or different speakers. In automatic speaker recognition and verification, the computational technology extracts biometric data from voice samples based on the physiology of a person's

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   119
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

vocal tract. These samples can be compared to others to carry out automatic speaker comparisons or to determine whether the same speaker can be heard in different recordings. The technology can search through enormous speaker databases. This differs from automatic voice recognition systems, which identify words rather than speakers.

Transcription involves phoneticians transcribing recorded speech samples

Disputed utterances - Experts can examine an existing recording from a crime when the content of what was said is disputed.

Tape authentication - When the date of the recording is in question, experts examine the authenticity of the recordings. Techniques include comparing low-level frequency fluctuation patterns recorded from the national power supply with those in a database.

Deception detection - The technology examines audio samples of speech (often captured during a phone call) and attempts to identify emotions like stress that are allegedly suggestive of deception.

Asylum and Language Analysis - The experts use several techniques, including language analysis, to verify an asylum applicant's claimed background if there is any question. Systematic testing is done on the purported nationalities that are linked to a significant number of fraudulent asylum applications. The linguist's justification for adopting language analysis includes expediting application processing, reducing expenses, discouraging false claims, and identifying fraud in asylum claims.

4. Forensic Linguistics in India: A Review

India, a multilingual nation with linguistic diversity, has a broad scope for the development of forensic linguistics. However, India is way behind in using forensic linguistics in criminal investigations and legal issues. Central Government Act, Section 277 in The Code of Criminal Procedure, 1973, resolutely confirms the access to trial in the language of the accused and/or witness. With twenty-two scheduled languages in India, the intervention of forensic linguistics in the interpretation and accuracy of law is essential to the Indian judiciary system. Implementing linguistic techniques and knowledge in the examination of documentation of the language of the accused and witness will augment the Right to Fair Trial under Article 21 of the Constitution of India. However, unfortunately, the role of Forensic linguistics in the Indian judiciary system is at the elementary level. According to Sinha (2015), forensic linguistics is

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   120
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

yet to receive the appropriate attention it deserves. It is regrettable to note that India is falling behind in terms of progress in this area. Forensic Linguistic intervention in criminal investigation, trial, and interpretation of law should be made requisite in India.

There are seven Central Forensic Science Laboratories (CFSL) in India located in Chandigarh, Hyderabad, New Delhi, Kolkata, Pune, Bhopal, and Guwahati; only Chandigarh has a computerized speech lab and equipment for speaker identification system. Some states have Forensic Science Laboratories, whereas only Tamil Nadu has a computer speech lab with minimal equipment for voice identification. In 2014, Nasib Singh, a constable, was accused of demanding and accepting bribes. The complainant and his friend set up a sting operation where the accused is seen asking for a bribe. The Central Bureau of Investigation sent the hard disks and memory cards to CFSL, New Delhi, requesting them to opine whether they had been tempered. Experts concluded that the memory card had not been altered or tampered with. Witnesses and complainant Chetan Sharma identified the accused's voice in the audio-video transcription of the recorded conversations when the voice parade was carried out. The Inspector and colleagues who worked with the accused in the same police station also identified the accused's voice. The specimen voice of the accused could not be recorded as he refused to give his specimen voice. At the same time, the complainant's and witnesses' voices were recorded and sent to CFSL for voice comparison. An expert witness of CFSL, New Delhi, examined the voices of the complainant and witness in the video, compared them with the specimen voice, and observed that the voices in the recording and specimen voices were similar and of the same person.

We are witnessing technological expansion and unprecedented growth in crime rate with the advancement. Crime reports against women and children, document forgery, ransom and threat letters, and phone calls are all reported in daily newspapers. It exposes the vulnerability of the large population becoming victims of these crimes. With the rapid growth in population, our nation is witnessing widespread criminal activities. In 2021, a bomb exploded outside the Israeli embassy in New Delhi. A month after the blast, the National Investigation Agency (NIA) found a letter at the blast spot calling the explosion just a "trailer." The NIA analyzed the letter with the help of forensic linguistics, and the experts believe that the writer was from somewhere in Afghanistan or Turkey. The agency narrowed down over 30 suspects, and a layered voice analysis was conducted for further investigation. This suggests that language evidence may be directly related to the case, such as threats, bribery, or hate speech, or it may

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   121
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

be more peripherally related, requiring a linguist to explain the meaning of what is spoken or written, the manner in which speech or text is delivered, and the role of context in the interpretation of the message.

India's geostrategic location, a relatively strong economic position as compared to its neighboring countries, and liberal democratic credentials have made it a magnet for people of other countries fleeing persecution or seeking a better life. India has taken refugees/illegal immigrants from Tibet, Myanmar, Bangladesh, Sri Lanka, Pakistan, and Bangladesh. The influx of refugees/illegal immigration has primarily been left unattended. This neglect has adversely affected the interests of the local population in the places seeing large-scale influxes of illegal immigrants and the country's national security interests. The use of language testing to aid in the process of the determination of the nationality of those people seeking refugee status can help solve this issue. Several countries, such as Sweden, Switzerland, the Netherlands, Germany, and Belgium, have used LADO as part of the asylum process since 1993. An analysis of the claimant's speech can be conducted to determine if it exhibits the characteristics expected of a particular place of origin. Asylum seekers can be interviewed, and linguists and native speakers can analyze their languages to help determine their origin.

As in the present scenario, people are arrested for tweets, WhatsApp messages, and various Facebook posts. In such cases, linguists can help interpret such messages and posts and contribute to the judicial system. This will not only help the Indian judiciary system but also bring employment opportunities for linguists across the country. However, so far, no efforts have been made by investigating agencies or courts to invite linguists to assist in criminal investigation and legal issues. With the escalation in the growth of crime in the country and the inventiveness of criminals in committing crimes, it is necessary to involve new and unconventional techniques to solve crimes and identify criminals. Countries like the UK, Australia, Austria, Finland, Germany, the Netherlands, and Sweden have acknowledged that forensic linguistics techniques have successfully helped solve legal issues and criminal investigations. Therefore, India should also try to recognize the importance and need of forensic linguistics in investigation processes.

Various educational institutes in the UK (University of Cambridge, University of York, Cardiff University, Aston University), Germany (University of Marburg), Switzerland (University of Zurich), and the USA (Hofstra University, University of Florida) offer degrees in Forensic

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   122
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Linguistics. Indian universities and institutions also should incorporate Forensic Linguistics into their curriculum. It may be premature to offer full degrees in Forensic Linguistics in India now. Still, it could be beneficial to introduce a course or paper on the topic in graduate and post-graduate programs. International collaborations, workshops, and seminars can be organized to create awareness and motivate students and researchers. A collaboration between linguists, police personnel, and the legal community is essential to establish a common platform for discussing the importance of forensic linguistics. This collaboration is crucial to impart training to people involved in the criminal justice system. A professional association or organization can be established in India to promote the advancement of forensic linguistics. The establishment of proper forensic laboratories and the development of technical facilities are essential for the efficient processing of linguistic evidence.

4.1. Fostering forensic research and creating databases in India

The study and research of Forensic Linguistics in India are still in their early stages. To date, research conducted in this area is scanty. It still needs a proper introduction to attract serious attention in education and research. This exciting area of study is yet to emerge and appeals to researchers to venture into this field. Forensic linguistics has the potential to thrive in India due to its multilingualism. To initiate research, data availability is crucial; thus, a database is necessary.

Globally, large-scale speech databases for the phonetically controlled population are available, such as DyVis (Dynamic Variability in Speech- British English), Pool-2010 (German), and NRIPS Speaker Database of Japanese (National Research Institute for Police Sciences). No forensically oriented population database for Indian languages is available yet. It is crucial to conduct research at various sub-levels because linguistic complexity and the large Indian population involve many issues in speech analysis. In the era of giant data, setting up a corpus with a massive amount of data would be the most reasonable thing to accomplish. The Indian speech database can be created to study speaker characteristics. The database can help to evaluate the feasibility of using speaker-specific variations to differentiate individuals within a large population of speakers. It can help to quantify the articulatory-acoustic features of speakers. It can also aid in examining whether diachronic changes can be a factor of speaker idiosyncrasy. Most importantly, speech databases can be shared with researchers and forensic practitioners.

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Language in India www.languageinindia.com ISSN 1930-2940 23:8 August 2023
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   123
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

A population database for speech is needed to investigate the possibility of uniqueness in voice and to determine the frequency of particular voice features. A population can be phonetically controlled if we have a significant number of speakers within a population who share the same accent, whether it is regional or social, sex, or age group. To examine variations between the speakers, it is necessary to maintain demographic characteristics constant. Unlike fingerprints or DNA, the notion that every person possesses a distinct voice is complex and not straightforward. Voice is susceptible to various variations (Nolan, 1991, 1997). Although the physical dimensions of the vocal tract of speakers impose some constraints on the sound they produce, speakers can alter their voices depending on various factors such as familiarity with the listener, the level of formality, and background noise (Nolan, 1983; Rose, 2002; Stevens, 1971). A speaker's voice can also be affected by their state of health, such as a sore throat. All these factors contribute to the complexity of identifying a speaker's voice (French, 1994; Nolan, 1997, 2001; & Rose, 2002). The lack of population data is creating major methodological challenges towards the approaches to speaker identification. This lack of population data makes it difficult to determine adequately the extent of particular phonetic variables in identifying a specific speaker from a population of speakers and, particularly, whether such speaker-discriminating information is retained under forensic circumstances. In a phonetically controlled population, it is crucial to identify speaker-specific characteristics of that variable to assess the extent of potential variability of speech. Additionally, speakers may exhibit individual patterns and variables in their speech, adding to the speaker-characterizing information. To investigate the issues related to speaker identification, it is essential to create a dataset comprising recordings from a significant number of speakers who belong to the same speech community.

There is a growing trend in cases where it is necessary to identify the speaker of recorded speech, such as in cases involving fake emergency calls, fraudulent phone transactions, obscene voicemails, and similar situations. According to the Global Scam Report 2021, India ranks fourth in the world's highest number of spam calls receiver country. A survey conducted by Microsoft in 2021 found that India is seen as the hub of scam call centers that are being used for criminal uses. Therefore, it is essential to create a database, especially in Indian English, to study speech characteristics. This will help in analyzing the intercepted and recorded data to narrow down the probable suspects based on speaker profiling.

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   124
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Other areas in the growing field of forensic linguistics that can be explored are author identification, forensic stylistics, discourse analysis, linguistic dialectology, forensic phonetics, forensic transcriptions, and language variations. There is a considerable gap in studies related to language as evidence, which has led to a lack of research on criminal investigations, hostage negotiations, emergency calls, ransom notes, suicide notes, social media post analysis, and threat assessment. Other research studies can investigate the language of legal proceedings using linguistic tools. Analyzing legal decisions is crucial as many of them are complex and challenging to comprehend.

4.2. English in the Indian Legal Domain

India is widely recognized as one of the most linguistically diverse nations in the world. India is ranked fourteenth among the most linguistically diverse countries in the world, scoring 91 percent on the Greenberg Linguistic Diversity Index (Lewis et al., 2016). However, despite this rich linguistic repertoire, English continues to be the dominant language used in official communications within the government, as well as in trade and commerce and legal proceedings. India exemplifies the indigenization of English, reflecting the country's linguistic heritage. According to the "English Proficiency Index 2022" by Education First, India is ranked 52nd in the world in terms of the English Proficiency Index; however, it currently stands in the second position in the world in terms of the total number of English speakers. In India, however, it is essential to note that English is usually acquired as a second or third language. This means that while English is widely spoken, it is not necessarily the primary language for most people. According to the Census of India 2001, only 226,000 people indicated English as their mother tongue.

Even though the Eighth Schedule of the Constitution grants special recognition to twenty-two languages, English remains the primary language of legislation and judgments. According to the Article 348 (1) (a), the Supreme Court must speak English. The use of English as the language of the law in India is problematic, especially as the judgments of the Supreme Court, the Acts of the federal Parliament, and other regulatory documents written in English are not easily accessible by all Indian citizens. The Supreme Court of India has admitted in its Indian Judiciary annual report for 2018-19 that the language barrier has prevented many citizens from understanding their rights in a comprehensible manner. The legal language makes a legal text incomprehensible to a layperson. There exists an underscore gap that exists between legal

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   125
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

language and layperson languages. The language should be comprehensible, user-oriented, and more accessible to the layperson.

In 2023, the Chief Justice of India announced that judgments delivered by the Supreme Court would be translated into four languages- Hindi, Tamil, Gujarati, and Odia. It was suggested that English in its legal avatar is not comprehensible to people. Translation of judgments in the regional languages will help in the access to justice for the citizens. However, translation into only four languages would not be sufficient to benefit the entire population of India due to its multilingualism. States can also adopt a trilingual system, where judgments can be translated into three languages: English and two regional languages spoken in the state. Although implementing these suggestions is undoubtedly challenging, it has the advantage of not compromising any of the involved interests and thus appears to be the most consistent solution given India's multilingualism.

The Indian jurist who writes judgment in English may not speak English outside their professional context. Also, if the jurist speaks any regional language, they do not translate into English or from English in their professional context. Ensuring that people can comprehend the legal language and have access to justice can be achieved by translating legal documents, including judgments, into other languages facilitated by forensic linguists. The litigants should receive copies of the judgments passed by the Court in their regional languages. The aim of breaking the language barrier is to make the information about the judgments passed by the Court more accessible and transparent to litigants who may not be proficient in English. Translating judgments into regional languages can help build confidence among people who are not proficient in English and face language barriers, as it enables them to understand the dispensation of justice more effectively. This initiative would help to eliminate language barriers in the legal field at the national level, thereby reducing linguistic difficulties that may arise due to language differences. Translating judgments into vernacular languages would help litigants become more familiar with the legal process and allow them to understand better the proceedings and arguments presented in the Court by the lawyers of both sides through the Court's judgments. The translation initiative will prioritize cases where litigants are primarily from society's lower or middle strata and may not be proficient in English. The categories of cases where litigants should have access to translated judgments include but are not limited to Labor matters, matters related to the Rent Act, Land Acquisition and Requisition matters,

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Language in India www.languageinindia.com ISSN 1930-2940 23:8 August 2023
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   126
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Compensation matters, Criminal matters, Land Laws and Agricultural Tenancies, matters relating to Consumer Protection, Simple Money and Mortgage matters, and others.

Legal language often contains terms that cannot be translated easily into other regional languages. A thorough assessment of the language policy in legal domains needs to be conducted, including a review of written legal documents that appear challenging to comprehend due to the use of legalese. Research should be carried out taking into account the complexities of legal proceedings in a multilingual context. Research efforts should also be directed toward examining the role of language in legal proceedings, such as analyzing courtroom communication and investigative interviews. Globally, various research studies focus on analyzing these corpora in the field of forensic linguistics. However, in India, multiple challenges are associated with gathering such data.

5. Conclusion

Forensic linguistics is an umbrella discipline; thus, forensic investigation needs applied linguistics to analyze language. Studies have proved the effectiveness of linguistic techniques in forensic investigation. Lawyers consult linguists, and if and when a judge seeks an opinion on a linguistic matter, the court can also appoint a linguist. Forensic linguistics has brought forward the issue of how cultural and linguistic differences influence judicial procedures. Legal challenges are entrenched in different matters; therefore, interdisciplinary fields must collaborate to deal with them. Multidisciplinary studies that emphasize current social problems, whether they are in the areas of business, education, law, or health, should be encouraged by the government and educational institutions. Various studies (Chaski, 2013; Coulthard et al., 2016) have emphasized the need for more collaboration among lawyers, forensic linguists, and other professionals, highlighting the importance of their work in the legal professions. As a result, the number of forensic linguists being hired by lawyers in Western countries has significantly increased in the last three decades, which has led to greater awareness of the importance of their work (Coulthard et al., 2016; Olsson, 2008).

Indubitably, forensic linguistics is not a panacea to the legal challenges in India. However, it can pave the way to apprise people about their rights and responsibilities in legal procedures and documentation. While lawyers in Arab countries are reluctant to use the help of forensic linguists (El-Sakran, 2020), China was introduced to forensic linguistics in 1985 (Chen, 1985), and since then, various research has been conducted focusing on legal languages (Gao, 2010).

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   127
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

The Philippines is involved in Forensic linguistics and conducting various research in the language of legal documents (Rañosa-Madrunio & Martin, 2023). India is yet to introduce forensic linguistics in academics and legal professions. Legal linguists can be trained through forensic linguistics curricula and programs to assist in creating materials that inform the public awareness of the liabilities of governments and people as well as people's rights and responsibilities. Studies can be conducted on future avenues of forensic linguistics like the comprehensibility of legal language in the Indian context, the complexity of legal translations, linguistic profiling in judicial and police departments, the language of criminals, multilingualism, and bilingualism in the legal system, and linguistic minorities and their legal rights in India.

With the rapid advancement of technology, forensic linguistics will soon benefit in cyberspace, solving cybercrimes. Cybercrimes rely on text-based communication, as most forms of online abuse are manifested textually. Social media content can be analyzed to prevent deception, fraud, and other crimes. With the improvement in data extraction techniques, while maintaining privacy issues of clients, written texts or speech can be analyzed for age, gender, geographical location, criminal responsibilities, and mental status for better legal proceedings. The demand for Forensic Linguistics is recognized not just due to its applicability beyond India but also due to the growing occurrences of language-related offenses within India.

Nowadays, even emojis are being used as evidence in court. In 2016, a man was sentenced to three months in France after being found guilty of threatening his ex-girlfriend. He had used the gun emoji in a text. In civil cases in the US, emojis like "thumbs up," "handshake," "fist bump," and "glasses" have been interpreted by the court as constituting an agreement or an intention to engage in a contractual agreement. In a legal setting, the interpretation of emojis will necessitate specialized knowledge, and forensic linguists are therefore required in courtrooms to impart their expert opinions and aid the courts in interpreting this evidence. Cross-cultural barriers are one of the significant challenges that forensic linguists will have to contend with in South Africa. If the recipient interprets an emoji differently than the sender intends, this might put the sender in an awkward and even legal dilemma. Some emojis, for example, maybe racist, culturally insensitive, offensive, and homophobic based on our own interpretations and subjective beliefs and ideals. Around the world, courts have been called to interpret emojis as evidence in the United Kingdom, New Zealand, and France. Globally, forensic linguists are called on to offer expert testimony on emojis as evidence.

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Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   128
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Recent political events, protests, and civil wars in various countries have caused a surge in the number of refugees seeking asylum in other countries. In addition to the forensic use, Speaker identification is quite helpful in LADO if phonetic features can be associated with regional and social backgrounds. The application of LADO has blossomed in prominence in many countries to prevent fraudulent immigration. The analysis of spoken language examines an individual's claim of belonging to a specific community and geographical region. It involves linguists and native speakers to analyze the language sample, where native speakers help linguists in a proper and unbiased investigation.

Understanding the relationship between language and law can lead to understanding the need and importance of the role of linguists in the legal and judicial systems. Language is the key to the legal system; to make and understand the law, we need language. Though the legal community has queried the role of linguists in legal procedures, it is impossible to disregard the need for their presence in the judicial process. Forensic linguistics steps into a new millennium with a broad but accurate understanding of the law and the need for unconventional techniques to tackle the world of organized crime.

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References

Accurso, A. (2020, June). Interpreting emojis as court evidence. *Criminal Legal News*. https://www.criminallegalnews.org/news/2020/may/15/interpreting-emojis-court-evidence/

Banka, R. (2023, January). SC judgment to be now available in 4 languages, says CJI. *Hindustan Times*. https://www.hindustantimes.com/cities/delhi-news/sc-judgments-to-be-now-available-in-4-languages-says-cji-101674588729524.html

BS Reporter. (2021, December 17). India ranking in global scam report goes up to 4th position: Truecaller. *Business Standard*. https://www.business-standard.com/article/economy-policy/india-ranking-in-global-scam-report-goes-up-to-4th-position-truecaller-

==
Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   129
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

121121700649_1.html#:~:text=India%20is%20the%20country%20to,of%20all%20in coming%20spam%20calls.

Census of India. (2001). *Statement 1. Abstract of speakers' strength of languages and mother tongues   – 2001*. http://www.censusindia.gov.in/Census_Data_2001/Census_Data_Online/Language/ Statement1.htm.

Chaski, P. D. (2013). Best practices and admissibility of forensic author identification. *Journal of Law and Policy*, *21*(2), 5.

Chen, J. (1985). Forensic linguistics should be established. *Modern Law Science*, pp. *1*, 77.

Chulov, M., & Halliday, J. (2014). British Isis militant in James Foley video "guards foreign hostages in Syria". *The Guardian*, *20*

Coulthard, M., Grant, T., & Kredens, K. (2011). Forensic linguistics. In *The SAGE Handbook of Sociolinguistics*, 529-544.

Coulthard, M., Johnson, A., & Wright, D. (2016). *An introduction to forensic linguistics: Language in evidence*. Routledge.

EF English Proficiency Index. (2022). The world's largest ranking of countries and regions by English skills. https://www.ef.com/wwen/epi/

El-Sakran, T. M. (2020). Lawyers' perceptions of forensic linguistic evidence in Arab countries: A call for collaboration. *International Journal of Law, Language & Discourse*, *8*(1), 60–78.

French, P. (1994). An overview of forensic phonetics with particular reference to speaker identification. *International Journal of Speech, Language and the Law*, *1*(2), 169–181.

Gao, J. (2010). Review and prospects of the research of forensic linguistics in China. *Asian Social Science*, *6*(10), 127.

Gibbons, J. (1996). Distortions of the police interview process revealed by video-tape. *International Journal of Speech, Language and the Law*, *3*(2), 289–298.

===
Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   130
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Gohain, M. P. (2021, July 22). Why Indian lose most money in tech scam. *The Times of India*. https://timesofindia.indiatimes.com/business/india-business/why-indians-lose-most-money-in-tech-scams/articleshow/84637261.cms

Kniffka, H. (1981). *Der Linguist als Gutachter bei Gericht: Überlegungen und Materialien zu einer" angewandten Soziolinguistik*. Bouvier.

Levi, J. N. (1994). Language as evidence: the linguist as expert witness in North American courts. *International Journal of Speech Language and the Law*, *1*(1), 1–26.

Lewis, M. P., Simons, G. F., & Fennig, C. D. (2016). *Ethnologue: Languages of the world*. SIL International.

Mekhennet, S., & Goldman, A. (2015, February 15). 'Jihadi John': Islamic State killer is identified as Londoner Mohammed Emwazi. *The Washington Post*. https://www.washingtonpost.com/world/national-security/jihadi-john-the-islamic-state-killer-behind-the-mask-is-a-young-londoner/2015/02/25/d6dbab16-bc43-11e4-bdfa-b8e8f594e6ee_story.html

Nolan, F. (1983). *The phonetic bases of speaker recognition.* Cambridge: Cambridge University Press.

Nolan, F. (1991). Forensic phonetics. *Journal of Linguistics*, *27*(2), 483–493.

Nolan, F. (1997). Speaker recognition and forensic phonetics. In W. J. Hardcastle and J. Laver (Eds.), *The handbook of phonetic sciences.* Cambridge University Press, pp. 744–767.

Olsson, J. (2008). *Forensic linguistics*. Continuum International Publishing Group, London.

Rañosa-Madrunio, M., & Martin, I. P. (2023). Forensic Linguistics in the Philippines: Origins, Developments, and Directions. *Elements in Forensic Linguistics*. https://doi.org/10.1017/9781009106078

Rose, P. (2002). *Forensic speaker identification*. cRc Press.

Sinha, S. (2015). Forensic Linguistics and Forensic Phonetics: An Introduction. *International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS)*, *2*(6), 153–157.

Shuy, R. W. (1997). Ten unanswered language questions about Miranda. *International Journal of Speech, Language and the Law*, *4*(2), 175–196.

==
Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   131
Evaluating and Accessing the Scope of Forensic Linguistics in a Multilingual Context in India

Stevens, K. N. (1971, August). Sources of inter-and intra-speaker variability in the acoustic properties of speech sounds. In *Proceedings of the 7th International Congress of Phonetic Sciences* (pp. 1596-1607).

The Supreme Court of India. (2019). *Indian judiciary: Annual report 2018-2019*. The Supreme Court of India.

===
Language in India www.languageinindia.com **ISSN 1930-2940 23:8 August 2023**
Ravina Toppo, Research Scholar and Sweta Sinha, Associate Professor   132
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