Forensic Linguistics: Methods and Their Application in Legal Practice

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ABSTRACT

This article explores forensic linguistics, a discipline examining the relationship between language and law. The primary methods of forensic linguistic analysis are reviewed, including text analysis, speech acts, and the application of linguistic data for legal purposes. Special attention is given to the practical applications of these methods in legal defense, such as identifying text manipulations, determining document authorship, and assessing the credibility of statements. The text also discusses the role of a forensic linguist in legal disputes and judicial procedures.

Keywords: Forensic linguistics, forensic linguistic analysis, speech acts, text analysis, legal defense, text manipulation, document authorship, statement credibility, linguistic data, legal disputes, judicial procedures, forensic linguist role.

1. INTRODUCTION

Forensic linguistics, as a discipline that studies language within the legal context, has gained relevance due to the need for accurate and scientifically sound analysis of written and oral evidence. It emerged to meet the need to analyze texts and speech to determine truthfulness or identify distortions. The primary tasks of forensic linguistics include establishing authorship, analyzing linguistic features, and detecting possible manipulations, making it an integral part of the legal system.

2. BACKGROUND

The roots of forensic linguistics go deep into the history of law, where there was a need for interpreting texts and establishing authorship. In the 19th and 20th centuries, with the development of structural linguistics and semantics by scholars such as Ferdinand de Saussure and Nikolai Trubetzkoy [1, 12] methods began to form and were subsequently applied to legal needs.

In the early and mid-20th century, foundational work in psycholinguistics by scholars such as L.S. Vygotsky, A. R. Luria, and A. N. Leontiev [2, 272] contribute to understanding the influence of psychological factors on language perception. The research of Charles Morris and John Austin [2, 269-270], also deepened the understanding of language in legal contexts through speech act analysis, forming the basis of modern text analysis in legal cases.

According to K. I. Brinyov [3, 6], forensic linguistics appeared in the early 1990s, encompassing the intersection of law and language. Renowned linguistic expert A. N. Baranov [4, 10-11], distinguishes between the terms "jurislinguistics" and "legal linguistics" depending on context, underscoring the significance of linguistic expertise for intellectual property protection and other legal domains.

Forensic linguistics emerged as an independent field in the 1970s and 1980s. Experts began developing methods for author identification, authenticity analysis, and manipulation detection in texts. Achievements include voice recording analysis, which allows for more precise participant identification in conversations and even emotional state assessment.

Forensic linguistics combines knowledge from linguistics, law, psychology, and forensics. Modern text analysis methods, such as semantic, syntactic, lexical, and pragmatic analysis, have become essential tools in legal practice. These methods allow for the identification of information distortions, false testimonies, and copyright infringements.

Currently, forensic linguistics is developing in Uzbekistan with the integration of international experience and the creation of educational programs. Uzbek researchers aim to develop and

adapt modern methods despite limited resources. Founders of Uzbek forensic linguistics include Professor Sh. Kh. Shakhabiddinova and others [5, 3-5], with doctoral research by E. E. Kurbanova [6], Kh. I. Ismoilova [7], and K. A. Muydinurrent [8].

Currently, the main methods and techniques of forensic linguistic analysis include:

2.1. *Lexical analysis*

Below are several examples of lexical analysis methods in forensic linguistics and their application in evaluating style and establishing authorship:

1. **Frequency analysis of words and expressions**: This method is used in cases of anonymous letters sent to company management, where specific vocabulary preferences (e.g., frequent use of certain words and structures) may be detected. Analysis can reveal the consistency of these characteristics with other known texts of a potential author, serving as crucial evidence.
2. **Idiom and set expression analysis**: This technique is applied in defamation cases during text examinations, where certain idioms, specific to the region where the suspect may live, are present. This method narrows down the circle of suspects and helps confirm and identify the author of a text.
3. **Professional vocabulary analysis**: This method is applied in cases of disputed authorship of a scientific article, where lexical analysis can reveal extensive use of specific terminology consistent with the respondent's style. This approach helps to establish that a particular individual is indeed the true author of the scientific article.
4. **Comparative analysis with reference texts**: In cases involving forged letters, handwriting and style samples from the suspect are analyzed and compared with the texts of the letters. Matching grammatical errors and specific phrases can serve as evidence for the authorship of the suspect.
5. **Collocation analysis**: This technique is useful in plagiarism cases, where unique word combinations that frequently

appear in the suspect's work are detected, allowing the court to establish significant similarity with the contested text.
6. **Formal and stylistic markers**: Used in cases of email threats, where punctuation and capitalization patterns are examined. Identifying similar mistakes in other emails from the suspect aids in establishing authorship.

2.2. *Semantic analysis*

In legal cases concerning contract interpretation, disputed phrases are analyzed for their various meanings. Semantic analysis reveals whether specific terms might imply an attempt by one party to manipulate contract conditions, playing a critical role in judicial rulings.

Here are the main methods and techniques of semantic analysis in forensic linguistics:

1. **Lexical meaning analysis**: This examines the meanings of words and phrases, highlighting specific meanings that arise in context. For example, in cases involving ambiguous terms, lexical analysis helps narrow interpretations by considering the context or specialized legal language.
2. **Connotative meaning analysis**: This evaluates the emotions and associations triggered by words or phrases. For example, offensive expressions in a text may alter its perception and serve as evidence of aggressive intentions.
3. **Semantic field study**: Examines how words and phrases are connected, forming meaning clusters. This approach helps identify associations between terms and understand predominant themes in the text, which can aid in establishing the author's motives.
4. **Presupposition and implication analysis**: This assesses hidden assumptions that readers may unconsciously accept as true. In legal practice, it is crucial for detecting attempts to manipulate audience opinion through insinuations or omissions.
5. **Contextual meaning analysis**: This considers how meaning changes depending on context. In legal practice, this method

clarifies whether the text has alternative interpretations based on situation and audience.

Here are some examples of the application of this method in judicial practice:

a. **Threat analysis**: In threat analysis, courts may consider the connotations and subtexts identified by an expert, determining if a phrase was intended as a threat. For instance, "I'll find you" may carry different meanings depending on context and prior interactions.
b. **Defamation case**: In defamation disputes, semantic analysis distinguishes between direct and indirect insults, which is crucial for determining intent and assessing the severity of violations.

2.3. *Syntactic analysis*

Syntactic analysis in forensic linguistics is used to examine sentence structure and identify unique stylistic features of an author, aiding in authorship attribution, intent identification, and understanding the communicative context.

Examples of using parsing methods:

1. **Identification of syntactic patterns**: In analyzing anonymous messages, forensic linguists often search for specific syntactic structures, such as typical sentence constructions, passive voice usage, or a preference for complex constructions.
2. **Sentence length and structure analysis**: Some cases consider average sentence length and typical syntactic forms, such as nested clauses or question structures.
3. **Comparison of subordinate clause types**: Use of certain types of subordinate clauses (conditional, causal, etc.) can also serve as indicators of authorship.
4. **Analysis of sentence connectives**: Syntactic analysis also examines the use of connectives like "because," "therefore," and "nevertheless." These features may indicate cultural, educational, or professional influences. In plagiarism cases,

for instance, the presence of specific sentence connectives can help linguists identify text linked to one of the accused.

5. **Analysis of inversions and elliptical constructions**: The use of inversions (word order rearrangement) or elliptical constructions (omission of words understood from context) is also an individual stylistic feature. In hypothetical forgery cases, syntactic analysis can detect characteristic inversions, pointing to a specific suspect.

2.4. *Phonetic analysis*

Phonetic analysis in forensic linguistics is applied to voice recordings to identify the speaker, assess emotional state, and detect accents and dialect features that can serve as crucial evidence in court.

The main methods and techniques of phonetic analysis:

1. **Acoustic characteristics analysis**: This involves examining parameters like fundamental frequency, timbre, rhythm, and pauses in speech. These characteristics are often unique to each individual and help identify the speaker. For instance, in a fraud case, experts might use fundamental frequency analysis to confirm voice matches.

2. **Speech spectrogram**: A spectrogram visually represents voice oscillations and helps highlight unique aspects of the sound spectrum, facilitating voice comparison. Spectrographic analysis can reveal similarities between the suspect's voice and a voice on a recording containing threats, insults, etc.

3. **Accent and dialect analysis**: Accents and dialects serve as indicators of the speaker's geographic or cultural background. In cases of extortion, analyzing regional accents helps identify the speaker and narrow down suspects to a specific ethnic group.

4. **Emotional state identification**: This involves detecting emotions such as anger, excitement, or fear based on pitch, volume, and voice timbre. These characteristics indicate whether threats were made intentionally or under pressure. In

court, this analysis helps verify sincerity or assess the level of threat.

5. **Voice comparison using biometric analysis**: This is used for precise comparison of a suspect's voice with recorded samples. In cases of terrorism or extortion, voice biometrics serve as a powerful identification tool, enabling accurate identification of speakers even if recordings were made under conditions that distort sound.

   Examples of application in legal practice:

   a. **Extortion cases**: Phonetic analysis of an extortionist's voice recording can reveal accent characteristics that match the phonetic features of a possible suspect, which becomes a critical piece of evidence.
   b. **Phone threats**: Using spectrograms allows an expert to confirm that a recorded voice belongs to the defendant, despite attempts to alter pitch.

2.5. *Pragmatic analysis*

Pragmatic analysis in forensic linguistics is used to examine the author's intentions and the context of statements. This method helps determine the author's intended meaning, detect potential manipulations, or uncover hidden motives. This can be decisive in legal cases where language may carry multiple meanings or contain implicit messages (implicitness).

The main methods and techniques of pragmatic analysis:

1. **Speech act analysis**: This involves examining statements in terms of functionality, such as intention (threats, requests, assertions, etc.). In defamation cases, pragmatic analysis can help classify the contested statement, determining if it is more of an opinion than an assertion, which can aid in exonerating the accused.
2. **Implicature and implied meanings**: This investigates hidden and indirect meanings that are not explicitly stated but implied in context. In defamation cases, this method allows experts to determine whether ambiguous phrases contain veiled threats directed at specific individuals.

3. **Presupposition analysis**: This focuses on assumptions hidden in statements that the author believes are generally accepted. For example, using phrases like "everyone knows" in a legal context may indicate populism and manipulation of public opinion.
4. **Contextual analysis**: This considers social, cultural, and legal contexts in which the speech is delivered. It helps understand how the text or speech would be perceived by people from the relevant community. In legal document cases, pragmatic analysis identifies possible ambiguities or manipulations.
5. **Intentionality study**: Pragmatic analysis helps determine whether the author's intent was honest or manipulative, essential in cases of defamation or threats. In a threat case, an expert may find that certain statements could be interpreted as threatening, even if they contain no explicit threats, as the threats are implied in a veiled form.

   Examples of application in legal practice:

   a. **Defamation cases**: Pragmatic analysis can show that certain statements could be interpreted as defamatory, thereby substantiating accusations.
   b. **Hate speech or incitement cases**: A forensic linguistics expert can use pragmatic analysis to identify and demonstrate whether statements contain explicit or implicit calls for violence, despite their ambiguous nature.

2.6. *Discourse analysis*

Discourse analysis in forensic linguistics involves studying text or speech within a broad social and cultural context, taking into account the communicative situation and the speakers' intentions. This method helps to understand how the text or speech interacts with surrounding reality and how it may be perceived by listeners or readers. In legal investigations, discourse analysis uncovers hidden meanings, interprets the author's intentions, and contextualizes messages within multiple layers, which is essential in legal proceedings.

The main methods and techniques of discursive analysis in forensic linguistics:

1. **Contextual analysis**: This considers how a text or speech is perceived depending on the social, political, or cultural environment. For instance, analyzing comments on social media allows an expert to account for cultural differences and norms to interpret the intended meaning accurately.
2. **Genre and style analysis**: This method examines text or speech in terms of genre and style, which helps in determining the formal characteristics and typical functions of the message. For example, in court, experts may use this method to explain the difference between political rhetoric and direct threats.
3. **Actor and role analysis**: This approach studies how the text assigns roles to communication participants (e.g., victim, aggressor, neutral observer), helping to understand the intended impact of the speech on the recipient. In legal practice, this is used to determine whether the defendant sought to manipulate listeners' perceptions.
4. **Presuppositions and implicit meaning analysis**: This explores hidden assumptions and implied meanings. In legal practice, it can uncover manipulations and covert threats. For example, if a text contains phrases that incite actions without stating them explicitly, discourse analysis can help interpret these as indirect encouragement.
5. **Intertextual analysis**: This connects the text with other texts that may influence it. In legal practice, it can aid in analyzing plagiarism, defamation, or the examination of propaganda materials referencing prior statements.
   Examples of application in legal practice:

   a. **In cases of extremist statements**: In cases of incitement of ethnic hatred, discourse analysis allows experts to identify hidden calls for violence and manipulative tactics targeting public opinion.
   b. **In cases concerning the legality of publication:** Experts analyzing an article with covert insults can help

the court assess whether the publication undermines human dignity, guiding the judgment on the article's legality.

These core methods help establish the legality of content and facilitate the analysis of text in legal practice.

3. RESEARCH FINDINGS

Text analysis using forensic linguistic methods reveals aspects such as authorship, stylistic features, intentions, and hidden meanings.

1. **Lexical analysis**: Each example above highlights the importance of lexical analysis in forensic linguistics for uncovering hidden meanings, assessing style, and establishing authorship in various legal contexts.
2. **Semantic analysis**: In forensic linguistics, semantic analysis explores meanings and structures within a text to understand how listeners or readers might interpret it, including both explicit and implicit meanings. This approach helps uncover subtext, intentions, and possible manipulations. It is especially useful in analyzing legal documents, testimonies, threats, and other speech acts where distinguishing direct from indirect meanings is essential. Semantic analysis provides in-depth understanding, exposing meanings not always immediately apparent, which aids the courts in obtaining an objective view of the meanings and intentions within speech, helping to establish the legitimacy of participants' actions.
3. **Syntactic analysis**: As demonstrated by the examples, syntactic analysis refines the understanding of style and the author's intentions, identifying unique linguistic patterns that are valuable in cases of defamation, threats, plagiarism, and other legal issues.
4. **Phonetic analysis**: Phonetic analysis of voice recordings is an important tool in forensic linguistics for identifying unique vocal characteristics, determining emotional state,

and analyzing accents, providing crucial evidence in complex court cases.

5. **Pragmatic analysis**: This analysis in forensic linguistics offers valuable insights into the author's intentions and uncovers implicit meanings, ambiguities, and presuppositions that can influence text or speech interpretation. This method is indispensable in cases where precise language interpretation is necessary for fair judicial decisions.

6. **Discourse analysis**: Discourse analysis allows for in-depth examination of texts, taking into account their multilayered context to identify hidden motives and manipulations. This method is essential in forensic linguistics when evaluating speech data where not only the words matter, but also the context in which they are used and their impact on the audience.

These key methods establish content legitimacy and facilitate text analysis in legal practice.

4. CONCLUSION

Forensic linguistics is actively developing internationally, becoming increasingly valuable in criminal and civil cases. In the U.S., forensic linguists analyze anonymous threats, speech discrimination, and texts related to defamation, with many universities offering courses in forensic linguistics to prepare specialists for practical needs. In the UK, the discipline has expanded significantly, particularly in cases involving terrorist threats and political crimes. Forensic linguists work closely with law enforcement, providing expert evaluations of various types of speech evidence. In Russia, forensic linguistics is used to address questions related to text authorship, analysis of extremist materials, and expert evaluation of texts for incitement to hatred.

These examples highlight the range of forensic linguistics applications and its importance in global practice.

In Uzbekistan, forensic linguistics is just beginning to emerge as a distinct discipline. With the development of the legal

system and increasing interest in applying linguistic analysis in court cases, forensic linguistics in Uzbekistan has substantial potential for growth and could contribute significantly to enhancing legal practice.

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