

FORENSIC LINGUISTICS IN CRIMINAL INVESTIGATION

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Abstract: This work presents the short history of linguistic application in investigation and court procedures, and the history of development of particular disciplines in the scope of forensic linguistics as a subspecialist field; the sources of analysis and fields of application are marked; the methods of analysis used for separating forensic markers are given in various levels of linguistic structure, and it is especially discussing about types of individual speech and language characteristics which are used as forensic markers in determining and verifying speakers. The possible forensic markers in determining linguistic profile of an unknown speaker of a crime are presented. The possibility of forensic analysis of written language samples is also noted.

Key words: investigation and court procedures, forensic linguistics, linguistic disciplines, forensic identification of speakers, determination of profile of an unknown speaker (writer), speech samples, text samples.

1. Introduction

Searching for ways of determining authors of certain texts, which is determining of individual language (Style) characteristics started earlier than the linguistic expertise in crime investigations. This field was characteristic for literature criticism, i.e. history and theory of literature. It is very often later, according to viewed style characteristics, that there is doubt in the authority of famous literature works. Are literature plagiarisms in question? It

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is possible that there were such cases, but there are other reasons that are causes of the given authorships in question. The existence of “black lists” in great number of authoritarian regimes made authors publish their work under the names of the “approved” authors with the mutual agreement, personal reasons of being unready to present themselves to the judgment of the public made writers publish their works under the pseudonyms, and there were some other, especially political, reasons that made writers publish literary works under other names. Literature theory spotted these occurrences and tried, with its methods, to determine the real authors of the works in question. The methods of literary theory in the given cases were mainly based on the analysis of language (that is style) particularities spotted in the literary work. These beginnings established the way for the development of forensic stylistics (one of the fields in forensic linguistics), within the scope of which the procedures connected to the determining of the problematic authorships in the written samples of language are developing today.

2. The view of development ways of forensic linguistics

As progress of print contributed to the development of stylistics, which enabled the lasting and moving of written language samples, this is how the development of forensic linguistics, that is the development of this subspecialist field of linguistics' application, contributed to the development of recording possibilities and keeping of spoken samples.

In the field of application in the linguistic analysis of samples of the spoken and written language in investigation procedures and court appeals in the nomenclature and in practice two separate fields exist: forensic phonetics and forensic linguistics.

The application of phonetics in forensic analysis is connected to the late sixties. It was first applied in the Michigan State (the USA). Since 1967 until today more than 5000 crime investigating services included it in their work cases connected to the identification of voice (Rose, 2002). In North America, the greatest number of European countries and in Australia a range of very referential laboratories for forensic phonetics and acoustics exist. This type of forensic analysis and expert phoneticians witnessing connected to identification and verification of speakers are widely applied to in research and court procedures. In our country there exists a certain tradition of forensic phonetics and acoustics application, known as expert evaluation of voice. It is necessary to point out that in Serbia (together with its neighboring countries) in this domain of forensic skills they are applied sporadically; the impression is that the demands for this type of expert evaluations depend

on the fact how much the people who take part in the research procedure are informed about the possibilities of forensic analysis of samples of speech.

40 years ago J. Svartvik published an article "*Evans Statements: A Case of Forensic Linguistics*". In this article, he demonstrated the problematic and incriminating parts from the series of four statements that Timothy Evans gave to the police officer about the death of his wife and daughter. This is how the term for the new field of forensic expertise came to be. Twenty years earlier Philbrick used the term forensic English in the title of his book that was about English in law "*Language and the Law: The Semantics of Forensic English*", however this phrase never entered the academic use.

In the beginning the development of forensic linguistics was slow. The articles appeared in unexpected places where some author, usually a famous linguist, analyzed the testimony about which there were discussions and comments: there were discussions about the authenticity of recordings, communicative interactions in the courtroom, or the inconsistencies in the language which the police wrote were identified and examined, and they were attributed to the immigrants or natives (Aborigines). The recordings of the statements under the oath and witnesses' accounts were analyzed; the linguistics similarity of hallmarks and logos of the rivalry firms and so on. (Coulthard M., Johnson A., 2007).

In these early days there were no trials to make a discipline or methodology for forensic linguistics. Forensic tasks were usually accepted as an intellectual challenge, and linguists almost always tried to be personally creative in more than precise application of some method of analysis. Contrary to the slow beginning development, in the last fifteen years the courts have more usually asked linguists for expertise in great number of countries. That was the reason why the methodology in the development and greater and greater numbers of linguists who appear as expert witnesses exist, and have this kind of work as an occupation. There are two professional associations IAFL (International Association of Forensic Linguists) and IAFPA International Association for Forensic Phonetics and Acoustics, together with the magazine *Forensic Linguistics* that started to come out in 1994. The magazine got a new name in 2003 to *The International Journal of Speech Language and the Law* with the intent to point out to potential readers more clearly how wide the field of forensic linguistics is.

The cases which ordered the expert testimony of linguists started from the discussions about the meanings of individual morphemes, or individual words in instructions to the jury for "possessing" certain words and phrases in the cases of plagiarism to accusations in certain murder cases

where the complete texts were fabricated. A linguist often uses the standard analytical means to form an opinion, but there are few cases which ask for the same choice of means from the linguistics choice of instruments. From time to time, anyhow, some cases ask some new and exciting questions for descriptive linguistics, and these questions need basic research, for example: how can someone measure „rarity“ and because of its value of individual expression evidence of individual expression or how can someone judge if the verbal memory is something reliable (Coulthard M., Johnson A., 2007).

In Europe, Australia, North America, since 1990 there have appeared researches of this type about various disciplines (linguistics, law, psychology, anthropology, sociology) making forensic linguistics multidisciplinary (and crosswise) field. Contemporary bibliography reaches rather great proportions in comparison to the early works. Since 2000 there have appeared a lot of studies with the word forensic in their title. They are published in key fields like: **Legal language** (Solan, Tiersma, 2005), (Tiersma, 1999), **Communicative interaction in the courtroom** (Archer, 2005); **Language and power** (Coonley, O'Bar, 1998) and **A linguist as an expert in court** (Chuy, 2005). The language used by the police was also the subject of many studies which were focused especially in **interview and questioning**. This language was researched from **the case study** (Chuy, 2005), psychological perspective of the police language (Gudjonson, 2003) until **conversational/analytical perspective** (Heydon, 2005). **Forensic phonetics** is in focus in several books (Baldwin, French, 1990), (Hollien 1990, 2001), and (Rose, 2002) the new field in **forensic stylistics** and **author identification**. Until now there exist three books which thematically cover the complete field of forensic linguistics (Gibons, 2003), (Olson, 2004) and (Coulthard M., Johnson A., 2007). A great number of researches in the field of forensic linguistics was published in the magazines *The International Journal of Speech, Language and the Law*, *Applied Linguistics*, *Journal of Pragmatics*, *Research on Language and Social Interaction*, *Discourse Studies*, *Text*, *Yale Law Review* (Coulthard M., Johnson A., 2007).

3. The fields of application and sources of evidence

The linguistics expertise is applied in cases in which the language of an individual (a sample of spoken or written production) can be used as one of the evidences. For example in practice used up to now, courts and police demanded linguistic expertise in certain crime cases, and in civil procedures. In crime cases, that is various types of crime (murder, kidnapping, rape, sexual abuse, blackmail, corruption, terrorism, people and drugs traffick-

ing...) the sources of evidence may be: conversations with a suspect and a convicted, conversations in secret operations – cases that include secret investigation, spoken or written blackmails, spoken or written demands for ransom (kidnapping), conversations in cases of sexual abuses of children and adults, communication with threatening (letters, e-mails, SMS, telephone calls), anonymous telephone information reports to intervention services and so on. In litigation the sources are usually written samples for example contracts, various insurances, business frauds, brands, commercials, plagiarisms, testaments and so on.

Just a few of the possible questions are presented here, and these are the questions that a linguist should answer in an expert testimony. Who called to threat on the phone about the bomb? Who wrote a message for extortion of money? Does the text contain a threat? Does the word in a contract mean that *x*, *y* or something else? What does it mean when somebody says *aha*, does *aha* always mean *yes*? Is the confession extorted? Did the suspect really admit the deed or did it seem to be to the prosecutor or the police? (Olsson, 2004)

4. The instruments

The instruments that a linguist uses in forensic analysis in expert testimony are: phonetics, morphology, syntax, lexicology, semantics, linguistic pragmatics, discourse analysis, speech acts theory, sociolinguistics, and psycholinguistics, linguistic geography, which are theories, information and methods of analysis from all the mentioned fields.

5. The individual within common language

All the people use some of the apparent forms of language which they share with their speech community. Even though the language is mutual, in every (even short) communicative situation the speaker's individual features in the plan of speech expression and in the plan of usage of language means at all the levels of linguistic structure can be noticed. This fact in sound and language particularity of an individual is noticed by every person with a typical language because, according to communicative experience in the role of a co-speaker, he or she recognizes people from their surrounding according to their individual sound and language characteristics. The appearance of personal speech characteristics and personal style in use of language means is the main source of forensic markers whilst determining the identity of a speaker (writer), verifying the identity of a speaker (writer)

and when determining a linguistic profile of an unknown speaker (writer) in investigation and legal processes in which the language samples that are produced (spoken or written) are on of the evidence.

Forensic determination of a person's identity is possible because of the specific differences that exist among all the members of human species. These differences appear first in the biological plan (biological differences exist with monozygotic twins). The differences are mostly specified in fingerprints, structure of retina, gene profile (DNA), physical shape of some body parts, handwriting and voice. Which of the features will be used in a forensic determining of an identity depends on the circumstances of a case, i.e. on the availability of the given features as well (Jovičić, 1991). When determining of identity is in question according to the language features of an individual, the problem is more complex. The complexity of a problem is contributed by the fact that a man is simultaneously determined by language in a biological, sociological and psychological plan. The influence of non biological elements is obvious in linguistic comparison of language expression of monozygotic twins who grew up in different language and cultural surroundings. Complexity of plans in which the language determines a person implicates the need that in linguistic forensic analysis searches for more combined individual markers in order to confirm ILI dispute identification/verification. The given complexity is certainly the cause of later inclusion of linguistics into the field of forensic skills.

6. The individual variations of speech expression – forensic markers

Individual variations in the plan of speech expression are, simply saying, personal speech features of every person according to which he or she is differentiated from the rest of human kind. Because the great similarity of speech features exists only with monozygotic twins. The set of individual speech characteristics presents the phonetic capacity of a person. Phonetic capacity of every individual determines anatomic physiologic characteristics of his or her system of speech organs, but also the capability or incapability of usage of natural advantages and capability or incapability to overcome the weaknesses with phonetic compensations (Kašić, 2000). Within the scope of phonetic capacity the identity is most usually determined according to the forensic markers in the voice quality, articulation quality, articulation specific features of particular speech segments, and the pitch of the basic tone, prosody characteristics and automatism of regional characteristics of the articulation base.

The voice quality is individual human characteristics which is recognizable feature in the continual speech. Auditory impression about the quality of someone's voice is contributed by the characteristics of his or her phonators, resonators and articulators, together with automatic articulation habits caused by social and regional background. In Serbian language, in every-day use, there exist usual manners of various types of voices: typical male, typical female, ringing, voice with additional fullness, voice with additional ringing, muffled, squeaky, shrieking, rasping, creaky, nasalized feminine, masculine and so on. The voice quality can be volitionally controlled (the proof are successful imitators) in order to be used as linguistic, and most often paralinguistic speech means in communication, and also (apart from that the inborn individual characteristics) are prone to changes in certain emotional and health conditions. The voice quality can be used for linguistic distinctions and phonologic contrasts in some languages (Crystal, 1996), for the realization of various regional features, and it functions like a paralinguistic feature in speech expression of emotions. So, the speech quality is a multidimensional characteristic that is viewed from various aspects - as a constantly present fundamental feature of speech which identifies the speaker as an individual and as a changeable category during the speech process, for the aspect of changeability there exists a term in use voice qualifier or the paralinguistic feature (Jovičić, Kašić, 2004). In the forensic identification of speakers there differentiate invariant features of the voice quality of the analyzed referential speaker, and it is then that they are contrasted with the invariant features of the voice quality of the unidentified speaker. The mentioned possibilities of the self control of the voice quality of which an expert must be aware of all the time, because there are cases of misconceptions which are famous in which the experts were brought when the speaker would mask himself consciously with self-control during the giving referential sample of speech.

Quality of articulation is determined by a stronger or weaker tension of muscles of the articulators during speech production. This is how we can talk about “firm” (tense, precise), normal and “loose” (relaxed, incomprehensible) articulation. We can talk about the quality of articulation as an individual characteristic of a speaker that reflexes temperament and automatic articulation habits within the scope of the articulation base. The variation of quality of articulation with the same speaker contributes greatly to the speech expression of emotions, intentions and beliefs. From this aspect, the quality of articulation takes part partially within the overall quality of speech. For example, expressions with imperative semantic features and threatening expressions are characterized by a greatly tense – firm articula-

tion, strong articulation. Strong articulation is reflected in the speech expression of anger, while the relaxed - loose articulation one of the more important indications of the expression of sadness and so on. Together with the given variability, whilst indentifying the speaker it is possible to determine individual invariant markers of the articulation quality. Individual articulation quality as a constant feature of an individual is connected most often to the tempo of speech, which is also one of individual characteristics. Fast tempo most often causes the imprecise articulation, so the speaker with this feature can be traced characteristic sequences of impreciseness that can be rather reliable forensic marker.

The specification of particular speech segments articulation is the main source of phonetic forensic markers in some laboratories for forensic phonetics (Russia or Spain, for example). Because of various reasons (physiological causes, learned habits and so on) speakers can articulate specific segments in an unusual manner. This unusual feature can happen in articulation of particular sounds and particular sound clusters. If such occurrences exist in voice samples in the procedure of forensic analysis, they are a valuable forensic marker. One of the markers is normally pathological variations in articulation of specific segments. These variations cannot be one forensic marker because of their conspicuousness they can form a trap for a forensic specialist. It is only when other types of markers are determined by the analysis that the judgments about the speaker's identity can be brought about.

The pitch of a basic tone is the speech parameter that influences mostly individual, sex, age and situation variations of speech. Because of wide field of variability of this speech parameter, complex computational analysis is needed for exact separations of the basic tone as an individual marker in identification of a speaker. Though, perceptually it seems conspicuous by everyone if the speaker has a low, middle or high basic tone, this does not mean it is easy to separate individual markers in the scope of the given three types of the basic tone. This conspicuousness can help for exclusion of similarity between speakers, but similarity in the scope of a type does not have to present identical voice. Whilst determining of the profile of an unknown speaker, the basic tone is used as a proof of age and sex. In the scope of prosody features of speech (syllable accent, tempo, loudness, intonation, rhythm), that are by definition varied by the basic acoustic parameters (Kašić, 2000.), individual markers can also be found for speaker recognition. When *syllable accent* is in question (for example, with the native speakers of Serbian language) individual markers can be produced in automatism one of the existing regional accent types, especially in the automatism one of the double forms of the short accents. Anyhow, regional types

and double forms of other accents are not themselves reliable markers because they are perceived by everyone. This perceiving by everyone enables the very speakers, when giving the referential samples for examination, to consciously mask this characteristic. Expressive regional and accent characteristics are usually used by speakers for masking personal speaking characteristics in the problematic samples of speech. So, during the analysis of a syllable accent in forensic analysis, it is necessary to determine clear criteria of differentiating between regional appearance and individual marker in order not to fall in a trap of identification. Regional accent characteristics, because of early automatism, are a valuable indication during the determination of a profile of an unknown speaker.

Tempo of speech as automatic personal characteristics is the feature of a temperament (that can be fast, moderate or slow) which gives reliable possibilities of determining of individual markers in certain sequences of a produced continual speech. It was already said that fast tempo usually causes articulation imprecision of certain segments, and very slow tempo can bring to articulation distortion that can also be one of forensic markers.

Rhythm in the broadest sense is an organized sequence of sound segments and pauses in speech which enables determination of individual characteristics in speech production. Variability of the ways for connecting the too long pauses in spontaneous speech, enables determining of more reliable individual markers in this domain. In too long pauses the speakers often use various „prop-phrases“, neutral vocal, this, that, see, you know, like... Because these sequences are usually automatic, with their analysis we can reach the important individual markers. Also, the number and length of pauses, together with the manner of articulation beginning after the break (attack or onset) can be one of the featuring characteristics. Featuring characteristic is made up of specific individual co articulation variations caused by the rhythmic intonation organization of speech (Kašić, 1997).

In certain ways loudness (the speech is perceived as silent, moderately loud or too loud) as a feature of temperament and feature of cultural habits can help (together with other markers) for determining individual characteristics of a speaker. Because of different cultural habits in the domain of loudness and difference in personal characteristics which bring to various showing of automatic level of loudness in speech production, this suprasegment is also valuable in determining the profile of an unknown speaker.

7. Methods of analysis of forensic markers in speech expression

In order to approach the analysis of individual characteristics of a speaker for identification in a relatively reliable determination of identity, it is necessary for an adequate sample of speech expression to exist. This sample should be continuous spontaneous speech of longer duration in order for the given parameters to be expressed in which the forensic markers are determined. For the most usual type of forensic analysis it is necessary for a referential sample of speech expression to exist and it is used for comparison. In practice speech while reading is offered as a referential sample. In these cases special skill is necessary for comparison, because speech whilst reading (as a special type of speech expression) in certain way masks real individual characteristics of speakers' spontaneous speech. In forensic analysis care should be taken about three types of masking of a referential sample which is read: about usual and certain differences caused by the type of spontaneous and read expression, about speakers with unlearned reading technique of reading that leave the wrong impression, about good readers who mask consciously their spontaneous speech. Sometimes in forensic practice, expert is asked, because of urgency and specific quality of a case (kidnapping for example), he or she is asked to analyze the sample of speech that does not require methodological conditions in length and quality of recording to reliable examination. In such cases the expert, according to the existing parameters, and experience, can give just the indication (but not an opinion) which can be used in further procedure of an investigation.

With the experimental method particular samples of speech are analyzed in order to determine personal markers, after that the contrastive analysis of the two samples is done. With the contrastive analysis similarity between speakers is confirmed or rejected. During the analysis of the speech expression non-instrumental and instrumental experimental methods and techniques of auditory and acoustic phonetics are applied. In this type of analysis technique of trained listening (expert listening) is of vital importance. Trained listening requires knowledge about acoustic characteristic of speech which was discovered by experimental techniques, great experience **and the skill to completely direct attention from the message to the expression**, together with broad knowledge about language phenomenon. With the technique of trained listening, markers are determined from the beginning, and they will be analyzed further by the instrumental experimental techniques. One of also valuable, instrumental techniques of experimental phonetics in the analysis of speech expression is spectography. With this

technique it is possible to determine the markers as compatible or incompatible extracted with the technique of trained listening.

However, because of the broad field of variability in speech, in order to get to reliable conclusions whilst identifying a speaker, most forensic centers resort to combination of the given linguistic methods with exact methods of computer processing in speech analysis.

Another type of forensic identification of a speaker happens in cases in which according to the speech sample linguistic profile of a speaker should be determined, that is determine, according to the speech sample, certain facts about the unknown speaker. Determining the phonetic capacity in these cases, too, is applied to methods and techniques of acoustic and auditory phonetics. However, in such cases individual markers are not of primary importance, but the markers of determining sex, age, regional background and social status. The analysis of particular parameters of speech expression can give rather certain pointers of sex, age, regional background and social status.

8. Individual variations in morphological, syntactic, lexical, semantic level – forensic markers

Height levels of language structure give somewhat fewer possibilities for determining individual markers than the speech expression. Because human individuality is shown in this domain, the expert's task is to determine differential criteria between individual use and the usual use of language means within the scope of given levels of language structure in more narrow and wider speaker's language community. This type of marker is especially important within the scope which is called forensic linguistics in academic circles. In order for the identification of speaker to be reliable, this type of marker must be used not as a secondary but as a primary type of marker in the field called forensic phonetics in the academic circles.

At the morphological level habits in the personal choice of when to use the double forms of the form and word formation morphemes, and regional features in the use of double forms, formal and word formation morphemes are the usual individual markers that are determined.

Syntactic level gives greater possibilities in determining of personal markers in the form certain regularities in the choice of exponents of the constituent functions. Anyhow, speakers can be differentiated amongst themselves according to the fact whether they produce a word, syntagm or dependent clause, as an exponent of constituent functions. However, Olsson (2004), whilst criticizing the supporters of the belief that every specific text

(speech discourse) gives fingerprints of its author, claims that the speaker's ability to make a choice in language, speaking broadly, is too enhanced. The more formal the text, the smaller is the choice, and every communicative (even informal) with its specification narrows the possibility of personal choice.

Horizontal and vertical stratification of language at the *lexical* level gives various possibilities for differentiating of speaker. Every existing form of language, i.e. special language enables mutual understanding to its native speakers with the fact that its means are known to all the representatives of a language. Because of this fact certain groups of people (more or less closed) always tried to make some type of jargon, in order for some information not to be available to other speakers of the same language. All types of jargon in order to be able to function as the communicative means anyhow and always must be constructed from the existing means which are offered by the language system. The functions of jargon are different. Sometimes jargon exists to cover up harmless secrets (love life of young people and so on), sometimes it exists to overcome differences between languages (scientific terminology), sometimes for public stressing of belonging to some class of people, and usually to justify the belonging to a group. Jargon base is used in the communication of closed groups which are formed because of common interest to make some goals for whose success the complete secrecy is a condition (Kašić, 2006) Lexical level in the mentioned domain gives good opportunities for mutual differentiating of speakers and determining personal, regional language markers, and for determining personal and regional language markers, and for determining markers of social status.

9. Methods of analysis of forensic markers in higher levels of a language structure

In order to determine personal markers in morphological, syntactic, semantic and lexical level, it is necessary for a researcher to have speech discourse of longer duration. It would also be good that within the scope of this there exists a speech sample of dialogue and monologue type of speech. If such a sample exists as a contrast to the referential sample which also has the mentioned conditions, contrastive analysis for determining personal markers is applied. For determining regional belonging dialect methods and methods of linguistic geography, for determining of social status, education level, professional belonging and so on is applied in psycholinguistic and sociolinguistic approach.

Most often in forensic practice there do not exist recorded samples of speech which would satisfy the mentioned methodological demands, so the analysis of personal use of speech means in higher level of language structure, which is available to an expert in shorter spoken samples, it is used as an additional means to the basic analysis of speech expression.

10. Authorship determining

When determining the problematic authorship of the published works, an expert is most often in contact with larger language production which fulfilled methodological demands of morphological, syntactic, semantic and lexical analysis. With this analysis it is possible to extract individual markers for contrasting the two texts. Methodological trap in determining of authorship of published works is in the fact that author's work, before publishing, usually goes through a phase language editing, that is editing. In this phase author's personal markers can be lost, and sub-editor's personal proneness to the use of some language means can appear as a marker. Paying attention to the given traps, linguist whilst determining of authorship uses the methods in the scope of forensic stylistics and identification of an author. This field and methods in its scope are lately developed by John Olson.

11. Conclusion

According to the given facts about the development and application of forensic linguistics in crime research, it can be concluded that this field can have rather wider field of application in research and court procedures than it was the case up to now.

Contemporary technical means of recording samples of speech give possibilities with this analysis for a linguist expert to extract individual connected forensic markers for determining (confirmation and contradicting) of identity of crime perpetrators in court procedures. During the forensic identification of speakers, in all the referential laboratories for forensic acoustics and phonetics in the world, apart from exact acoustic analysis, in the analysis of samples of spoken language scientific knowledge is applied, theories and methods of linguistics, especially of particular linguistic disciplines, and these are: phonetics, phonology, dialectology, urban dialectology, sociolinguistics, psycholinguistics, discourse analysis...

Knowledge and methods of forensic linguistics can be applied in determining linguistic profile of an unknown crime perpetrator. By linguistic

methods many things can be determined such as: sex, age, regional background, longer stays in various speech regions, education level, education type, type of profession, national and religious belonging and so on. Determining of linguistic profile of an unknown crime perpetrator can be precious in investigation procedures (especially in urgent ones like kidnappings, blackmails, threats...) in the process of narrowing the circle of possible perpetrators. In determining of the profile of an unknown speaker (writer), phonetic, phonological, dialectology and sociolinguistic analysis have the key roles (and they can include all more narrow micro linguistic disciplines).

Forensic linguistics has its important application in procedures connected to frauds, plagiarisms and so on, where with the expert analysis of a text, incriminating occurrences can be determined.

12. References

- Archer, D. (2005). *Questions and Answers in the English Courtroom: A sociopragmatic analysis*. Amsterdam: John Benjamins.
- Baldwin, J., French, J. (1990). *Forensic Phonetics*. London: Pinter.
- Chuy, W. R. (2005). *Creating Language Crimes*. Oxford: Universiti press.
- Conley, J.M., OBar, W.M. (1998). *Just Words: Law, language and power*. Chicago: University Chicago Press.
- Coulthard M., Johnson A. (2007). *An Introduction to Forensic Linguistics: Language in Evidence*. London and New York: Routledge.
- Gibbons (2003). *Forensic Linguistics: An introduction to language in the justice system*. Oxford: Blackwell.
- Gudjonson, G. (2003). *The Psychology of Interrogations and Confessions: A handbook*. Chichester: John Wiley and Sons.
- Heydon, G. (2005). *The Language of Police Interviewing: A critical analysis*. Basingstoke: PalgraveMacmillan.
- Hollien, H. (1990). *The Acoustics of Crime*. London: Plenum.
- Hollien, H. (2001). *Forensic Voice Identification*. London: Academic Press.
- Jovičić S. T. (2001). Forenzički aspekti prepoznavanja govornika. *Nauka Tehnika Bezbednost*, br. 1. Beograd.
- Jovičić S. T., Kašić Z. (2004). *Govorna ekspresija emocija, Govor i jezik: interdisciplinarna istraživanja srpskog jezika, I*. Beograd: IEFPG. 185-214.
- Kašić Z. (1997). *Promene glasova uslovljene ritamsko-intonacionom organizacijom govora*. Beogradska defektološka škola, 1: 77-83.
- Kašić Z. (2000a). *Funkcija suprasegmenta u govornom izrazu*. Beogradska defektološka škola, 2-3: 113-124.

- Kašić Z. (2000b). Segmentna i suprasegmentna organizovanost govora. U knjizi – S. Golubović, Z. Kašić: *Segmentna i suprasegmentna organizovanost govora i poremećaji fluentnosti*. Beograd: Društvo defektologa Jugoslavije.
- Kašić, J (2006). *Argo - tajni jezik zatvorene interesne grupe*. Zbornik radova Fakulteta bezbednosti. Beograd: Fakultet bezbednosti. 383-389.
- Kašić Z., Đorđević P.J.(2009). *Zašto je lingvistika postala forenzička veština. Istraživanja u specijalnoj pedagogiji*. Beograd: Fakultet za specijalnu edukaciju i rehabilitaciju, 469-482.
- Kristal, D. (1996). *Kembrička enciklopedija jezika*. Beograd: Nolit.
- Olsson, J. (2004). *Forensic Linguistics: An introduction to language, crime and the law*. London: Continuum.
- Rose, P. (2002). *Forensic Speaker Identification*. London and New York: Taylor & Francis.
- Solan L.M., Tiersma, P.M. (2005). *Speaking of Crime: The Language of criminal justice*. Chicago IL: University of Chicago Press.
- Svartvik J (1968). *Evans Statements: A Case for Forensic Linguistics*. Gothenburg: University of Gothenburg Press.
- Tiersma, P. (1999). *Legal Language*. Chicago IL: University of Chicago Press.

FORENZIČKA LINGVISTIKA U KRIMINALISTICI

REZIME

U radu je izložen kratak istorijat primene lingvistike u istražnim i sudskim postupcima, kao i istorijat razvoja pojedinih disciplina u okviru forenzičke lingvistike kao subspecijalističkog područja; naznačeni su izvori analize i polja primene. Navedene su metode analize prilikom izdvajanja forenzičkih markera na različitim nivoima jezičke strukture, a naročito se raspravlja o tipovima individualnih govornih i jezičkih karakteristika koje služe kao forenzički markeri prilikom identifikovanja i verifikovanja govornika. Izneseni su i mogući forenzički markeri u određivanju lingvističkog profila nepoznatog počinioca krivičnog dela. Naznačena je i mogućnost forenzičke analize pisanih jezičkih uzoraka.