



RESEARCH ARTICLE

THE IMPACT OF LANGUAGE, MEDIA, STANDARD OF LIVING AND HISTORICAL CHANGES ON THE SPLIT CITY SPEECH

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ABSTRACT

This paper dealt with the impact of four components (language, media, standard of living and historical changes) on the idiom of the residents of the city of Split in Croatia over the period 1960. - 2060. with the information model that has been based on the assumed linguistic and historical situation in three stages of the observed period, i.e. in the years of 1960, 2010 and 2060. The variables comprised by the information model include: accentual system, language situation, standard of living, historical circumstances and media. The research has produced direct growth rates of the information model for the impact of new settlers on the idiom of the residents of Split City from 1960 to 2060 on the index scale from 0 to 100:

1. Accentual system (89.8);
2. Linguistic situation (89.2);
3. Standard of living (50.0);
4. Historical circumstances (71.8);
5. Media (62.0).

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INTRODUCTION

The basic hypothesis of this study is the following: through scientific insights into the impact of different components on the idiom of the residents of Split City, it is possible to suggest a new information model for the impact of the mentioned components on the Split idiom over the period 1960-2060. The model includes the variables that have been selected on the basis of mental-verbal information on the influence of settlers on the speech of genuine residents of Split, Croatia, through the period 1960-2060. By calculating the direct growth rates of the model's variables it is possible to observe changes in the intensity of rate growth of the selected variables as well as their structural relationship. The scientific confirmation of the research hypothesis has been provided. Chakavian is Croatian native idiom that has been spoken and developed for centuries. This dialect has been analysed in a number of various publications since the first days of Croatian dialectology and will, understandably, continue to be analysed for many years to come. Due to their diversity, it is relatively hard to classify Chakavian dialects so that researchers tend to use various criteria. The most recent categorisation was provided by Croatian dialectologist Dalibor Brozović in his paper *Čakavskonarječje (Chakavian dialect)* published in 1988.

According to his accentual and phonological criteria, the city of Split, as well as the largest part of the region of Dalmatia, is placed within the historical area of Chakavian dialect; specifically, taking dialectological literature into consideration, Split and its outskirts belong to Southern Chakavian-Ikavian dialect (Lisac, 2003: 160-161). Many of Chakavian idioms spoken across Dalmatia's mainland have been, and still are, under the strong influence of the neighbouring New-Shtokavian idioms. The idiom of the very city of Split also experienced considerable changes under Shtokavian influence arising from a number of various factors. One of the major factors has been the change in the population structure as a result of frequent migrations, i.e. settlement of Shtokavian population from Dalmatia's hinterland, including western Herzegovina. Other strong factors include standard Croatian language and media (Tomelić Ćurlin and Runjić-Stoilova, 2010: 247-248). In order to follow the linguistic changes of the Split dialect it is necessary to know that there are three main dialect groups in Croatia: Stokavian, Chakavian and Kajkavian, named after the interrogative-relative words for 'what' in each dialect which is *što*, *ča* and *kaj* respectively. According to their reflexes of proto-Slavic/e/ (called *jat*), these dialects are traditionally also subdivided into ijekavian, ekavian, and ikavian varieties. For example, the word for 'milk' is *mlijeko/mleko/mliko*, the first word being part of the standard language and the last two of the nonstandard varieties, *ekavian*

and *ikavian*. But this is an idealized division, since there are many areas where the mixed varieties occur. Stokavian in its *ijekavian* form is the official standard language in Croatia.

Focus, Methodology and Goal of the research

The focus of this research is the Split urban idiom and the goal is the quantification of the variables of the information model for the impact of different components on the idiom of the residents of the city of Split over the period 1960-2060. The model is based on the assumed linguistic and historical situation at certain points of time during the period extending from 1960 to 2060. The following variables have been selected: Accentual system, Language situation, Standard of living, Historical circumstances and Media. The index scale ranges from zero to 100, zero (0) being the lowest value and 100 being the highest value of the impact of new settlers on the genuine Split idiom. A number of scientific methods have been combined in this research, including analysis, synthesis, inductive, deductive, descriptive, comparative methods, as well as matrix growth methods and statistics.

Accentual system

Year 1960: In this period the system of accents consists of the following elements:¹ short falling accent (ä), long falling accent (â), acute (ã), long rising accent (á), short rising accent (à), pre-tonic length and pre-tonic shortness. This is the newer² five-accent system which is not the same as the accentual systems in Stokavian idioms, because it preserves certain features of the old three-accent system and the system with semi-shifted accent. Therefore, in that time, the Split idiom “experiences an impact of Shtokavian accentuation, in addition to the Chakavian substrate...” which is best noticeable in the appearance of a double accent, the so-called Doppelakzent (Vidović, 1992: 29). Here are some examples: *äbit* ('a suit, a habit'), *jemäli* ('to have'), *kakö* ('how'); *ffêra* ('holiday fair'), *užânca* ('custom'), *porcjûn*, ('portion, a slice, a share'); *stât* ('to stay'), *počêt* ('to start'); *mužej* ('museum'), *abônât se* ('to subscribe'); *kârat se* ('to argue'), *mizêrja* ('poverty'); *ôtâc* ('a father'), *pôsâl* ('a job').

Year 2010: The system of accents consists of the following elements:³ short falling accent (ä), long falling accent (â), long rising accent (á), short rising accent (à), pre-tonic length and pre-tonic shortness. A complete shift of the stress occurs rarely, while the stress at old distribution positions is common. This is a new four-accent system. The post-accentual length is often shortened. Here are some examples: *äbit* ('suit, a habit'),

jemäli ('to have'), *kakö* ('how'); *ffêra* ('holiday fair'), *užânca* ('custom'), *porcjûn*, ('portion, a slice, a share'); *mužej* ('museum'), *abônât se* ('to subscribe'); *kârat se* ('to argue'), *mizêrja* ('poverty').

Year 2060: It is assumed that in this period the accentual system will contain the same accentual units as the previous period: short falling accent (ä), long falling accent (â), long rising accent (á), short rising accent (à), pre-tonic length and pre-tonic shortness. Only complete shifts of the stresses occur. Hence, this is a new four-accent or even three-accent system. Here are some examples: *äbit* ('suit, a habit'), *ffêra* ('holiday fair'), *mužej* ('museum'), *abônât se* ('to subscribe'); *kârat se* ('to argue'), *mizêrja* ('poverty').

Linguistic situation

Year 1960: The idiom of the city of Split in this period was part of the Chakavian linguistic system,⁴ i.e. it belonged to Southern Chakavian-Ikavian dialect. This is proved by a number of phenomena, e.g. the pronoun *ča* and its variants (indefinite pronouns: *čagod/čakod* 'something', *ništo* 'something'), accentual system (sometimes preserving the old stress position);⁵ transition of /d'/ into /j/ (*izmeju*, *tuji*), absence of the affricates /ž/ (*žep* 'pocket', *svidozba* 'certificate'), particular form of Chakavian conditional (*bimo se umorili*), etc. However, although the Split idiom belonged to Chakavian system, its hybrid Chakavian-Shtokavian quality was indisputable at that time (Tomelić, 2000: 119).

Year 2010: The influence of Shtokavian population on the Split idiom is very strong. The Shtokavian-Ikavian speakers are dominant in the city that was once largely Chakavian (Lisac, 2003: 50). The pronoun *ča* cannot be heard any more. It has been completely replaced by the pronoun *što*. It is also important to note that English language affects the Split idiom at all linguistic levels.

Year 2060: It is assumed that the Split Chakavian idiom will entirely lose its Chakavian quality and become part of the Shtokavian linguistic system. Infiltration of English words continues to affect all aspects of life.

Standard of living

Year 1960: During this period Split experienced tremendous demographic growth, rapid industrialisation and urbanisation, as well as development in all aspects of life. A number of cultural and scientific institutions were founded: the 1st Split Summer Festival of Popular Music was held, many university studies were established, and architectural organisation of the city was under way... According to the census, 99.462 people lived in the city in 1961 (Sardelić, 2005: 190).

¹ The accentual units described in this variable have been derived from the bibliography of Ivan Kovačić who lived in Split in the late 19th century. This author wrote in Split dialect about memories of childhood and life in Split at the end of 19th century and in the early 20th century. His recollections and accounts were published in a book entitled *Smijisuzestarega Splita (Laughter and tears of the old town of Split)*. For the purpose of this research his book has been used as the material for studying Split idiom at that period. Kovačić describes Split in those days when Chakavian speech, used by workers and common people, was the idiom spoken by the majority of the city's population. The texts have been accentuated by Radovan Vidović (Tomelić, 2000: 76-77).

² If the original old accentuation was partly altered, the term “newer” accentual system is used; if it was completely changed, the result is termed the “new” accentual system (Moguš, 1973: 35).

³ More in Tomelić-Ćurlin and Runjić-Stoilova (2010).

⁴ Criteria presented by Finka and Moguš (1981) have been used for determining Chakavian qualities of an individual local speech. The criteria include: 1. Pronoun *čaozač* 2. Accentuation: a) three-accent system b) old position of the accent c) old accentual tools with regard to shift and pitch 3. Reflex of the common Slavic phoneme *yat*: a) Ikavian-Ekavian b) consistent use of Ikavian, Ekavian or Ijekavian elements 4. Chakavian /t'/ 5. Transition of */e/ into a after /j/, /č/, /ž/; 6. Transition of /d'/ into /j/; 7. *bin*, *biš* – *bimo*, *bite*; 8. Absence of the affricate /ž/

⁵ This has already been discussed when describing the variable Accentual system.

Year 2010: Despite global crises that affected the Republic of Croatia, the strong development of Split resumes. The city becomes a prominent tourist destination whose main objective is the preservation of the cultural-historical heritage. From the transportation standpoint, Split remains an important traffic node of all means of transport. Along with tourism, shipbuilding and development of new technologies are the pillars of the economy. The growth and development are encouraged actively at all levels. According to the 2011 census, 178.192 people lived in Split, i.e. almost 40% of all residents of Split-Dalmatian County.

Year 2060: Split continues to be a strong cultural, economic, university, and sports centre that uses European funds for further development. Priority is given to international projects that are largely carried out by foreign investors. The city of Split is becoming a place where real, digital, technological and virtual worlds meet.

Historical circumstances

Year 1960: After World War II, the region of Dalmatia and the city of Split once again became part of Yugoslavia, the single-party federation under control of the Communist Party headed by President Josip Broz Tito (1892–1980). The communist ideology gradually drifted towards the concepts of socialism based on self-management, i.e. on the specific variant of socialism where the employees participated in the economic management.

Year 2010: After the Croatian War of Independence War (1991–1995) and becoming a sovereign state, the Republic of Croatia becomes a member of North Atlantic Treaty Organisation (NATO), thereby an important factor of the regional stabilisation in April 2009. Croatia applies for the EU membership and is admitted as the 28th full member state in July 2013.

Year 2060: Western Europe and the USA form a stabile security zone. There have been no large-scale armed conflicts since World War II and the establishment of NATO. Croatia has become part of the democratic Europe and its economic and security integrations. Membership in these integrations is the best guarantee of the implementation and protection of national interests.

Media

Year 1960: The most common type of media is the print, i.e. the graphic media including various publications such as books, posters, newspapers and magazines.⁶ The print is the starting point for the development of other media emerging through the process of industrialisation and affecting the life of people. Radio, as the only audio electronic media, becomes very popular with the broader population. Broadcasted programs most frequently include short news, concerts, live reporting on sports events, and radio plays.

Year 2010: In this period graphic media (books, newspapers, magazines, posters) are still popular and so are audio media, with a number of national and regional radio stations (Radio Split and others). The new electronic media provide all necessary information and services to the population. Television remains especially popular with elderly people while the internet is predominantly popular with the young.

Year 2060: All digital technologies are commonly used, including the internet, mobile and smart phones, tablets, satellite and digital television, along with the newly developed media. The internet enables infinite possibilities and is used for recreation, correspondence, research, learning, shopping, subscribing to various civil and interest groups, and making various acquaintances. All segments of population frequently use wireless network (Wi-Fi) and advanced 3D technologies, as well as the newly developed information technologies that have not been known until now.

Quantification of the variables of the information model

In order to carry out the quantification of the selected variables of the information model for their impact on the genuine idiom of the residents of the city of Split for the year 2060, it has been necessary to determine the value of these variables for the years 1960 and 2010. The quantification of the model's variables has been performed on the index scale from zero to 100. Here is the quantification of the variables of the information model for the years 1960, 2010 and 2060, resulting from the scientific-theoretical mental-verbal information aspects of the individual variables described in the previous sections of this paper.

Table 1. Value of the variables of the information model for the impact of settlers on the Split idiom 1960-2060

Values of the variables	Inputs			
	1960	2010	2060	1960/2060
1. Accentual system	10	80	98	88
2. Linguistic situation	10	80	93	83
3. Standard of living	40	75	80	40
4. Historical circumstances	20	70	71	51
5. Media	35	90	92	57

Source: Authors

Table 1 shows that the quantification of the model's variables up to 2060 will produce highest values for three variables: Accentual system, Linguistic situation and Media, whereas the variables Standard of living and Historical circumstances will reach lowest values. The strongest growth over the period 1960-2060 is expected for two variables: Accentual system and Linguistic situation. The starting point is the assertion that the impact of the variables on the genuine Split idiom consists of «n» inter-relation elements. The value of an individual model variable is expressed as y_{if} and y_{it-1} of the i variable in the periods t and $t-1$. An increase of the input value of the i variable of the model is [11] $\Delta y_{it} = y_{it} - y_{it-1}$. An indirect growth rate of the i variable in relation with j , is defined as the relation among the input growth of the i variable of the information model Δy_{it} and the input value of the j variable of the model in the period t . This can be expressed by the

⁶ The first Split magazine *Annuario Dalmaticowas* published from 1859 to 1961.

equation: $r_{ijt} = \frac{\Delta y_{it}}{y_{it}}$, where: $i, j=1, \dots, n$, whereas $y_{it-1} \neq 0$.

The indirect rates can be expressed in a form of the growth

$$\text{matrix of the model variables: } r_t = \begin{bmatrix} r_{11} & r_{12} & \dots & r_{1nt} \\ r_{21} & r_{22} & \dots & r_{2nt} \\ \dots & \dots & \dots & \dots \\ r_{n1t} & r_{n2t} & \dots & r_{mnt} \end{bmatrix},$$

Where $t=1, \dots, t$; the variables on the main vertical refer to direct ($i = j$) growth rates. The variables in the i row refer to the input growth in the i variable in relation to inputs in other variables. The variables in i column refer to the value growth of the input in all variables of the model in relation to the input of the i variable in the period t . Therefore, each variable in the growth matrix is represented by one row and one column, with elements expressing indirect or relative growth relationships. Other rows and columns refer to other variables of the information model for the impact of new settlers on the idiom of Split residents. The indirect growth rates can be defined in relation to the inputs of the j variable of the model in the period $t=1$: $r'_{ijt} = \frac{\Delta y_{it}}{y_{j,t-1}}$, where $i, j = 1, \dots, n$. The following

inter-relation reflects the relationship among the indirect

growth rates: $r_{ijt} = \frac{r'_{ijt}}{1+r'_{i,jt}}$ and $r'_{ijt} = \frac{r_{ijt}}{1-r'_{j,jt}}$, where $i, j = 1, \dots, n$.

The matrix type can be determined through the external vector of the model variable. The growth vector of the model variables is expressed as $\Delta y_{it} = (\Delta y_{i1}, \dots, \Delta y_{m-t})$. The vector of the reciprocal values of the model variables is defined as:

$$\left(\frac{1}{y_t}\right) = \left(\frac{1}{y_{1t}}, \dots, \frac{1}{y_{nt}}\right), \text{ where } i, j = 1, \dots, n, \text{ whereas } y_{it-1} \neq 0.$$

The growth matrix of the model defines the external vector of the growth of the coefficients of the model variables and the vector of the reciprocal values:

$$R_{pt} = \Delta y'_t \left(\frac{1}{y_t}\right) = \begin{bmatrix} \Delta y_{1t} \\ \Delta y_{2t} \\ \dots \\ \Delta y_{mt} \end{bmatrix} \cdot \left(\frac{1}{y_t}, \dots, \frac{1}{y_{nt}}\right). \text{ If only the direct growth}$$

rates are analysed, then the growth of a variable is expressed independently of the growth of the others. When the indirect growth rates are analysed, that is, the growth rates of the i variable in relation to j ($i, j = 1, \dots, n$), it is possible to define the structure of the growth of the variables and express all relationships through the growth matrix in the overall system. On the basis of simultaneous expression of the direct and indirect rates, it is possible, at the same time, to follow both the intensity changes of the growth of variables and their structural relationships. Here is the growth matrix of the information model for the impact of new settlers on the genuine idiom of Split residents from 1960 to 2060. The vector of the model growth is:

$$Y_{2060} = \begin{pmatrix} 88 \\ 83 \\ 40 \\ 51 \\ 57 \\ \frac{1}{98}, \frac{1}{93}, \frac{1}{80}, \frac{1}{71}, \frac{1}{92} \end{pmatrix}^7$$

⁷Due to limited space, mathematical operations are not fully presented in this paper.

	88	88	88	88	88
	98	93	80	71	92
	83	83	83	83	83
	98	93	80	71	92
	40	40	40	40	40
R_{2014}	98	93	80	71	92
	51	51	51	51	51
	98	93	80	71	92
	57	57	57	57	57
	98	93	80	71	92

	0,898	0,046	1,100	1,239	0,957
	0,847	0,892	1,038	1,169	0,902
R_{2060}	0,408	0,430	0,500	0,563	0,435
	0,520	0,548	0,638	0,718	0,554
	0,582	0,613	0,713	1,803	0,620

The research has produced the direct growth rates of the variables of the information model for the impact of the studied components on the genuine Split idiom over the period 1960-2060 (Table 2). The model has provided both direct and indirect rates of the individual variables. Given the limited space, the indirect growth rates are not discussed in this paper.

Table 2. Growth rates of the variables of the information model for the impact of new settlers on the genuine idiom of Split residents from 1960 to 2060 on the index scale from zero to 100

Model's variables	1.	2.	3.	4.	5.
1.	89.8	94.6	110.0	123.9	95.7
2.	84.7	89.2	103.8	116.9	90.2
3.	40.8	43.0	50.0	56.3	43.5
4.	52.0	54.8	63.8	71.8	55.4
5.	58.2	61.3	71.3	80.3	62.0

Source: Authors

According to Table 2, the direct growth rates of the variables of the information model for the impact of the components on the genuine Split idiom over the period 1960-2060 on the index scale from 0 to 100 are:

- Accentual system (89.8),
- Linguistic situation (89.2),
- Standard of living (50.0),
- Historical circumstances (71.8)
- Media (62.0).

Table 1 can be used for presenting the rating of the values of the variables' inputs through the period 1960-2060:

- Accentual system (88),
- Linguistic situation (83),
- Standard of living (40),
- Historical circumstances (51)
- Media (57).

The direct growth rates of the variables of the information model for the impact of variables on the idiom of the residents of Split City over the period 1960-2060 will be higher than inputs (see Table 1, Inputs 1960/2060), due to mutual interrelation of the variables and their influence on each other (see Figure 1) as follows: 1. Accentual system (input 88 ↔ direct growth rate 89.8), 2. Linguistic situation (input 83 ↔ direct growth rate 89.2), 3. Standard of living (input 40 ↔ direct growth rate 50.0), 4. Historical circumstances (input 51

↔ direct growth rate 71.8) and 5. Media (input 57 ↔ direct growth rate 62.0). Compared to the sequence of the variables in line with their direct growth rate values, it is obvious that the highest difference between the values of inputs and direct growth rates of the information model will change the rating of the variables: 1. Historical circumstances (20.8), 2. Standard of living (10.0), 3. Linguistic situation (6.2), 4. Media (5.0) and 5. Accentual system (1.8).

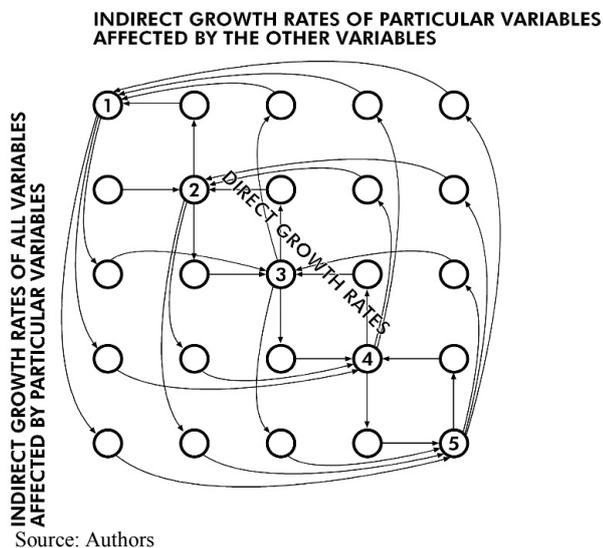


Figure 1. Growth rates of the information model for the studied components on the genuine idiom of Split residents over the period 1960-2060

Taking into consideration all that has been discussed, it can be concluded that the direct growth rates of all variables of the information model for their impact on the idiom of the residents of Split over the period 1960-2060 are likely to be implemented. The basic hypothesis of this paper has been proven through the direct growth rates of the selected variables: through scientific insights into the impact of the studied components on the idiom of the residents of Split City, it is possible to suggest a new information model for their impact on the Split idiom from 1960 to 2060.

Conclusion

Drawing up the model for the impact of different components on the genuine idiom of the residents of Split over the period 1960-2060 has been based on the selected variables, namely: Accentual system, Linguistic situation, Standard of living, Historical circumstances and Media. The research has produced the direct growth rates of the model for the information model for the impact of variables on the genuine idiom of the residents of the city of Split from 1960 to 2060 on the index scale from 1 to 100: 1. Accentual system (89.8), 2. Linguistic situation (89.2), 3. Standard of living (50.0), 4. Historical circumstances (71.8) and 5. Media (62.0). It can be concluded that the direct growth rates of all variables of the information model for the impact of different components on the idiom of the residents of Split over the period 1960-2060 have realistic chances of implementation. This also implies that the hypothetical values of all variables of the model have been set realistically.

The quantification of the information model for the impact of different components on the Split idiom from 1960 to 2060 arises from the scientific-theoretical aspects of the mental-verbal information insights into the nature and the importance of the model's variables over the observed period of time. The analysis and the assessment of the individual variables of the model and the obtained growth rates have been aimed to scientifically formulate the research results, in line with the most relevant theoretical principles of the influence of different components on the genuine speech of the Split residents over the period 1960-2060. The basic hypothesis of this scientific paper has been proved through the direct growth rates of the above described variables of the model. In this way, a scientific verification of the hypothesis of this paper has been obtained.

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