

L. HUDEČEK, M. MIHALJEVIĆ
(Zagreb, Croatia)

CROATIAN ORTHOGRAPHIC MANUAL AND STANDARDIZATION OF TERMINOLOGY

The influence of the rules in the *Croatian Orthographic Manual* on Croatian terminology is analyzed. Special attention is focused on the implication to terminology of rules relating to the omitting of *t* and *d* in writing terms ending in *-tak*, *-tac*, *-dak*, *-dac*, rules connected with the so called covered *r*, inserting *j* in some forms of nouns and derived adjectives, etc.

Key words: Croatian, Croatian Orthographic Manual, standardization, terminology, terminology dictionaries, terminology data bases.

1. The state of the art before the *Croatian Orthographic Manual*

From 1990s to the publication of the *Croatian Orthographic Manual* (Institute of Croatian Language and Linguistics) there were five different orthographic manuals, some of them have been published in several editions. These orthographic manuals can be divided roughly into two groups according to their spelling rules. The first group consists of orthographic manuals authored by Stjepan Babić, Božidar Finka, Milan Moguš, and Sanda Ham (in different combinations), and the other group consists of orthographic manuals authored by Vladimir Anić and Josip Silić, as well as the so-called “Matica Orthographic Manual”, published by Matica hrvatska, one of the oldest Croatian cultural institutions, and authored by Lada Badurina, Ivan Marković, and Krešimir Mićanović. The differences between these two groups can be shown by the following table:

BFM, BHM	BFM IV.	AS, BMM
<i>mladci, zadatci, otpadci</i> <i>(oci, suci, sveci)</i> <i>strjelica, brježuljak</i>	<i>mladci, zadaci/zadatci, otpaci/</i> <i>otpadci</i> <i>(oci, suci, sveci)</i> <i>strjelica/strelica, brježuljak/</i> <i>brežuljak</i>	<i>mlaci, zadaci, otpaci</i> <i>strelica, brežuljak</i>
<i>u jesen, u jutro, naizgled,</i> <i>na posljetku</i> <i>ne ću</i>	<i>u jesen, u jutro / ujutro pril.,</i> <i>na izgled, na posljetku</i> <i>ne ću / neću</i>	<i>ujesen, ujutro, naizgled,</i> <i>naposljetku</i> <i>neću</i>
<i>Johnny – Johnnyja, Johnnyjev</i> <i>naš zavod, to glasilo</i> <i>I., II., futur II., Karlo IV</i> <i>INA – INE; NASA – NASE</i>	<i>Johnny – Johnnyja, Johnnyjev</i> <i>naš zavod, to glasilo</i> <i>I., II., futur II., Karlo IV</i> <i>INA – INE; NASA – NASE</i>	<i>Johnny – Johnnya, Johnnyev</i> <i>naš Zavod, to Glasilo</i> <i>I., II., futur II, Karlo IV</i> <i>INA – INA-e; NASA – NASA-e</i>

The orthographic manuals in the first group lean more towards traditional spelling conventions and tend to revive older spelling rules which are no longer in use. The second group relies on a newer, one hundred year old tradition. In the first column of the above table the spelling rules from orthographic manuals authored by Babić, Finka, and Moguš and Babić, Ham, and Moguš are shown. In the second column the spelling rules from the fourth edition of the orthographic manual authored by Babić, Finka, and Moguš and published in 1996 are shown.

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This is the edition known as the “orthographic manual with alternative forms”. This orthographic manual was recommended for use in schools by the Ministry of Education. The third column contains spelling rules taken from the orthographic manual authored by Anić and Silić as well as the Matica Orthographic Manual.

The first row shows the spelling rules of the three aforementioned orthographic groups for writing words which end in *-tak*, *-tac*, *-dak*, and *-dac*. Orthographic manuals from the first column advise to keep the *t* and *d* when writing different forms of these words. According to this spelling rule, the correct form of the plural for such words would be: *zadatci*, *otpadci*, *letci*, *metci*, etc. Exceptions from this rule are nouns *otac*, *sudac*, and *svetac*, the plural forms of these words are written as follows: *oci*, *suci*, *sveci*. According to the orthographic manual with alternative solutions, the *t* and *d* should not be omitted in two-syllable words, while three-syllable words can be written in two ways, *zadaci* and *zadatci*, *napreci* and *napredci*, *otpac* and *otpadci*, etc. Orthographic manuals from the third column prescribe rules which are opposite to those of the first column orthographic manuals. According to the third column orthographic manuals, *t* and *d* should not be preserved in words which end in *-tak*, *-tac*, *-dak*, and *-dac* (*zadaci*, *otpac*, *napreci*, *leci*, *meci*, etc.). Many words from this group are either terms or elements of multi-word terms as will be shown later (e. g. *zada(t)ci*, *poda(t)ci*).

The second row shows different spelling rules for the so-called *covered r* (consonant + consonant + *r*). According to the orthographic manuals from the first column, *je* should be written after the *covered r*, e. g. *strjelica*, *brježuljak*, *pogriješka*, etc. The fourth edition of the Babić-Finka-Moguš orthographic manual allows *strjelica* as well as *strelica*, *brježuljak* as well as *brežuljak*, *pogriješka* as well as *pogreška*. The third column orthographic manuals prescribe rules which are opposite to those from the first column. According to these orthographic manuals, words with the *covered r* should be written as follows: *strelica*, *brežuljak*, *pogreška*. Many words from this group are also terms as will be shown later (e. g. *pogr(j)eška*, *str(j)elica*).

The third row shows different rules dealing with the number of words, i. e. whether something should be written as a compound (i. e. one word), with a hyphen, or as two separate words. According to the first column orthographies, all words for which it is not certain that they are compounds should be written as separate words, e. g. *u jesen*, *u jutro*, *na izgled*, *na posljetku*. The third column orthographic manuals base their spelling rules on the principle that all units which can be functionally differentiated from their two-word counterparts should be written as one word. These words are considered to be adverbs, and are thus written as a single word: *ujesen*, *ujutro*, *naizgled*, and *naposljetku*. The problem of distinguishing between a one word compound, a hyphenated compound and two words is also an important problem in terminology as will be shown later.

The orthographic manuals also disagree on spelling rules for the negative forms of the verb *htjeti* in the present tense. According to the first column orthographic manuals *ne*, the grammatical word used for negation, should be written as a separate word when followed with the short form of the verb *htjeti*, e. g.: *ne ću*, *ne ćeš*, *ne će*, etc. The orthographic manual from 1996 allows writing both *ne ću* and *neću*, and according to the manuals from the third column, the negative forms of verbs should be written as single words: *neću*, *nećeš*, *neće*, etc. This problem

doesn't occur in terminology but as it occurs in definitions of terms it is important for terminological dictionaries as will be shown later.

The next difference between the orthographic manuals prior to the publishing of the *Croatian Orthographic Manual* was the spelling of foreign names which end in *-i*, *-io*, and *-ia*. According to the first column orthographic manuals, the letter *j* should be inserted into those names between the root morpheme and the suffix in certain grammatical cases. This solution is also used in the second column, but the third column orthographies advise against inserting *j*. This is also a common problem in terminology as will be shown later.

The next difference concerns using capital letters in cases when a determiner comes before shortened names (e. g. a demonstrative pronoun or a possessive pronoun). According to the first column and the second column orthographic manual, the shortened form of the name should be written without capitalizing the first letter. According to the third column orthographic manuals, the shortened form of names should be written with the first capital letter regardless of whether there is a determiner before it. This problem doesn't occur in terminology but can occur in scientific papers.

The next spelling rule different orthographic manuals disagree on is the writing of a full stop after ordinal numbers which are an integral part of a name. According to the first and second column orthographic manuals, a full stop should be written after ordinal numbers regardless of whether they are written in Arabic or Roman numerals, and regardless of whether they are written independently or an integral part of a name. The third column orthographic manuals exempt from this rule ordinal numbers which are a part of a name, e.g. this is how we should write *Karlo 4th, future 1st and conditional 2nd* according to this spelling rule. This problem doesn't occur in terminology.

The last spelling rule from the above table, and this is not the last rule in which the different orthographic manuals disagree on, is the rule on writing acronyms. According to the first and second column orthographies, it is also possible to write certain forms of acronyms differently if the acronym ends in *A*. According to this spelling rule, the genitive singular of *INA* can be written as *INE*, and the genitive singular of *NASA* as *NASE* (written in all capitals, with no hyphen between the root morpheme and the suffix). According to third column orthographies, the genitive singular form of these acronyms should be written as *INA-e* and *NASA-e*. This problem can occur in terminology as will be shown later.

The discrepancies in orthographic manuals have led to discrepancies in other language manuals. They occur in dictionaries (general as well as terminological) and guides to language usage. Anić's dictionary for example uses spelling rules provided by the Anić-Silić orthographic manual. The same spelling rules were then used in the *Croatian Encyclopedic Dictionary*. The so-called "Šonje dictionary" (Jure Šonje was the main editor) has the same orthographic solutions as the Babić-Finka-Moguš orthographic manuals. The *Handbook of Current Croatian Usage* published in 1999 has *zadatci* as well as *zadaci*, while giving the former a slight normative preference.

The manuals also differ concerning the *yat* reflex after the covered *r*: (*pogr(j)eška*, *spr(j)ečavati*, and *str(j)elica*). In the *Handbook of Current Croatian Usage* *je* is only written in derivatives of the noun *grijeh*, and these words are normatively equal to the words which have the *e* reflex. The manual also lists the following as normatively equivalent variants: *pogreška* and *pogrješka*, *grješnik* and *grešnik*, *bezgrješan* and *bezgrešan*, etc.

Prior to the publishing of the *Croatian Orthographic Manual* there were other issues, some of which could be considered orthographical, and some not, on which different normative manuals did not agree, e.g. whether the recommended adjective derived from Paris is *pariski*, *pariški* or both. Although in the orthographic manuals *pejsaž*, and not *pejzaž*, is preferred, the *Handbook of Current Croatian Usage* and dictionaries give preference to *pejzaž*. They also differ in the spelling of the word *pizza*, one group follows the original spelling (*pizza*), while the other gives preference to the form *pica*.

It is important to add that variants (synonyms) do not have the same status on different linguistic levels. They can enrich a language on the lexical level (with the exception of terminology), but should be avoided on the orthographic level. This is why the approach of the fourth edition of the Babić-Finka-Moguš orthographic manual only gives the illusion of freedom, because the freedom of choice is not good when it comes to orthography and especially orthography in terminology. This means that in schools students are permitted to choose between two contradicting spelling rules and that teachers can choose which spelling rules to teach their students, and also that some textbooks are proofread according to the rules of one orthographic manual and other textbooks according to other spelling rules. The consequence of this is that at Croatian language Teacher's Conferences and on state level Croatian language competitions, this problem was presented as the biggest in Croatian language teaching.

The state of the art was no better in terminological dictionaries. The following table shows some differences in two terminological dictionaries.

Kiš 2000	Štambuk 1991
<i>audiovizualan</i>	<i>audio-vizualan</i>
<i>audiooscilator</i>	<i>audio-oscilator</i>
<i>radiofrekvencija</i>	<i>radio-frekvencija</i>
<i>slovnobrojčani</i>	<i>slovno-brojčani</i>

According to the *Croatian Orthographic Manual* these terms should be written *audiovizualan*, *audiooscilator*, *radiofrekvencija* and *slovno-brojčani*.

2. Croatian Orthographic Manual

This resulted in a never-ending demand from the public for a unifying orthographic manual. It was this demand that was the most important impetus for creating the *Croatian Orthographic Manual*. The decision to create a new, unifying, online¹ orthographic manual available free of charge was made on June 2012 by the Scientific Council of the Institute of Croatian Language and Linguistics. The draft version of the orthographic manual was compiled in six months, from September 2012 to April 2013. The 14 authors of the *Croatian Orthographic Manual* met on daily basis in order to discuss and to agree upon different spelling rules. On April 15th 2013, a draft version of *Croatian Orthographic Manual* was published and distributed for

¹ The online version of the orthography manual is one of the things that make this orthographic manual unique. It is important that the online edition was published and made available to the public completely free of charge before publishing the printed version. After publishing *Croatian Orthographic Manual* in 2013, the Institute of Croatian Language and Linguistics published another handbook online in 2014. This was *Hrvatski na maturi*, a highschool graduation exam manual, authored by Lana Hudeček and Milica Mihaljević.

public debate together with *Večernji list*, one of the most popular daily newspapers in Croatia. It was thus available to anyone who wanted to participate in the debate. A number of copies were sent to prominent linguists, writers, scholars, experts on the Croatian language, etc. The public debate lasted for one month, until May 15th 2013. As many as 400 people participated in the public debate, among them many experts from different subject fields. Every suggestion, comment and criticism was carefully considered by the editorial board². After taking the public debate into consideration, the editorial board completed the final version of the orthographic manual on June 1st 2013 and sent it to the Scientific Council of the Institute of Croatian Language and Linguistics for approval. On June 4th 2013, the Scientific Council accepted the final version of the *Croatian Orthographic Manual*. On June 27th 2013, the manual was published online (www.pravopis.hr). In July 2013, the Croatian Ministry of Education recommended the *Croatian Orthographic Manual* for use in primary and secondary schools and recommended that all textbooks for the school year 2014/2015 be proofread in accordance with this new orthographic manual. The first printed edition of *Croatian Orthographic Manual* was published in November 2013.

Croatian Orthographic Manual was the first manual of Croatian orthography having these features: 1. using hypertext and being searchable on the Internet, 2. establishing normative hierarchy in the spelling rules by differentiating between preferred and permitted variants, 3. incorporating the Braille alphabet³ and the Croatian sign language, 4. defining the shape of letters which should be taught in elementary schools.

Croatian Orthographic Manual is based on these main principles:

The principle of consistency: the spelling rules are as consistent as possible, as consistency is the basis of every norm.

The principle of tradition: While forming spelling rules, all Croatian orthographic manuals and the Croatian orthographic tradition in general were considered. In order to adhere to the principle of tradition, some spelling rules present in most Croatian orthographic manuals were included in the Institute's orthography manual even though they could be taken out in accordance with the principle of consistency. The spelling rules which are the same in all contemporary Croatian orthographic manuals have not been changed. The few rules that had been changed were changed in accordance with the principle of consistency and the principle of usage verification.

The principle of usage verification: This principle has been particularly important in resolving alternative spelling rules and developing ways how to deal with them. Special attention was given to data received from analyzing various texts (from the *Croatian Language Repository*, the Institute's Croatian language corpus <http://riznica.ihjj.hr>) and the Internet, and research on all alternative spelling rules in different test group was carried out. This research was conducted by researchers who teach at different universities and colleges in accordance with carefully designed questionnaires. The results were analyzed thoroughly and were valuable guidelines in establishing certain spelling rules.

² The public debate is available online at www.pravopis.hr.

³ The orthographic manual's website is also adjusted for use by the blind and those having severe visual impairment.

The principle of simplicity: This principle is most obvious in the efforts to reduce orthographic variants. This is what the general public in Croatia is in favor of. The most common complaint regarding orthographic manuals is that variant spelling rules confuse the users. Only a very small number of variant spelling rules remain in this orthographic manual. The principle of simplicity was always taken into account together with the principle of consistency and the principle of tradition.

The normative hierarchy principle: In general, variant spelling rules are undesirable because they destabilize the orthographic norm. In order to resolve variant spelling rules in the Croatian language and reduce them to a minimum, a system which determines the normative status of words which can be written in two ways was devised. In determining the normative status of words, the four aforementioned principles were taken into account. A distinction was made between *the preferred variant*, *the permitted variant* and *the equivalent variants*.

The preferred variant is the variant which is considered to have normative priority over other variants in accordance with the aforementioned principles. This is the variant recommended for use in schools and by the general public. Thus this variant is included in the main text of the orthographic manual. Next to some recommended variants the letter N stands. This letter stands for *napomena* (note) and is used in order to point out that there is another permitted, but not preferred, variant. By clicking the letter N, the note appears in a pop-up window.

The permitted variant is the variant which, in accordance with the four aforementioned principles, does not have a normative advantage, but is not ignored on the basis of tradition and the frequency of use. Examples of such variants are nouns such as *podaci*, *zadaci*, etc. alongside the preferred *podatci* and *zadatci* or *grješka*, *krjepost*, *pogrješka*, *strjelica*, and *vrjedniji* alongside the preferred *greška*, *krepost*, *pogreška*, *strelica*, and *vredniji*.

Equivalent variants are used only in exceptional cases. They are given in the main text of the orthographic manual. The following are equivalent variants: *brjegovi* and *bregovi*, *grjevovi* and *grehovi*, *grješnik* and *grešnik*, *naprimjer* and *na primjer*, *sprečavati* and *sprječavati*, *unapređivati* and *unaprijeđivati*. They are considered equivalent because the usage of both have approximately the same frequency of usage or because one is preferred based on the principle of consistency, and the other based on the principle of tradition or the frequency principle.

Deprecated variants are those that can be excluded from standard Croatian on the basis of the aforementioned principles. These variants are not mentioned in this orthographic manual. Adhering to spelling rules is mandatory in the neutral use of standard Croatian language in the educational system, and in the scientific (especially in terminology) and administrative style of the standard Croatian language, as well as in some genres of the journalistic style (news, announcements, comments, etc.). Spelling rules can be largely ignored when using colloquial style, literary style and certain genres of the journalistic style which are close to the literary style (columns, essays, etc.).

None of the principles can be applied by themselves. Each principle is carefully assessed and the decision is made of which principle should be used in order to resolve a certain spelling rule (if there is more than one principle which can be applied). In order to demonstrate complete openness towards users with such decisions simple, but detailed, explanations are given.

3. Spelling Rules in the *Croatian Orthographic Manual* and their Implication on Terminology

In this chapter it will be shown how the above mentioned problems have been resolved. Special attention will be paid to those problems which are important for terminology. The first issue is whether to write *t* and *d* in different forms of nouns which end in *-tak*, *-tac*, *-dak*, and *-dac* and feminine nouns which end in *-tka*. There are about two hundred words in the Croatian language which have the aforementioned endings⁴. Some of them are two-syllable words, and some of them are multi-syllable words. During the orthographic survey, when the students were asked to write two-syllable words which end in *-tak*, *-tac*, *-dak*, and *-dac* in their plural form, they mostly wrote them without omitting the letter *t* or *d*. The plural forms of these words the students who participated in the survey wrote most often as follows: *bitci*, *hitci*, *jadci*... In derivatives of two-syllable words (*nebitak*, *zakutak*) the results were also clear as they almost always wrote these words with *t* and *d*. In this case the plural with *t* and *d* was most often used. If asked to write the plural of multi-syllable relatively rare words, almost all students wrote the plurals of the nouns using *t* and *d*. So, the plural of the noun *curetak* was written as *curetci*, the plural of noun *iscjedak* was written as *iscjedci*, the plural of the noun *nacrtak* as *nacrtci*, etc. This led to the conclusion that in writing forms of rare multi-syllable nouns which end in *-tak*, *-tac*, *-dak*, *-dac*, and *-tka* the letters *t* and *d* are regularly written. The results were not consistent only for the twenty most frequent words which end in *-tak*, *-tac*, *-dak*, and *-dac*. Since one of the main principles is the principle of consistency, these words were also included into the general spelling rule that states that the plural forms of nouns which end in *-tak*, *-tac*, *-dak*, and *-dac* should be written with *t* and *d*: *zadatci*, *podatci*, etc. However, in order for the principle of usage verification to be upheld, the writing of the following twenty words without *t* and *d* was also allowed⁵: *deseci*, *dobici*, *dohoci*, *dovršeci*, *gubici*, *imeci*, *izuzeci*, *izvaci*, *napici*, *neodstaci*, *ostaci*, *otpaci*, *počeci*, *podaci*, *postoci*, *probici*, *svršeci*, *trenuci*, *užici*, *zadaci*, *zgodici*, *želuci*. This rule has great implications on terminology as many terms end in *-tak*, *-tac*, *-dak*, or *-dac*: *dohodak*, *gubitak*, *zadak*, *trputac*, *patak*, *petak*, *podatak*, *postotak*, *namodjestak*, *bitak*, *predmetak*, *zalistak*, *želudac*, *zadatak*, etc.

The following issue is the issue of writing the reflex of *yat* after the covered *r*. Some orthographic manuals, as was shown in the above table, prescribe *pogrješka* and *brježuljak*, while other manuals prescribe *pogreška* and *brežuljak*.

However, even those orthographic manuals which prescribe the reflex *je* after the covered *r* exclude the following derivatives from this rule (*vrijeme*, *privrijediti*, *upotrijebiti*, *naprijed*). This is important because these words have a large number of very frequent derivatives with the covered *r*. It is very unusual to form a spelling rule which excludes the most frequent words. This information is enough to question the validity of this spelling rule. In the end, the solution was to advise writing *e* in all cases: *brežuljak*, *breštić*, *crepić*, *dremuckati*, *greška*, etc.

Because of the fact that some words which have *je* after covered *r* are more frequent than others, in a note the use of *je* in some words which belong to derivatives of the

⁴ It is important to mention the letters *t* and *d* are not pronounced in the forms and derivatives of these words, so this is only an orthographic issue.

⁵ As the preferred variant is in the main text of the manual, the permitted variants occur in the notes.

words *krijepiti*, *strijela*, and *vrijedan* and words such as *grješka*, *pogreška*, *pogrešan*, and *pogrešno* is permitted, according the principle of usage verification. Some of the words belonging to this group are common terms from many subject fields, e. g. in STRUNA⁶ (struna.ihjj.hr) the term *pogreška* and the adverb *pogrešno* occur in mathematics and chemistry and are elements of these terms: mathematics: *pogreška prve vrste*, *pogreška druge vrste*, *standardna pogreška*, *apsolutna pogreška*, chemistry: *sustavna pogreška*, physics: *relativna pogreška*, *slučajna pogreška*, medicine: *pogrešna morfogeneza*.

Orthographic manuals offered different spelling rules for writing foreign words and names which end in *-i*, *-io*, and *-ia*. According to the spelling rule in *Croatian Orthographic Manual*, different forms of these words should be written with *j* between the root and the suffix morpheme (for instance *country*, *country-ja*; *funky*, *funkyja*; *Johnny*, *Johnnyja* and *Eddie*, *Eddieja*; *Verdi*, *Verdija*; and also: *Camus*, *Camusja*⁷; *Chelsea*, *Chelaseaja*). This is also very important for terminology as names are very often a constituent part of terms, e. g. *Fermijeva energija*, *Halleyjev komet*, *Schottkyjev defekt*.

The fact that Croatian orthography is basically phonological is also the reason why it is advised to write *ketiks* as they are pronounced in Croatian (*njujorški* and *čikaški*) and not written in a way which preserves the source of the derivative (*newyorški*, *chicaški*). It is interesting to note that all previous orthographic manuals used the phonological principle (writing words as we pronounce them) in dealing with *ethnics* (nouns which denoted inhabitants of a place, region, country or continent), but did not use it for *ketiks* (adjectives formed from place names). This is highly illogical because the first and the second case deal with deriving a Croatian word out of a foreign name. In other words, the spelling rules for writing *ethnics* and *ketiks* should be the same (of course this doesn't include the capitalization spelling rules). However, some *ketiks* cannot clearly be connected to their sources. In these cases, the root part of the *ketik* can be written in its original form (for instance *bridgetownski*). In some subject fields *ketiks* appear as a constituent element of terms, e. g. *čikaška škola*, *jorkširska svinja*, *menčesterski terijer*, *šetlandski ovčar*.

One of the spelling rules which were different in various orthographic manuals was the rule for writing negative forms of the verb *htjeti*. In the above table it was shown that some orthographic manuals advised writing the negative grammatical word *ne* and the verb *htjeti* (*ne ću*) together as a single word, and the other manuals advised writing the negative grammatical word *ne* and the verb

⁶ STRUNA is a database of Croatian Special Field Terminology. Its aim is to gradually make available to the public the standardized Croatian terminology for all professional domains. The aim of the first faze of the project was to establish a coordination system, infrastructure for activities in the domain of terminological work related to all occupations and professions in Croatia: a terminology manual in which terminology principles are applied to the Croatian Language and advice on how to avoid most common mistakes is given), data base, workshops. In the second faze experts from eighteen domains have so far joined the program with the aim of standardizing the terminology of their respective disciplines. (struna.ihjj.hr).

⁷ This is in accordance with the principle of consistency. Previous orthographic manuals advised writing the genitive singular of *Camus* as *Camusa*, and none of them mentioned the noun *Chelsea*. The principle of consistency was given preference to the principle of tradition in forming this spelling rule. The key reason for this was that the set of names is open. Other names of this type can appear, and a situation can easily be imagined in which e.g. a journalist has doubts about how to write a new name. Therefore, the given spelling rule is simple: Every name which ends in *-i*, *-io*, and *-ia* is written the same way it is pronounced, with *j* between the root and the suffix morpheme. The key reason for forming this spelling rule was that Croatian orthography is basically phonological.

together (*neću*). The question of whether to write *neću* or *ne ću* has become a symbolic and almost a political question in Croatia. That is the reason why it will be explained here in detail although it doesn't appear in terminology (but it appears in definitions in terminological dictionaries as will be shown later). The general rule of Croatian orthography is that negative forms of verbs are written apart from the negative grammatical word *ne*. In accordance with this, it is written *ne znam* (I do not know.), *ne idem* (I am not going.), *ne daj* (Do not give.), *ne pjevam* (I am not singing.). During the development of the Croatian language, the form *ne hoću* was first transformed into *neoću* due to a consonant elision, and then *neoću* was transformed into *neću* as a result of a contraction. This is why the negative form of the verb *htjeti* can be compared to negative forms *nisam* (I am not.) and *nemam* (I do not have.), and not to forms such as *ne znam* (I do not know.) and *ne radim* (I do not work.). We can answer the question "Hoćeš li sa mnom u kino?" (Do you want to go to the movies with me?) with "Hoću." (Yes, I will.) or "Neću." (No, I will not), but not with "Ću."

Results of searching for these word forms in the *Croatian Language Repository* (<http://riznica.ihj.hr>) confirm this line of reasoning. The ratio of *neću* written together and *ne ću* written apart is one to three in favor of *neću*. If we look at the ratio of other forms, for instance the first person plural of the present tense, then the ratio of *nećemo* versus *ne ćemo* is one to eight. The results of searching for the third person plural, *neće*, in the *Croatian Language Repository* are even more in favor of writing this verb as one word. It is a fact that a large number of Croatian language speakers, even enthusiastic advocates of writing *ne ću*, do not understand that the spelling rule has to be applied to all verb forms, not just the first person singular. This was evident during the orthographic survey. Students were asked to write: *Nećemo tražiti pogreške u Johnnyjevim zadacima*. (We will not look for mistakes in Johnny's assignments.). During the five years of orthographic survey, only two students out of roughly two hundred wrote *ne ćemo*.

Based on all of these facts, the recommended spelling rule for use in schools is that *neću* should be written together as one word. However, having in mind that some people put greater emphasis on the Croatian orthographic tradition and are consistent in writing the different forms of the aforementioned verb apart, it is also permitted to write: *ne ću*. This doesn't occur in terms themselves but occurs very often in definitions in terminological data bases and dictionaries, this is the definition from STRUNA (the field of mathematics):

pogreška druge vrste (error of the second kind)

uvjetna vjerojatnost da se određenim statističkim testom *neće* odbaciti osnovna statistička hipoteza u korist alternativne statističke hipoteze ako je alternativna hipoteza istinita

The *Croatian Orthography Manual* introduces some spelling rules for the first time. The spelling rule for writing adjectives derived from hyphenated semi-compounds (*polusložence*): adjectives ending in *-ski*, *-ni* or *-ji* (relative adjectives) are written together (e. g. *Ivanić-Grad* > *ivanićgradski*; *zen-budizam* > *zenbudistički*), and derived adjectives which end in *-ov*, *-ev*, and *-in* are written the same as hyphenated compound words (e. g. *Ana-Marija* > *Ana-Marijin*). The word *Crkva* (Church) is written with an initial capital letter in multi-word expression when it

represents a religious community, e. g. *Anglikanska Crkva*, *Katolička Crkva*. A detailed homograph table, i. e. the table of words which have different meanings, but are written using capital or small letters, is given. The following table gives only a few examples relevant for terminology:

<i>Jarac</i> (Capricorn)	<i>jarac</i> (male goat and person in the sign of Capricorn)
Meduza (name of a Gorgona)	<i>meduza</i> (animal)
<i>Mjesec</i> (Moon)	<i>mjesec</i> (month)

Spelling rules for writing names of school subject are introduced. Detailed spelling rules on how to use quotation marks and italics when writing names are introduced. Detailed rules for hyphenating words at the end of the row are given in order to meet all teaching needs.

4. Terminology in the *Croatian Orthographic Manual*

In terminology of all fields many terms with which an orthographic problem is connected occur. Synonyms are not good for the efficient functioning of a terminological system, preferably only one of them should be selected as the preferred term. Orthographic variants can also be regarded as synonyms in terminology. When dealing with synonymy terminological principles should be applied. Criteria for a good term are: transparency, consistency within a concept system, appropriateness and adherence to established patterns in order to avoid confusion, linguistic economy (conciseness), derivability and compoundability, linguistic correctness, preference for native language (*ISO 704, 2000*). The most important of these rules for this topic is linguistic correctness on all language levels: orthographic, grammatical, and lexical. The *Croatian Orthographic Manual*⁸ influences Croatian terminology on all these levels, not only orthographic. Terminology can be found in all parts of the *Croatian Orthographic Manual* (rules, dictionary, explanation and advice, and glossary). In the rules (metatext of the manual) linguistic terms occur which have been carefully selected and defined in the glossary (see below). Every rule is illustrated by a large number of contemporary examples, many of which are terms from different fields. Many terms occurring in *Croatian Orthographic Manual* have already been mentioned above (*pogreška, zadatci, podatci*). In orthographic rules, and especially in the orthographic dictionary, many terms or words which are an element of a multiword term occur as examples.

4.1 Terminology in the Orthographic Rules

In all chapters of the *Orthographic Manual* there are examples from terminology of different fields. In the chapter on sounds (*Glasovi*) many terms or term elements with *č/ć* and *dž/đ* are given: *čip, ček, činkvečento, čembalo, grč, ječam; voćnjak, crvenać, srndać, ljutić; jednadžba, džepni* (e. g. in *džepni kalkulator*); *đumbir, đurđica*, and many terms in which *j* is inserted in the nominative: *aloja, kinoja, radijus, aronija, apneja, dražeja* or in other cases: *G bonsaija, G fengšuija; diamin, diarhija* (should be differentiated from the words starting with *dija-*: *dijabetičar, dijafragma, dijalekt, dijaliza, dijametar*). In the paragraphs on sound assimilation

⁸ It is important to note that STRUNA and the *Handbook of Current Croatian Usage* (in which data from different ISO standards has been incorporated) have been important sources for the compilation of the *Croatian Orthographic Manual*.

these terms occur: (*Jednačenje po zvučnosti*): *pretklijetka* (< pred + klijetka), *pretkutnjak* (< pred + kutnjak), *vrabac – vrapca*, (*Jednačenje po mjestu tvorbe*): *crvenperka*, *nanbudo*. There is a rule in this paragraph on words (mostly terms) starting with **sub-** and **ad-** as assimilation is not recorded in writing of words of Latin origin starting with **sub-** followed by a **p** or starting with **ad-**: *subpapilaran*, *subpolaran*; *adherencija*, *adhezija*, *adpozicija*, *adsorbens*, *adstrat*.

In the paragraph on sound omitting (*Ispadanje glasova*) these terms occur: *dvanaest – dvanaesnik*; *vjerojatnost – vjerojatnosni*; *kooperacija*, *koordinacija*, *vakuum*.

Almost the whole chapter on the small initial letter (*Malo početno slovo*) relates to terms. In the rules there are about twenty groups of terms (in this chapter the term *term* occurs 22 times). Small initial letter occurs in terms denoting: a) products, food, breed, stock, b) terms originating from names or possessive adjectives derived from names, c) plants, d) documents, e) learning, trade, scientific field, etc. <...> (The division in this chapter goes to z.). In this chapter it is written that these terms should be written with the small initial letter: *internet*, *međunarodni sustav mjernih jedinica*, *periodni sustav elemenata*, *teorija velikoga praska*. When needed a detailed explanation (O – objašnjenje – see more below) is given. Many terms are given as examples in the chapter on writing words from foreign languages. These music terms are mentioned: *a cappella*, *adagio*, *allegro*, *allegro*, *crescendo*, *decrescendo*, *fortissimo*, *mezzoforte*, *mezzosopran*, *pianissimo*, *piano*, *pizzicato*, *solfeggio*, *staccato*, *vivace*, *blues*, *break dance*, *country*, *eurodance*, *funky*, *heavy metal*, *high energy*, *house*, *indie*, *italo disco*, *jazz*, *punk*, *rave*, *reggae*, *rock*, *rock and roll*, *soul*, *techno*, *trance*, these postal terms are mentioned: *par avion*, *porto franco*, *poste restante*. The manual also gives Latin terms for living beings: *Daucus carota* (carrot), *Fragaria vesca* (forest strawberry), *Homo sapiens* (man), *Lumbricus terrestris* (earthworm), *Ornithorhynchus anatinus* (platypus), *Procyon lotor* (rakoon), *Rubus idaeus* (raspberry).

In the chapter on foreign words *Croatian Orthographic Manual* gives advice which corresponds to the terminological principle of giving preference to the native language. These are the examples from *Croatian Orthographic Manual* when a foreign term should be replaced by a Croatian term: *attachment* – *privitak*; *bookmark* – *straničnik*; *bypass* – *premosnica*; *call-centar* – *pozivni centar*; *copyright* – *autorsko pravo*; *e-mail* – *e-pošta*, *e-poruka*, *e-adresa* S⁹; *donor* – *darivatelj* S; *futsal* – *mali nogomet* S; *header* – *zaglavlje*; *jackpot* – *glavni zgoditak*; *pacemaker* – *srčani stimulator*; *printer* – *pisač*; *remake* – *prerad(b)a*; *rent-a-car* – *iznajmljivanje automobila*; *revival* – *oživljavanje*; *software* – *programska podrška*; *stage* – *pozornica*; *summit* – *sastanak na vrhu*.

Multiword terms are often shortened into acronyms. Thus the chapter on acronyms is also relevant for terminology in two aspects: the declension of acronyms, writing terms consisting of an acronym and a noun (*PVC stolarija*, *SF film*, *UV zrake*, *ADSL priključak*). Also abbreviations of certain terms are given (e. g. *akuzativ* – *ak. and A*).

In the chapter *Sastavljeno i nesastavljeno pisanje* (One word or two words) examples of compounds and blends in terminology are given: *vodenbuha*, *voden-*

⁹ The letter S (savjet) introduces language advice.

konj, maloprodaja, alfanumerički, ampersat, antidepresiv, arterioskleroza; terms with prefixoids: *aerofobija, agrobiologija, akvaerobika, alfanumerički*; hyphenated compound: *filtrar-papir, minus-vodič*; two word terms: *kamion cisterna, ptica pjevica, sila teža*. Many terms followed by normative recommendations are given in this chapter: *šoping-centar > trgovački centar, web-stranica > mrežna stranica, top-model > vrhunski model, press-konferencija > konferencija za novinare*.

4.2 Terminology in the *Croatian Orthographic Dictionary*

There are over 30 thousand words in the orthographic dictionary. The orthographic dictionary contains the list of words and phrases which have spelling issues connected with *ije/je, č/ć, dž/đ*, capitalization of words, writing compounds or hyphenated words, abbreviations and acronyms, writing words from foreign languages, etc. It includes many terms from different fields, e. g. terms beginning with *A*: *a cappella, ABK* (atomsko-biološko-kemijski), *ABK oružje, A-bomba, ABS* (anti blocking system), *ABS kočnice, aciklički, acil-halogenidi, acil-karbeni, adamaova jabučica* and *Adamova jabučica, A-dur, aerobioza, alt-klarinet*, etc. In many cases there are normative suggestions about the status of certain terms. Many terms are thus referred to preferred terms, e. g. *AIDS > sida, softver > programska podrška, web-stranica > mrežna stranica*. In the *Croatian Orthographic Manual* many paronymic relations are resolved, e. g. *akustičan > zvučan; akustički* (from *akustika*). As terms very often consist of two names and a noun phrase, many such terms from STRUNA are given in the *Orthographic Dictionary*, e. g. *Bose-Einsteinov kondenzat, Bohr-Sommerfeldov model atoma*.

4.3 Terminology in Language Advice and Explanations

Croatian Orthographic Manual is also the first to incorporate linguistic advice in the form of advisory notes. Many requests from the public debate resulted in including explanations and linguistic advice in the manual.

The explanations (O objašnjenje) were made in order to explain to users of the manual why one of the two existing spelling rules was chosen or in order to explain why additional content was added to the manual (for instance, the Braille alphabet and the Croatian sign language). Many of these explanations and advice deal with terms. The spelling rule states that the term *ljutić* (a plant) should be written using the grapheme *ć*, and not using the grapheme *č*. Since previous orthographic manuals disagreed on how to write the noun *ljutić*, there is a link to the explanations section where this decision is explained (*ljutić* belongs to the same word formation type as terms *sladić* and *sljepić*).

Advisory notes can be found by clicking on links marked with the capital letter *S* (*S* for *savjet*, advice). Most of them are a result of the public debate. Some of the participants in the public debate did not understand what the scope of an orthographic manual was, so we felt it necessary to add a number of advisory notes which answer the questions which were asked most often during the public debate, e. g. inflection of foreign names, apart from the writing of intervocalic *j* and writing of final silent *e*, which are real orthographic issues, this is not an orthographic, but a grammatical issue.

Many foreign terms can be replaced by native terms. This is often explained in detail on these links, e. g. the term *futsal* which comes from Portuguese *fútbol de salon / fútbol sala* can be replaced by the term *mali nogomet*. In the advisory note it

is explained why this is so and that the change of the rules doesn't have to result in the change of the term. Similarly the terms *dijametar* and *radijus* can be replaced by *promjer* and *polumjer* respectively. As there were many uncertainties about writing the term *internet* in Croatian, and as some experts in the public debate suggested that *Internet* be spelled with a capital *I*, a thorough explanation stating the reasons for writing *internet* with a small *i* is given: spelling rules are different in English and Croatian, *Internet* is not a name, but a means of communication as radio, television and newspapers, the adjective derived from *internet* is *internetski* and not *Internetov*, it is not good to base a difference in the meaning of terms on the difference between a small and capital letter as this difference is lost in speech as well as at the beginning of the sentence, the fact that something is unique and one in the world is in Croatian not the reason for capitalizing.

4.4. Terminological Glossary

Croatian Orthographic Manual is the first Croatian orthographic manual to have a terminological glossary. This glossary explains all linguistic terms used in the metatext of the *Croatian Orthographic Manual* in order to ensure that the manual is understandable to all users. It can be found at the very end of the printed version of the manual and as an integral part of the online version. The terminology was at times simplified in order to make it understandable to the users of the manual who are not only linguists. The term *dvoglasnik* (diphthong) was replaced by *ije* as a result of public discussion (see below). It has also been decided not to use the term *otvornik* (by some linguists considered to be the Croatian term for vowel used when speaking of acoustic and physiological characteristics of a sound) and used the more frequent term *samoglasnik* (by some linguists considered to be the Croatian term for vowel used only when speaking about the position in the syllable), although these are not always used as synonyms. This is how the terms *samoglasnik* and *suglasnik* are defined in the *Glossary*:

samoglasnik (otvornik) – glas oblikovan otvorenim, slobodnim prolazom zračne struje pri čemu glasnice titraju

suglasnik (zatvornik) – glas pri čijemu je izgovoru potpuno ili djelomično zatvoren prolaz zračnoj struji

Careful distinction is made between terms *spojnica* (n dash) and *crtica* (m dash). N dash is written without blank spaces and m dash is written with blank spaces before and after it. The shorter n dash (*spojnica*, -) and the longer m dash (*critica*, –) are used in different cases. For instance, *sat-dva* (an hour or two) is written using an n dash without blank spaces (which separates two words), and *sat – sat i pol* (an hour – hour and a half) is written using an m dash with blank spaces (which separates two multi-word expressions), in order not to connect just two words (in this case *sat* with *sat*). These difference between n dash and m dash are defined in the *Glossary*:

critica – pravopisni znak (–) kojim se označuje stanka ili upravni govor i odjeljuju umetnuti dijelovi rečenice, koji se piše između brojeva da se označi raspon (od – do), između imena mjesta da se označi udaljenost ili smjer kretanja i između dvaju uzastopnih naziva privremeno ili trajno združenih u međusobni odnos

spojnica – pravopisni znak (-) koji se piše na kraju retka ako se riječ prekida i nastavlja u sljedećemu retku, u polusloženicama i pri sklanjanju pokrata

One of the suggestions in the public debate which were not accepted was the suggestion not to use the term *bjelina* (which means *white space* literally, and refers to a blank space between words). It was stated in the explanation of the request that the paper would always have to be white in order for the blank space to be called *bjelina*. This argument was not accepted because it clearly shows a lack of understanding of how terms function. Even if the paper used for writing was of a different color, it would not matter, because the prototypical color of paper is white. In terminology there are numerous such examples which show that terminological meaning should be differentiated from the meaning of its formational elements, e. g. in Croatian a funicular is called *uspinjača*, which literally means “that which goes up”, even though this cable car goes both up and down. Similar examples are *svlačionica*, *brijač*, *krojač*, *čakavski*, *dizalica*, *dizalo*, etc. *Bjelina* is defined in this way in the *Glossary*:

bjelina pravopisni znak () koji se ostvaruje kao grafijski prazno mjesto

Terms *nepostojani a*, *nepostojani e* and *pokriveni r* are introduced (masculine and not neuter gender) as the form of the adjectives corresponds to the sound *a/e/r* (which is masculine in Croatian) and not the letter *a/e/r* (which is neuter in Croatian). Two different meanings of *nepostojani a* and *nepostojani e* are carefully differentiated in the *Glossary*:

nepostojani a 1. samoglasnik *a* koji postoji samo u nekim oblicima iste riječi, a u drugim se oblicima te riječi gubi 2. glasovna promjena u kojoj dolazi do gubljenja ili pojavljivanja samoglasnika *a* u nekim oblicima riječi

Terms *višečlani* (multi-element) and *višerječni* (multiword) as well as *kratica* (abbreviation) and *pokrata* (acronym) are differentiated. Suggestions are given that syntactic terms are spelled: *nezavisnosložena rečenica* (independent compound sentence), *zavisnosložena rečenica* (dependent compound sentence), *višestruko složena rečenica* (complex compound sentence). The traditional differentiation between *pravopisni znakovi* (signs on lower than sentence level) and *rečenični znakovi* (sentence punctuation) has been considered unnecessary and unclear, so only the term *pravopisni znakovi* is used to cover both meanings. The term *sastavljeno* is opposed to the term *nesastavljeno* and not *rastavljeno* as *rastavljeno* can be only something that was *sastavljeno* at the beginning, which is not the case.

4.5 Terminology in the *Croatian Orthographic Manual* as a Result of Public Debate

Croatian Orthographic Manual is also the first manual of Croatian orthography which is a result of a public debate. In the public debate around 400 messages containing suggestions, praise or criticism have been received. Experts from many fields took part in this debate and many terms were introduced into the *Croatian Orthographic Manual* as a result of this debate. All of the suggestions have been taken into consideration¹⁰, and some influenced orthographic rules in the final

¹⁰ Some suggestions were not accepted, e. g. the suggestion to write names of churches with the first word capitalized in cases such as *crkva sv. Petra* (St. Peter's Church). This suggestion was discussed with the representatives of the Croatian Catholic Church and they agreed with the spelling rule, which states that the word *church* should not be capitalized in the name of churches when they are dedicated to a saint. The suggestion to simplify the way words with the *yat* reflex are written, or the suggestion to make *č* and *ć* a single letter were not accepted as this rule occurs in all Croatian orthographical manuals. In other words, all of the suggestions from the public debate were assessed, and all suggestions we found to be valid were accepted.

edition of the manual. This was especially important for terminology as experts from different fields took part in the public debate. For instance, the term *kvinoja* (quinoa) was replaced by *kinoja* and terms *puhački instrument* and *tržalački instrument* were replaced by *puhaći instrument* and *tržaći instrument*. The suggestion to write *Vučedolska golubica* and *Rozetski kamen* with the first capital letter was accepted, on the grounds that these are names of monuments. The term *dvoglasnik* was replaced by *ije*, the term *okomito nabrajanje* with *uspravno nabrajanje*, because technical experts wrote that *okomito* is the equivalent of English *perpendicular* not *vertical*, and that *okomito* can only be used in relation to something. The request to define the exact shape of upper and lower quotation marks was accepted and they were defined as having the shape of the number 9. The request to include transcription and transliteration tables for different languages and writing systems was also accepted. The transliteration and transcription tables were made in cooperation with experts from the Faculty of Humanities and Social Sciences in Zagreb.

The requests of librarians to add a chapter on writing bibliographic resources and quoting resulted in an additional chapter. Experts of the *Croatian Metrology Society* wrote that symbols for physical quantities, such as the ones for pressure, time and temperature, should be written in italics, while measurement units (such as meter, gram and volt), should be written in non-italic letters: **m** (mass – masa) – **m** (meter – metar), **g** (gravitational acceleration – težno ubrzanje) – **g** (gram), **V** (volume – obujam) – **V** (volt).

5. Terminological Dictionaries and Data Bases after the *Croatian Orthographic Manual*

At the beginning of 2008 the Institute of Croatian Language and Linguistics started terminology work that was financed by The National Science Foundation. The project STRUNA had two phases:

1. Croatian Terminology – Coordination Institute of Croatian Language and Linguistics¹¹

2. Building of Croatian terminology – specialists of different fields and experts from the Institute of Croatian Language and Linguistics.

After the completion of the work on *Croatian Orthographic Manual* all of the orthographic rules were applied to this database, e. g.:

API podatci – biografski podatci o putniku uzeti iz strojno čitljiva dijela putovnice, a uključuju podatke o imenu, prebivalištu, mjestu rođenja, državljanstvu te su dostupni pograničnim tijelima za letove ulaska u teritorij EU-a u svrhu poboljšanja granične kontrole i sprečavanja ilegalne migracije

strelica – oruđe na listolikome komadiću, rombasta oblika, sa sitnom, strmom, katkada izmjeničnom obradbom koja se obično nalazi na svim rubovima

ekofeminizam – politički, filozofski i spiritualni svjetonazor te aktivistička praksa koji se temelje na ideji o međupovezanosti Zemlje i svih živih bića na njoj.

¹¹ The aim of the first phase of the project was to establish a coordination system, infrastructure for activities in the domain of terminological work related to all occupations and professions in Croatia: terminology manual (Terminology principles applied to the Croatian Language How to avoid most common mistakes?), data base, workshops (struna.ihj.hr).

In 2014 *English-Croatian Dictionary of Crystallography, Solid State Physics and Materials Science* containing 1720 terms, was published by the Institute of Croatian Language and Linguistics. The authors are S. Popović, A. Tonejc and M. Mihaljević, two physicists (crystallographers) and a linguist, terminologist and lexicographer. The main purpose of crystallography is to provide information on the structure at the atomic or molecular level, and since structure is intimately linked to the properties and functions of materials and molecules of all dimensions, the impact of crystallography is everywhere in our daily world. Modern drug development, nano- and biotechnology are all based on crystallographic results.

In many of the larger countries, National Committees for Crystallography have already developed excellent materials that can educate and illustrate the impact of crystallography on our society.

Recognizing the broad impact that crystallography has on many fields of science and the benefits of crystallography to society as whole the United Nations General Assembly proclaimed 2014 as International Year of Crystallography. This dictionary was completely adapted to the orthographic rules of *Croatian Orthographic Manual* as can be seen from the examples below:

accurate data	točni podatci pouzdani podatci	rezultat mjerenja fizičke veličine vrlo blizak općeprihvaćenoj vrijednosti te veličine
Berry phase	Berryjeva faza	geometrijska/topološka struktura u klasičnoj ili kvantnoj fizici
biocrystallography	biokristalografija biološka kristalografija	grana kristalografije usmjerena na pripremu kristala makromolekula biološkoga podrijetla i određivanje njihove molekulske i kristalne strukture s razlučivanjem do razine atoma u cilju razumijevanja mehanizma bioloških procesa i terapijskoga djelovanja novih farmaceutika

In the same year the *Dictionary of Analytic Chemistry* by Marija Kaštelan Macan was published. In the dictionary the rules of the *Croatian Orthographic Manual* have also been applied. In an interview Kaštelan Macan discusses how she accepted these spelling solutions: *redoks-reakcija* (not *redoks reakcija*), *gama-zrake* (not *gama zrake*), etc.

6. Conclusion

Croatian Orthographic Manual has a great influence on standardization of Croatian terminology in all subject fields. Variants (synonyms) do not have the same status on different linguistic levels. Variants should be avoided on the orthographic level and especially in terminology. They can enrich the language on the lexical level but it is important to stress that this is also not the case with scientific terminology. Thus for standardizing terminology it is important that a unique and unifying orthographic manual has been compiled. *Croatian Orthographic Manual* influences linguistic terminology by its metatext and glossary, and terminology of all other fields by rules and numerous examples from different fields and numerous terms in the *Orthographic Dictionary*. *Croatian Orthographic Manual* gives special emphasis on giving examples of how to use spelling rules and among these

examples there are many terms. After the publication of *Croatian Orthographic Manual* two terminological dictionaries following the rules from the manual have been published and a terminological database has been adapted to the rules of the *Croatian Orthographic Manual*.

1. Anić, V. (1998), *Rječnik hrvatskoga jezika*, Novi Liber, Zagreb.
2. Anić, V., Silić, J. (1990), *Pravopisni priručnik hrvatskoga ili srpskoga jezika*, 3rd ed., Novi Liber, Zagreb.
3. *Hrvatska jezična riznica* (2006–2011), Institut za hrvatski jezik i jezikoslovlje (riznica.ihjj.hr).
4. *Hrvatski enciklopedijski rječnik* (2002), Novi Liber, Zagreb.
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- AS – Anić, V., Silić, J. (2001.), *Pravopis hrvatskoga jezika*, Novi Liber, Zagreb.
- BFM – Babić, S., Finka, B., Moguš, M. (2006), *Hrvatski pravopis*, 9th edition, Školska knjiga, Zagreb.
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