

Past Participles in Multiword Units in Croatian

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1. Introduction: The Past Participle in a Theoretical and Lexicographic Framework¹

Croatian past participles ending with *-n* (and *-an*, *-en* as allomorphs) and *-t*, and Croatian true (descriptive, possessive, and material²) adjectives have similar features as concerns their syntactic organisation. With the modal verb *biti* (“to be”), they express the passive voice of a predicate: *Cvijet je ubran* – “The flower has been picked” (*ubran* is the past participle form of the verb *ubrati* – “to pick”) / *Cvijet je lijep* – “The flower is beautiful” (*lijep* is the true adjective). Like true adjectives (ZNIKA, 2005), past participles, when used in combination with nouns, can be used attributively and assume the grammatical features of nominal words (SEIFART, 2010) such as gender, number, and case (e.g. in *nadahnut govor* – “inspired speech” – *nadahnut* is the past participle of the verb *nadahnuti* – “to inspire”). Aside from these similarities between past participles and true adjectives, related works (ZNIKA, 2005: 434) point to differences in grammatical meaning, which is based on the ability of the past participles to express the passive voice of the transitive verbs which they belong to paradigmatically, while true adjectives express the static characteristic of a noun. Also, particular explanations (ZNIKA, 2005: 437) point to the existence of two homonymous forms: e.g. the forms *dimljen* (“smoked”), *mljeven* (“minced”), and *tučen* (“beaten”) can be qualified either as the past participle of the verbs *dimiti* (“to smoke”), *mljeti* (“to mince”), and *tući* (“to beat”), respectively, or as true adjectives. The homonymy criterion is useful in the inclusion of adjectives (both past participles and true adjectives) in dictionary entries. I am also aware that this problem would be much clearer if other

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² Material adjectives (e.g. Engl. *wooden*, *glass*, *golden*) describe the materials that a noun consists of.

Slavic languages (other South Slavic languages, Czech, Polish, Russian) were included in the analysis, especially if we consider *-n/-t* participles to be a ubiquitous phenomenon in Slavic languages (SMITH, 1995; MARVIN, 2003; KIBORT, 2012). Such comparative analysis will be the subject of future research.

Traditionally, past participles are listed in Croatian dictionaries most often as a morphological form under an infinitive as a canonical form of verbal entries. They are rarely represented as adjectival entries (e.g. *dimljen* – “smoked,” *usoljen* – “salted, salt-cured”).

According to the aforementioned theoretical and lexicographic assumptions, past participles and true adjectives have many features in common. The accent shall be placed on adjectival features of the past participle; we will, therefore, consider those cases in which the past participles show grammatical and semantic features of true adjectives (case, gender, number, usage and meaning). Also, two other features are important to consider when we observe past participles as true adjectives: (1) past participles denote gradable concepts through comparative and superlative forms, as is noted in Croatian (ZNIKA, 2005: 430–431) and in Polish (KIBORT, 2012: 331); and (2) at the semantic level, past participles lose their features of passive predicative forms that modify the subject as a patient and, instead, behave as descriptive adjectives agreeing with the head nouns (KIBORT, 2012: 331).³ Grammatically, past participles are formed from transitive verbs in Croatian – they are object-oriented forms (CETNAROWSKA, 2000: 47, according to: NEDJALKOV, JAXONTOV, 1988: 6) which, when used as adjectives in a nominal phrase (NP), determine the object noun (*mljeti meso* – “to mince meat” / *mljeveno meso* – “minced meat”).

Given this theoretical framework, the further discussion will be based on the analysis of past participles in various multiword units (MWUs) in Croatian. The main goal of this research is to show whether the level of lexicalisation, i.e. the adjectivisation of past participles, can be determined by their collocational potential on the basis of their co-occurrence with other words (nouns). This approach is based on the explanation provided in Ivić (1992/1993: 185–186), which separates the prototypical, core meaning of words that changes in collocational relations, leading to the conclusion that the prototypical meaning of some words is only the initial, semantic potential they realise in various specified meanings depending on their collocational relationship with other words.

An overview of the usage of past participles in multiword units (MWUs) shall be shown on the examples taken from the Croatian Collocation Database (CCD).⁴ In short, the CCD is primarily based on the traditional lexicographic and lexicological settings of multiword lexical units (BENSON et al., 1997; MELČUK, 2001 [1998]; SAG et al., 2002; BLAGUS BARTOLEC, 2014).⁵ The data sources for CCD include: Croatian daily, weekly, and monthly newspapers; various online sources; contemporary Croatian lexicographical manuals (dictionaries,

³ E.g. in *meso je mljeveno u mašini* (“meat was minced in machine”) *meat* is a patient of passive predicative form *was minced* while in *minced meat* past participle *minced* has a descriptive adjectival meaning.

⁴ For more on the CCD, see: <http://ihjj.hr/kolokacije/>. All past participles listed in this paper have been included in the CCD.

⁵ The CCD will be a useful source to be included in other more advanced MWU sources (both Croatian and international) for the development of tools for extracting MWUs on the basis of their semantic and lexical features (RAMISCH, 2015).

lexicons, encyclopedias); *Narodne novine* online (the official newspaper of the Republic of Croatia); recent linguistic journals with articles on the topics of word combinations in Croatian; and Croatian web corpus – hrWaC (<http://nlp.ffzg.hr/resources/corpora/hrwac/>).

Generally, the concept behind the CCD is to create a database with the most common Croatian multiword units by defining their semantic types and usage context: idioms (e.g. *ustati na lijevu nogu*, literally “to get up on one’s left leg,” Engl. “to get up on the wrong side of the bed”), multiword terms that are specific to a particular scientific or professional field (e.g. *anodna korozija* – “anode corrosion,” *običajno pravo* – “customary law”), proverbs (e.g. *u laži su kratke noge*, literally “lies have short legs,” Engl. “lies don’t travel far”), collocations (word combinations with more restricted or specific meanings, e.g. *vitke noge* – “slender legs”), free combinations (combinations with freedom of selection and freedom of combination, e.g. *prekrižiti noge* – “to cross (one’s) legs”).

All of the aforementioned types of lexical units as parts of the CCD frequently contain past participles (e.g. *odrezak pečen na žaru*, literally “a steak baked on ember,” Engl. “grilled steak,” *promet je pojačan*, literally “traffic is intensified,” Engl. “traffic is heavy,” *zrak je onečišćen* – “the air is polluted,” *zvijezda je rođena* – “a star is born,” *električno nabijena čestica* – “electrically charged particle,” *stečena prava i dužnosti* – “attained rights and duties”) which are expanded in various styles of Croatian (journalism, administration and legislation, professional and scientific literature, etc.). The CCD contains several columns, the first of which provides the entry that is a component of a particular unit. The entries appear in their canonical form (infinitive for verbs, nominative for nouns, masculine gender for adjectives and pronouns). In the case of past participles that are part of various MWUs (i.e. idioms or multiword terms), it is occasionally impossible to unambiguously determine whether their canonical form is that of a verb or of an adjective. For the needs of this research, 393 past participles ending in *-n* (and *-an*, *-en* as allomorphs) and *-t* were extracted from the CCD. The status of these forms was checked in four modern Croatian dictionaries: *Rječnik hrvatskoga jezika* (Dictionary of the Croatian Language, hereinafter: RHJ), *Školski rječnik hrvatskoga jezika* (Scholastic Croatian Dictionary, hereinafter: ŠKRJ), *Veliki rječnik hrvatskoga standardnog jezika* (Large Dictionary of the Croatian Language, hereinafter: VRH), and *Hrvatski jezični portal* (Croatian Language Portal, hereinafter: HJP). Of the past participles examined, 218 are listed in one or more of the mentioned dictionaries as independent adjectival entries, and can thus be considered true adjectives. The other 175 past participles in existing Croatian dictionaries are not listed as independent adjectival entries, and are rather listed under verbal entries. According to the attestations in the CCD, these past participles also act as true adjectives in various multiword units. Due to the limited length of the article, I have not included all of these forms here, but a large number of examples will be listed in the following sections.

I examine past participles that are not listed as independent entries in any dictionary, but which appear in usage as adjectival collocations in multiword units. On the basis of data from these four dictionaries and a comparison of examples of multiword units from the CCD, final criteria will be suggested by means of which past participles can be determined to be true adjectives, and thus marked as independent dictionary entries. According to these criteria, the past participles are involved in CCD in two ways: (1) as lexicalised adjectival entries (*mljeven* – “minced,” *onečišćen* – “polluted”) if they show true adjectival

features within a multiword unit, or (2) under an infinitive verbal entry if they express the passive predicative form (*srce je slomljeno* – “heart is broken”).

2. The Structure of Multiword Units with Past Participles

According to attestations in the CCD, past participles appear in multiword units of various syntagmatic forms. Depending on the unit in which they appear, some past participles have both verbal and nominal features, and thus they fall under the homonymic model provided by ZNIKA (2005: 437). It is possible to single out five structures. The first one (presented in section 2.1) includes prototypical participle–noun structures in which the past participles show features of true adjectives. In the other four structures (presented in sections 2.2, 2.3, 2.4, and 2.5), the past participles retain verb features expressing the passive voice.

2.1. Past Participle Form + Noun

The *past participle form + noun* structure here is considered the prototypical structure in which the past participle is realised as an attribute agreeing with the head noun in gender, number, and case. According to attestations in the CCD, we can outline the following past participles realised in this type of a multiword structure:

Table 1

Past participles in MWUs in Croatian

No.	Past participles	MWUs with past participles from the CCD
1	<i>blokiran</i>	<i>blokirani računi</i> – “blocked accounts” <i>blokirane prometnice</i> – “blocked highways”
2	<i>donesen</i>	<i>donesen zakon</i> – lit. “brought,” Engl. “enacted law” <i>donesena odluka / presuda</i> – lit. “brought,” Engl. “enacted decision / judgment”
3	<i>ispečen</i>	<i>ispečen odrezak</i> – “baked steak” <i>ispečeno meso</i> – “baked meat”
4	<i>isplaćen</i>	<i>isplaćen iznos</i> – “paid amount” <i>isplaćeni troškovi</i> – “paid expenses”
5	<i>istucan</i>	<i>istucan kamen</i> – “crushed stone”
6	<i>izražen</i>	<i>izražene razlike</i> – “expressed differences”
7	<i>izveden</i>	<i>izvedene mjerne jedinice</i> – “derived units of measurement” <i>izvedeni broj</i> – “derived number”
8	<i>mljeven</i>	<i>mljevena kava</i> – “minced coffee” <i>mljeveni papar</i> – “minced pepper” <i>mljeveno meso</i> – “minced meat”
9	<i>nacrtan</i>	<i>nacrtane obrve</i> – “drawn eyebrows”
10	<i>nagrađen</i>	<i>nagrađeni umjetnik / glumac³⁾</i> – “awarded artist / actor”
11	<i>natkriven</i>	<i>natkriven plivački bazen / stadion</i> – “covered swimming pool / stadium” <i>natkrivena terasa</i> – “covered terrace” <i>natkriveno stajalište</i> – “covered station”
12	<i>obilježen</i>	<i>obilježen red riječi / pješački prijelaz</i> – “marked word order / crosswalk”

Table 1 continued

13	<i>obnovljen</i>	<i>obnovljena cesta</i> – “renovated road” <i>obnovljena crkva</i> – “renovated church” <i>obnovljena obiteljska kuća</i> – “renovated family house” <i>obnovljena pročelja</i> – “renovated facades”
14	<i>ocijenjen</i>	<i>ocijenjeni pisani radovi</i> – “evaluated written works” <i>ocijenjeni proizvodi</i> – “rated products”
15	<i>očišćen</i>	<i>očišćene ulice</i> – “cleaned streets” <i>očišćen put</i> – “cleaned path”
16	<i>odbijen</i>	<i>odbijen zahtjev</i> – “rejected request” <i>odbijena molba</i> – “rejected application”
17	<i>odigran</i>	<i>odigrana utakmica</i> – “played match” <i>loše odigran servis</i> – “bad played service”
18	<i>odležan</i>	<i>odležano vino</i> – lit. “laid,” Engl. “aged wine”
19	<i>odobren</i>	<i>odobren iznos</i> – “approved amount” <i>odobrena cijena</i> – “approved price”
20	<i>ojačan</i>	<i>ojačan beton</i> – “reinforced concrete” <i>ojačana konstrukcija / plastika</i> – “reinforced construction / plastic”
21	<i>okovan</i>	<i>Okovani Prometej</i> – “Prometheus Bound” <i>okovane noge / ruke</i> – “bound / chained legs / arms”
22	<i>onečišćen</i>	<i>onečišćen potok / zrak</i> – “polluted stream / air”
23	<i>opkoljen</i>	<i>opkoljeno selo</i> – “surrounded village” <i>opkoljena vojska</i> – “surrounded army”
24	<i>otegnut</i>	<i>otegnut način govora / izgovor</i> – “drawled way of speaking / pronunciation”
25	<i>plaćen</i>	<i>plaćeni dopust</i> – “paid holiday” <i>plaćeni računi</i> – “paid invoices”
26	<i>počinjen</i>	<i>počinjeni zločini</i> – “committed crimes” <i>počinjeno kazneno djelo</i> – “committed criminal offense”
27	<i>podmetnut</i>	<i>podmetnut požar / dokaz</i> – “planted fire / evidence” <i>podmetnuta bomba</i> – “planted bomb”
28	<i>podstavljen</i>	<i>podstavljen kaput</i> – “padded coat” <i>podstavljena jakna</i> – “padded jacket” <i>podstavljeno odijelo</i> – “padded suit”
29	<i>pomiješan</i>	<i>pomiješani osjećaji / okusi</i> – “mixed feelings / flavours”
30	<i>prekinut</i>	<i>prekinuta veza</i> – “broken connection” <i>Muzej prekinutih veza^{b)}</i> – “Museum of Broken Relationships” <i>prekinuti luk</i> – “broken arch”
31	<i>preplaćen</i>	<i>preplaćena filmska zvijezda</i> – “overpaid movie star” <i>preplaćen igrač / iznos</i> – “overpaid player / amount”
32	<i>presaden</i>	<i>presadena kosa / koža</i> – “transplanted hair / skin”
33	<i>prijeden</i>	<i>prijedena kilometraža</i> – “passed mileage” <i>prijeden put</i> – “passed path”
34	<i>prikupljen</i>	<i>prikupljen novac</i> – “collected money” <i>prikupljena sredstva</i> – “collected funds”
35	<i>priložen</i>	<i>priložena dokumentacija</i> – “enclosed documentation” <i>priložen dopis</i> – “enclosed letter”
36	<i>ranjen</i>	<i>ranjena duša</i> – “wounded soul” <i>ranjeno srce</i> – “wounded heart” <i>ranjeni civili / vojnici</i> – “wounded civilians / soldiers”
37	<i>sklopljen</i>	<i>sklopljena elektroda</i> – lit. “assembled,” Engl. “combination electrode”

Table 1 continued

38	<i>smanjen</i>	<i>smanjena vidljivost</i> – “reduced visibility” <i>smanjena ubrojjivost</i> – “reduced accountability”
39	<i>snižen</i>	<i>snižene cijene</i> – “reduced prices” <i>sniženi tlak</i> – “reduced pressure” <i>sniženi šećer</i> – “reduced sugar”
40	<i>spušten</i>	<i>spušteni strop / krov</i> – “lowered ceiling / roof” <i>spuštena stopala</i> – “lowered feet”
41	<i>srušen</i>	<i>srušena stabla</i> – “ruined trees” <i>srušene kuće</i> – “ruined houses” <i>srušeni ideali</i> – “ruined ideals”
42	<i>stečen</i>	<i>stečena imovina</i> – “acquired property” <i>stečena prava</i> – “acquired rights” <i>stečeno iskustvo</i> – “acquired experience”
43	<i>ugažen</i>	<i>ugažen snijeg</i> – “trodden snow” <i>ugažena staza</i> – “trodden path”
44	<i>uhićen</i>	<i>uhićeni šverceri / teroristi / prijestupnici</i> – “arrested smugglers / terrorists / offenders”
45	<i>ukraden</i>	<i>ukradena roba</i> – “stolen goods” <i>ukradene umjetnine</i> – “stolen goods”
46	<i>umetnut</i>	<i>umetnuta rečenica</i> – “inserted sentence” <i>umetnut redak</i> – “inserted row”
47	<i>usječen</i>	<i>usječen kanjon</i> – “incised canyon” <i>usječena brazda</i> – “incised furrow”
48	<i>utrošen</i>	<i>utrošena sredstva</i> – “spent funds” <i>utrošen materijal</i> – “spent material”
49	<i>vezen</i>	<i>vezena marama</i> – “embroidered scarf” <i>vezen stolnjak</i> – “embroidered tablecloth”
50	<i>vraćen</i>	<i>vraćen novac</i> – “returned money” <i>vraćena roba</i> – “returned goods” <i>vraćeno povjerenje</i> – “returned confidence”
51	<i>zacrtan</i>	<i>zacrtan cilj / plan</i> – “outlined goal / plan”
52	<i>začuden</i>	<i>Začudeni svatovi</i> ³⁾ – “The Astonished Wedding Guests” <i>začuden pogled</i> – “astonished look”
53	<i>zagarantiran</i>	<i>zagarantiran uspjeh</i> – “guaranteed success” <i>zagarantirano pravo</i> – “guaranteed right”
54	<i>zaglavljen</i>	<i>zaglavljen metak</i> – “stuck bullet” <i>zaglavljena papučica gasa</i> – “stuck accelerator pedal”
55	<i>zagrađen</i>	<i>zagrađen prolaz</i> – “gated passage” <i>zagrađena terasa</i> – “gated terrace”
56	<i>zakazan</i>	<i>zakazan sastanak</i> – “scheduled meeting” <i>zakazana sjednica</i> – “scheduled session”
57	<i>zaključen</i>	<i>zaključen slučaj / ugovor</i> – “concluded case / contract”
58	<i>zakočen</i>	<i>zakočena tipka</i> – “locked button” <i>zakočena leđa</i> – lit. “locked,” Engl. “stiff back”
59	<i>zakopan</i>	<i>zakopan talent</i> – “buried talent” <i>zakopano blago</i> – “buried treasures”
60	<i>zakrčen</i>	<i>zakrčen prilaz</i> – “blocked access” <i>zakrčene prometnice</i> – “blocked roads”
61	<i>zaleđen</i>	<i>zaleđen kolnik</i> – “iced pavement” <i>zaleđen osmijeh</i> – “iced smile” <i>zaleđena rijeka</i> – “iced river”

Table 1 continued

62	<i>zamaskiran</i>	<i>zamaskirani pljačkaši / navijači</i> – “masked robbers / fans”
63	<i>zameten</i>	<i>zametene ceste</i> – “snowed roads” <i>zameteni tragovi</i> – “snowed traces”
64	<i>zamrljan</i>	<i>zamrljan stolnjak</i> – “stained tablecloth” <i>zamrljane ruke</i> – “stained hands”
65	<i>zamrznut</i>	<i>zamrznuta hrana</i> – “frozen food” <i>zamrznut izraz lica / pogled</i> – “frozen face / look”
66	<i>zupaljen</i>	<i>zupaljene baklje</i> – “ignited torches” <i>zupaljene strasti</i> – “ignited passions” <i>zupaljeno sijeno</i> – “ignited hay”
67	<i>zapečaćen</i>	<i>zapečaćen spis</i> – “sealed file” <i>zapečaćena omotnica</i> – “sealed envelope” <i>zapečaćene glasačke kutije</i> – “sealed voting boxes”
68	<i>zapisan</i>	<i>zapisan datum / tekst</i> – “written date / text” <i>zapisana riječ Božja</i> – “written word of God” <i>zapisane pjesme</i> – “written songs”
69	<i>zaplijenjen</i>	<i>zaplijenjena imovina</i> – “seized assets” <i>zaplijenjene cigarete</i> – “seized cigarettes”
70	<i>zapriječen</i>	<i>zapriječen ulaz / kolni prilaz</i> – “blocked entrance / access road”
71	<i>zaraden</i>	<i>zaraden novac</i> – “earned money” <i>zaradena plaća</i> – “earned salary”
72	<i>zaražen</i>	<i>zaražene životinje</i> – “infected animals” <i>zaraženo meso</i> – “infected meat”
73	<i>zaređen</i>	<i>zaređeni svećenici</i> – “ordained priests”
74	<i>zasijan</i>	<i>zasijana površina</i> – “seeded surface” <i>zasijane njive</i> – “seeded fields”
75	<i>zasladen</i>	<i>zasladeno piće</i> – “sweetened drink” <i>zasladeni sok</i> – “sweetened juice”
76	<i>zastupan</i>	<i>zastupana stranka</i> – “represented client” <i>zastupani interesi</i> – “represented interests”
77	<i>zašiljen</i>	<i>zašiljena olovka</i> – “sharpened pencil” <i>zašiljen kolac</i> – “sharpened stake”
78	<i>zatajen</i>	<i>zatajen podatak</i> – “concealed information” <i>zatajene nezakonite radnje</i> – “concealed illegal acts”
79	<i>zatočen</i>	<i>zatočeni civili / novinari</i> – “imprisoned civilians / journalists”
80	<i>zatravljen</i>	<i>zatravljena površina</i> – “grassed surface” <i>zatravljen vinograd</i> – “grassed vineyard”
81	<i>zdrobljen</i>	<i>zdrobljen kamen</i> – “crushed stone” <i>zdrobljena kreda</i> – “crushed chalk”
82	<i>zgažen</i>	<i>zgažen narod</i> – “trampled people” <i>zgaženo cvijeće</i> – “trampled flowers” <i>zgažen snijeg</i> – “trampled snow”
83	<i>zgotovljen</i>	<i>zgotovljen posao / plan</i> – “realised work / plan”
84	<i>zgrožen</i>	<i>zgroženi prolaznici</i> – “horrified passers-by” <i>zgoržena javnost</i> – “horrified public”

^{a)} Punctuation mark / separates the nouns which are matched in gender, number, and case.

^{b)} The name of museum in Zagreb.

^{c)} The novel of Croatian writer Eugen Kumičić.

This research includes 84 past participles. All of them systematically fit into the model described for Slavic languages (SMITH, 1995: 84; CETNAROWSKA, 2000; SAAVEDRA, 2007; KIBORT, 2012); Croatian past participles are mostly related to perfective prefixal verbs⁶ which semantically belong to the class of resultative verbs. Here I agree with the assumption that resultativity is a feature that affects the adjectivisation of passive verb forms, i.e. past participles (NEDJALKOV, JAXONTOV, 1988; BELAJ, 2002; SAAVEDRA, 2007). The resultativity of participles manifests itself in expressing descriptive meanings or states of the nouns with which past participles co-occur in MWUs. As can be seen from the MWUs in Table 1, there are no semantic limitations as to with which types of nouns past participles are collocable. Generally, nouns that refer to a person, thing, place, or abstract quality can be components of participle–noun structures in Croatian MWUs.

2.2. Adverb + Past Participle + Noun in Nominative Case

Multiword structures formed by an adverb, past participle form, and noun can be considered a subgroup of adjective–noun structures, and they are common in MWUs in various fields of use. Syntactically, such multiword units are reduced forms of relative clauses, e.g. *usječen* – “incised” (*perasto usječen list / dlanasto usječen list* > *list koji je usječen perasto / dlanasto* “pinnate / palmate incised leaf > leaf (that is) incised pinnate / palmate”), *čuvan* – “guarded” (*strogo čuvana tajna* – “tightly guarded secret,” *strogo čuvani zatvor* – “strictly guarded prison”), *ocijenjen* – “rated” (*negativno ocijenjeni učenici* – “negatively rated students”), *pretučen* – “beaten” (*teško pretučen mladić* – “a badly beaten young man”), *utrošen* – “spent” (*namjenski utrošen novac* – “purposefully spent money”).

2.3. Noun + Past Participle + Noun in the Instrumental Case / Prepositional Phrase

Multiword structures formed by a noun in the nominative case, a past participle, and a noun in the instrumental case or prepositional phrase also can be considered as MWUs with reduced forms of a relative clauses (KATIČIĆ, 1991: 381), e.g. *odrezak ispečen na žaru* > *odrezak koji je ispečen na žaru* – “a steak (that is) grilled on hot coals”; *brod okovan ledom* > *brod koji je okovan ledom* – “a ship (that is) trapped in ice”; *riblji filet preliiven limunovim sokom* > *riblji filet koji je preliiven limunovim sokom* – “a fish fillet (that is) drizzled with lemon juice”; *grad opkoljen zidinama* > *grad koji je opkoljen zidinama* – “a city (that is) surrounded by walls”; *špageti preliiveni umakom od rajčica* > *špageti koji su preliiveni umakom od rajčica* – “spaghetti (that is) covered with tomato sauce”; *vrijednost izražena u postotcima* > *vrijednost koja je izražena u postotcima* – “a value (that is) expressed in percent”; *zastave spuštene na pola koplja* > *zastave koje su spuštene na pola koplja* – “flags (that are) lowered to half mast.” In such a structure of multiword units, the past participles express the passive voice, and, though agreeing with the preceding noun, they do not have features of true adjectives.

⁶ Based on the examples from Table 1, these Croatian suffixes are distinguished in the formation of perfective verbs: *is-/iz-*, *na-/nat-*, *o-/ob-/od-/op-*, *po-/pod-/pre-/pri-*, *s-*, *u-*, *z-/za-*.

2.4. Noun in the Instrumental Case + Past Participle + Noun

Multiword structures in which a noun in the instrumental case is followed by a past participle and a noun also have the characteristics of reduced relative clauses. The past participle retains the governing features of the verb it belongs to: *zlatom vezen rubac* > *rubac koji je vezen zlatom* – literally “a kerchief (that is) embroidered in gold,” *čavlima okovan lijes* – literally “a casket sealed with nails,” *snijegom zametene ceste* – literally “roads covered with snow,” *radom postignut uspjeh* – literally “success attained through work.” This structure, considering the word order, is partially variable with the structure described in 2.3.

2.5. Past Participle + Noun in the Instrumental Case / Prepositional Phrase

In multiword units with past participles and a noun in the instrumental case / prepositional phrase, past participles express the passive voice and they do not have the semantic features of true adjective.

This type of multiword structure is common in idiomatic expressions and multiword units typical of journalistic, administrative, and legislative styles. The past participle is a governing component with verb meaning, which defines the form of the noun components in the multiword units: *izražen* – “expressed” (*izraženo je /što/ u brojkama* – “/sth/ is expressed in numbers”), *nagrađen* (*nagrađen je /tko/ pljeskom* – “/sb/ was awarded with applause”), *ojačan* (*ojačan željeznim šipkama* – “strengthened with iron beams,” *ojačan je /tko/ vjerom* – “/sb/ was strengthened by faith”), *rođen* (*rođen je /tko/ pod sretnom zvijezdom* – “/sb/ was born under a lucky star”), *zameten* (*zameten u snijegu* – “covered in snow”), *zapisan* (*biti zapisan crnim / zlatnim slovima u /što/* – “to be written in black / gold letters into /sth/”), *zaražen* (*zaražen je /tko/ mržnjom / glistama / nogometom* – “/sb/ has been infected with hatred / worms / football”), *zareden* (*zareden je /tko/ za biskupa / svećenika / đakona* – “/sb/ has been ordained as a bishop / priest / deacon”), *zatočen* (*zatočen je /tko/ protiv svoje volje* – “/sb/ has been imprisoned against his / her will,” *zatočen je /tko/ u vlastitu tijelu* – “/sb/ is imprisoned in their own body”).

3. The Stylistic and Usage Features of Past Participles

Through an analysis of MWUs taken from the CCD in which past participles appear, it is possible to define the stylistic and communicative context in which such units are used. A search in the corpus hrWaC has shown that these multiword units with past participles are common both in different professional fields (scientific, administrative, legislative) and in journalistic usage, e.g. *sklopljena elektroda* (in chemistry, literally “assembled electrode,” Engl. “combination electrode”), *plaćeni dopust* (in administration / legislation, “paid holiday”), *smanjena ubrojjivost* (in law, “impaired mental capacity”), *mljeveno meso* (in butchery and cookery, “minced meat”), *prekinuti luk* (in architecture and construction, “broken arch”), *sniženi šećer* (in chemistry and nutrition, literally “reduced sugar / reducing sugar”), *onečišćen zrak* (in ecology, “polluted air”), *presađena koža* (in medicine / plastic surgery, “transplanted skin”), *teško pretučen mladić / odlikovani sportaši / zgroženi prolaznici*

(in journalism, “a badly beaten young man” / “honoured athletes” / “horrified passers-by / public”).

In administrative, legislative, and journalistic practice, the use of past participles has a stylistic purpose, as it replaces larger sentence structures with more concise statements. Such statements are based on brachylogy as a stylistic process or an elliptical manner of expression (BAGIĆ, 2012) that tends towards truncated predicates that omit copulae (verb *biti* – “to be”), but which retain their past participle form (SILIĆ, PRANJKOVIĆ, 2005: 196). The multiword units explored in sections 2.2 to 2.5 are the result of this manner of expression. In light of this, ZNIKA (2005: 436–437) makes the important conclusion that the presence of past participles in the terminology of various professional fields also contributes to the adjectivisation of past participles and their inclusion into nominal words.

4. Conclusion

By comparing past participles in MWUs from the CCD which co-occur with different nouns and appear as past participles in Croatian dictionaries, and relying on the aforementioned theoretical observations (ČETNAROWSKA, 2000; BELAJ, 2002; ZNIKA, 2005; SAAVEDRA, 2007; SEIFART, 2010; KIBORT, 2012), it is possible to outline four criteria for determining the status of past participles in Croatian dictionaries⁷ both as forms of verbal entries and as lexicalised adjectives. The emphasis is placed on their status as independent lexical (adjectival) units:

- Grammatical features such as gender, number, case, and comparison, apart from the part of the verb paradigm, categorise past participles as words with nominal categories. As nominal words, past participles behave as true adjectives and are collocable with nouns of wide semantic potential (e.g. *zakopano blago* – “buried treasure,” *pomiješani osjećaji* – “mixed feelings,” *smanjena vidljivost* – “reduced visibility”). The collocatability is certainly an important criterion in the process of adjectivisation of past participles.
- Adjectivisation of past participles is one of the most common ways of forming multiword terms in Croatian used in different scientific and professional fields. The high frequency of such terms indicates that adjectivisation is not a sporadic phenomenon, but rather a common way of forming terminological units in Croatian.⁸
- In stylistically marked language use, especially in the journalistic and administrative style, short forms based on nominalisation are typical (BELAJ, 2002; SILIĆ, 2006: 65–66). Verbal constructions convert to nominal ones, which is especially evident in truncating of verbal predicate. Instead, in passive predicative forms (e.g. *zahtjev koji je odbijen* – “request which is rejected,” *dokumentacija koja je priložena* – “documentation which is enclosed”), past participles are collocable with nouns (*odbijen zahtjev* – “rejected request,” *priložena dokumentacija* – “enclosed documentation”). Adjectivisation of past participles motivated

⁷ Here we are focused on Croatian, but these criteria are also valid for other Slavic languages.

⁸ E.g. in hrWaC the frequency of past participle *mljeven* (“minced”) in adjectival use is much more frequent than in verbal (predicative) use: the term *mljeveno meso* (“minced meat”) occurs 1,360 times while the predicative form *je mljeven* (“is minced”) occurs 21 times. (accessed 14th February 2019).

by stylistic needs is by no means a negligible criterion for determining participles as independent lexical units.

- Although I have not relied more on statistical data here, the attestation of past participles in adjectival use in the corpus (see footnote 8) is also an important indicator in determining the degree of adjectivisation of past participles. Good lexicographic practice should not ignore corpus evidence of past participles in multiword units.

I consider these criteria useful also in the selection and inclusion of past participles in Croatian dictionaries as stand-alone adjectives, not only as verbal forms. Modern dictionaries are increasingly published online; as electronic publications, they offer the ability to add new entries when needed, since there is no conceptual limit as compared to printed editions. Publishing on the internet has created the conditions for past participle forms: in accordance with their homonymous nature and depending on their semantic and usage potential, participles can be listed both under verbal entries and as independent adjectival entries.

Corpora, databases, and dictionaries

hrWaC – Croatian web corpus [online: <http://nlp.ffzg.hr/resources/corpora/hrwac/>; accessed: 10.03.2018].

HJP – *Hrvatski jezični portal* [online: <http://hjp.znanje.hr/>; accessed: 22.10.2017].

CCD – Kolokacijska baza hrvatskoga jezika (Croatian Collocation Database) [online: <http://ihjj.hr/kolokacije/>; accessed: 20.03.2018].

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ŠKRJ – BIRTIĆ M. et al., 2012: *Školski rječnik hrvatskoga jezika*. Zagreb.

VRH – JOJIĆ Lj., ed., 2015: *Veliki rječnik hrvatskoga standardnog jezika*. Zagreb.

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Past Participles in Multiword Units in Croatian

Summary

Past participles (ending with *-n* (*-an*, *-en*), and *-t*) and the group of adjectives referred to in Croatian linguistics as true adjectives are similar regarding their syntactic structure. The paper analyses the collocation potential of the past participles based on data from the Croatian Collocation Database (<http://ihjj.hr/kolokacije/english/>) developed at the Institute of Croatian Language and Linguistics. The article describes both the use of the past participles in the multiword units in Croatian and their status in contemporary Croatian dictionaries. What is described are the criteria for distinguishing the past participles as morphological forms of the verb headword from the lexicalised adjectives that should have the status of independent headwords in the dictionary.