

Case study: Slovenian dual
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Slovenian is one of only three contemporary Slavic languages that productively uses the dual. The other two are Upper and Lower Sorbian. In this chapter, we will outline the present-day use of the dual in Slovenian, generally ignoring historical aspects, for which see, i.a., Tesnière (1925a), Belić (1934), Jakop (2008), Olander (2015). Also, the description will primarily be based on standard Slovenian as described/prescribed in Toporišič *et al.* (2001), mainly ignoring the great variation across different varieties of Slovenian (cf. Tesnière 1925a,b, Jakop 2008) in the actual forms of dual marking and the extent to which dual forms are distinct from the plural. The paradigms presented in the next section exist in entirety only in few dialects and in the prescribed standard variety. A small number of dialects of the South West, along the border between Italy and Slovenia, and the dialects of the South, along the border with Croatia, are without most of the dual forms and in some cases without the dual altogether, but for the most part, different dialects exhibit different amounts of dual forms. Central Slovenian dialects and dialects of the North and North-East use dual fully productively (cf. Jakop 2008 and Marušič *et al.* 2016 for a comprehensive map of the distribution of dual in Slovenian dialects).

1. Dual morphology

Slovenian exhibits special dual morphology on nouns, adjectives, verbs, and pronominals. This means that all parts of speech which inflect for number also exhibit special forms for the dual. We will present the number-inflecting parts of speech one by one, in the following order: nouns, adjectives, pronominals, numerals/quantifiers, verbs. Adjectives, pronominals, and numerals are placed closer together as they seem to share part of their inflection. For some discussion of the variation across dual marking, see, i.a., Toporišič (2000), Derganc (2003, 2006), Greenberg (2008), Herrity (2016).

1.1 Nouns

Nouns have different patterns of dual marking depending on declension class and gender. Table I presents the paradigms for the four noun classes. Class I contains masculine nouns which are uninflected in the nominative singular; class II contains masculine and feminine nouns with an *-a* nominative singular suffix; class III contains

feminine nouns which are uninflected in the nominative singular; class IV contains neuter nouns (with an *-o/-e* nominative singular suffix).^{1,2}

Class I	#	NOM	ACC	GEN	LOC	DAT	INST
Masc. <i>stol</i> "chair"	SG	<i>stol</i>	<i>stol</i>	<i>stola</i>	<i>stolu</i>	<i>stolu</i>	<i>stolom</i>
	DU	<i>stola</i>	<i>stola</i>	<i>stolov</i>	<i>stolih</i>	<i>stoloma</i>	<i>stoloma</i>
	PL	<i>stoli</i>	<i>stole</i>	<i>stolov</i>	<i>stolih</i>	<i>stolom</i>	<i>stoli</i>
Class II	#	NOM	ACC	GEN	LOC	DAT	INST
Fem. <i>hiša</i> "house"	SG	<i>hiša</i>	<i>hišo</i>	<i>hiše</i>	<i>hiši</i>	<i>hiši</i>	<i>hišo</i>
	DU	<i>hiši</i>	<i>hiši</i>	<i>hiš</i>	<i>hišah</i>	<i>hišama</i>	<i>hišama</i>
	PL	<i>hiše</i>	<i>hiše</i>	<i>hiš</i>	<i>hišah</i>	<i>hišam</i>	<i>hišami</i>
Class III	#	NOM	ACC	GEN	LOC	DAT	INST
Fem. <i>stvar</i> "thing"	SG	<i>stvar</i>	<i>stvar</i>	<i>stvari</i>	<i>stvári</i>	<i>stvári</i>	<i>stvarjo</i>
	DU	<i>stvari</i>	<i>stvari</i>	<i>stvari</i>	<i>stvareh</i>	<i>stvarema</i>	<i>stvarema</i>
	PL	<i>stvari</i>	<i>stvari</i>	<i>stvari</i>	<i>stvareh</i>	<i>stvarem</i>	<i>stvarmi</i>
Class IV	#	NOM	ACC	GEN	LOC	DAT	INST
Neut. <i>mesto</i> "town"	SG	<i>mesto</i>	<i>mesto</i>	<i>mesta</i>	<i>mestu</i>	<i>mestu</i>	<i>mestom</i>
	DU	<i>mesti</i>	<i>mesti</i>	<i>mest</i>	<i>mestih</i>	<i>mestoma</i>	<i>mestoma</i>
	PL	<i>mesta</i>	<i>mesta</i>	<i>mest</i>	<i>mestih</i>	<i>mestom</i>	<i>mesti</i>

Table 1: Declension of masculine, neuter and feminine nouns

As can be seen from Table 1, there is a lot of syncretism in the nominal paradigm, which is represented graphically, when observed in adjacent cells, through the omission of cell-separating lines. For instance, genitive and locative case are syncretic between dual and plural for all nouns. Furthermore, in the dual, nominative and accusative dual forms and dative and instrumental dual forms are syncretic for all nouns. For nouns from Class III, syncretism in the genitive case includes all three number values.³

1 For Class I, Table I presents the paradigm for inanimate nouns; for animate nouns, the accusative singular form equals the genitive form rather than the accusative form. In addition to the paradigms from Table I, there also exists a small number of invariable nouns, such as some feminine endearment terms like *babi* 'granny', some foreign names and some acronyms. There also exist paradigms that are formally equivalent to the adjectival declensions from section 1.2 below, whose members can be seen as cases of nominalized adjectives/adjectives modifying a null noun. Note that the declension classification in Table I departs from the classification usually used in Slovenian linguistics, for which see Toporišič (2000). The ordering of cases in Table I is as in Caha (2009; cf. also Tesnière 1925a) and thus departs from the NOM-GEN-DAT-ACC-LOC-INSTR ordering of recent Slovenian linguistics (see Toporišič 2000).

2 Noun phrases in the locative and instrumental cases obligatorily cooccur with a preposition; we do not mark this in Table 1, nor in Tables 2, 3 and 4.

3 Those Class-III nouns which, unlike *stvar* "thing" from Table 1, do not exhibit variable stress placement, such as *priložnost* 'opportunity', exhibit additional syncretism, with the locative and dative singular having the same form as genitive singular (and nominative, accusative and genitive dual and

1.2 Pronominals

All types of pronouns have dual forms (with the exception of the number-neutral reflexive *sebe* (*se*), which uses the singular forms with singular, dual and plural antecedents). Demonstrative, possessive, *wh*- and relative pronouns are all adjectival in nature (see 1.4 below for adjectival paradigms). In this section, we will thus only present the paradigms of personal pronouns ('I', 'you', etc.). Note that for some feature specifications, personal pronouns have a strong form and a weak/clitic form. In Table 2, the strong pronoun is listed first, followed by the weak pronoun in parentheses.

		NOM	ACC	GEN	LOC	DAT	INST
SG	1 st	<i>jaz</i>	<i>mene (me)</i>	<i>mene (me)</i>	<i>meni</i>	<i>meni (mi)</i>	<i>mano</i> ⁴
	2 nd	<i>ti</i>	<i>tebe (te)</i>	<i>tebe (te)</i>	<i>tebi</i>	<i>tebi (ti)</i>	<i>tabo</i>
	3 rd <i>m</i>	<i>on</i>	<i>njega (ga)</i>	<i>njega (ga)</i>	<i>njem</i> ⁵	<i>njemu (mu)</i>	<i>njim</i>
	3 rd <i>f</i>	<i>ona</i>	<i>njo (jo)</i>	<i>nje (je)</i>	<i>njej</i>	<i>njej (ji)</i>	<i>njo</i>
		NOM	ACC	GEN	LOC	DAT	INST
DU	1 st	<i>midva</i> ⁶	<i>naju</i> ⁷	<i>naju</i>	<i>naju</i> ⁸	<i>nama</i>	<i>nama</i>
	2 nd	<i>vidva</i>	<i>vaju</i>	<i>vaju</i>	<i>vaju</i>	<i>vama</i>	<i>vama</i>
	3 rd	<i>onadva</i>	<i>njiju (ju)</i>	<i>njiju (ju)</i>	<i>njiju</i>	<i>njima (jima)</i>	<i>njima</i>
		NOM	ACC	GEN	LOC	DAT	INST
PL	1 st	<i>mi</i>	<i>nas</i>	<i>nas</i>	<i>nas</i>	<i>nam</i>	<i>nami</i>
	2 nd	<i>vi</i>	<i>vas</i>	<i>vas</i>	<i>vas</i>	<i>vam</i>	<i>vami</i>
	3 rd	<i>oni</i>	<i>njih (jih)</i>	<i>njih (jih)</i>	<i>njih</i>	<i>njim (jim)</i>	<i>njimi</i>

Table 2: Declension of personal pronouns

plural). Furthermore, syncretism also obtains across noun classes, in particular Class I and Class IV nouns are syncretic in the singular for genitive, locative, dative and instrumental, and in the dual and plural for locative, dative and instrumental.

4 Singular personal pronouns for 1st and 2nd person have two variants in the instrumental case: *menoj* and *mano*. *Menoj/teboj* is formal, while *mano/tabo* is more common in the spoken language (Herrity 2016).

5 The third-person form in the locative case has two variants: the prescriptive *njem* and the prescriptively "unacceptable" *njemu* (Toporišič et al. 2001), which is syncretic with the dative form.

6 There is gender distinction for all dual and plural pronouns, but only in the nominative case. Feminine forms are as follows; DU: *medve*, *vedve*, *onidve*; PL: *me*, *ve*, *one*. Standard Slovenian acknowledges two variants for dual nominative feminine forms: alongside the forms *medve/vedve/onedve* also *midve/vidve/onidve*.

7 1st- and 2nd-person pronouns in dual and plural have homophonous clitic and non-clitic versions of the pronoun in accusative, genitive, and dative. The two series differ only in the presence/absence of stress (e.g. *náju* vs. *naju*).

8 The dual locative forms have two variant sets: *naju/vaju/njiju* and *nama/vama/njima*. The former is syncretic with the ACC/GEN forms (*naju/vaju/njiju*), the latter with the DAT forms (*nama/vama/njima*). The latter variants are prescriptively seen as "acceptable but dispreferred" (cf. Toporišič et al. 2001).

As can be seen from *Table 2*, there is no syncretism leveling number distinction in the standard Slovenian personal pronoun declension. Within a given number value, however, almost all accusative and genitive forms are syncretic, locative forms are always syncretic with either dative or accusative/genitive forms, and in the dual the instrumental forms are syncretic with dative forms.^{9,10}

1.3 Numerals/quantifiers

Cardinal numerals and agreeing quantifiers are also adjectival in nature and inflect for case and number, by and large like adjectives (see section 1.4 below). The numeral *dva* “two” (and higher numerals ending in *dva*) and the quantifier *oba* “both” only have dual forms (Jakop 2012: 355), and the numerals *tri* “three” and *štiri* “four” (and higher numerals ending in these) and the quantifier *vsi* “all” only have plural forms, as shown in *Table 3*.

		NOM	ACC	GEN	LOC	DAT	INSTR
<i>dva</i> “two” DUAL	Masc.	<i>dva</i>	<i>dva</i>	<i>dveh</i>	<i>dveh</i>	<i>dvema</i>	<i>dvema</i>
	Fem. & Neut.	<i>dve</i>	<i>dve</i>	<i>dveh</i>	<i>dveh</i>	<i>dvema</i>	<i>dvema</i>
<i>tri</i> “three” PLURAL	Masc	<i>trije</i>	<i>tri</i>	<i>treh</i>	<i>treh</i>	<i>trem</i>	<i>tremi</i>
	Fem. & Neut.	<i>tri</i>	<i>tri</i>	<i>treh</i>	<i>treh</i>	<i>trem</i>	<i>tremi</i>

Table 3: Declension of numerals

Unlike *dva* “two”/*oba* “both” and *tri* “three”/*štiri* “four”, which only have dual or plural forms, respectively, the numeral *en* “one” has singular forms as well as dual and plural forms, declining exactly like adjectives (see section 1.4 below).¹¹ The dual and plural forms of the numeral *en* “one” can be used for referring to two or more pairs/sets of things, or with pluralia tantum nouns, as in (1).^{12,13}

- (1) a. *en avto*
one car

9 Unlike standard Slovenian, spoken varieties do exhibit syncretism leveling number distinctions between dual and plural forms (e.g. 3rd-person ACC-GEN dual clitic *ju* getting replaced by the plural *jih*). See Jakop (2006: 163-167) for a description of the dual in personal pronouns across dialects.

10 In addition to the forms from *Table 2*, there also exist, in a subset of the paradigm cells, complex forms combining (a subset of) prepositions such as *za* “for”, *na* “with”, *med* “between”, etc., with a version of the full pronoun (in its usual preposition governed case), such as *zanjo* ‘for her’, *nanju* ‘on them_{DU}’, *mednje* ‘between them_{PL}’, etc.

11 *En* also inflects for all three numbers in its non-standard indefinite-article use, with the forms being the same as in its numeral use.

12 In some non-standard varieties, the paradigms of *dva* ‘two’ and *oba* ‘both’ also exhibit plural forms in a further subset of cases (Jakop 2012: 356). These are generally used instead of dual forms for referring to sets of two, i.e., as syncretism leveling the dual-plural distinction (e.g. *z dvemi_{PL}/obemi_{PL} rokami_{PL}* ‘with two/both hands’, *pred dvemi_{PL} leti_{PL}* ‘two years ago’); one example employing such a form for reference to a pair of sets, however, is also attested on the internet, *Poznam družino z dvemi_{PL} dvojčki_{PL} zaporedoma* ‘I know a family with two sets of twins in a row’, although a separate derived numeral would most typically be used to express this.

13 For referring to two and three/four sets of things, a derived type of numeral (Herrity’s 2015: 189 “differential numeral”) is used, which can also inflect for plural (e.g. *dvoje_{PL} vžigalice_{PL}* ‘two sets/packs of matches’).

- ‘a/one car’
- b. *Enota obsega:* 3 *stanovanjske* objekte - dvojčke
 unit comprises 3 residential object_{PL} twin_{PL}
 (od teh ena dvojčka že prodana) (www)
 of these one_{DU} twin_{DU} already sold
 ‘The complex comprises:- 3 residential buildings - semi-detached houses
 (of which one set of two semi-detached houses has already been sold)’
- c. *ene hlače*
 one_{PL} pant_{PL}
 ‘one pair of pants’

As can be seen from *Table 3*, the numeral declension shows substantial syncretism. In general, the patterns are the same as in the adjectival declension, though there is additional case- and gender-distinction leveling across the nominative-accusative forms of ‘two’/‘both’ and of ‘three’/‘four’.

1.4 Adjectives

Adjectives agree with nouns they modify in gender, number, and case (there also exists a small number of borrowed invariable adjectives, such as *prima* ‘great’, *fejst* ‘good’, *kul* ‘cool’, *fensi* ‘fancy’). *Table 4* below presents the forms for the adjective ‘big’. (Several types of pronouns, such as demonstratives, possessives, *wh*-pronouns, relative pronouns, etc., are all adjectival in nature and thus also decline as described in *Table 4*.)

	#	NOM	ACC	GEN	LOC	DAT	INST
Masc. <i>velik</i> “big”	SG	<i>velik</i>	<i>velik</i>	<i>velikega</i>	<i>velikem</i>	<i>velikemu</i>	<i>velikim</i>
	DU	<i>velika</i>	<i>velika</i>	<i>velikih</i>	<i>velikih</i>	<i>velikima</i>	<i>velikima</i>
	PL	<i>veliki</i>	<i>velike</i>	<i>velikih</i>	<i>velikih</i>	<i>velikim</i>	<i>velikimi</i>
	#	NOM	ACC	GEN	LOC	DAT	INST
Fem. <i>velika</i> “big”	SG	<i>velika</i>	<i>veliko</i>	<i>velike</i>	<i>veliki</i>	<i>veliki</i>	<i>veliko</i>
	DU	<i>veliki</i>	<i>veliki</i>	<i>velikih</i>	<i>velikih</i>	<i>velikima</i>	<i>velikima</i>
	PL	<i>velike</i>	<i>velike</i>	<i>velikih</i>	<i>velikih</i>	<i>velikim</i>	<i>velikimi</i>
	#	NOM	ACC	GEN	LOC	DAT	INST
Neut. <i>veliko</i> “big”	SG	<i>veliko</i>	<i>veliko</i>	<i>velikega</i>	<i>velikem</i>	<i>velikemu</i>	<i>velikim</i>
	DU	<i>veliki</i>	<i>veliki</i>	<i>velikih</i>	<i>velikih</i>	<i>velikima</i>	<i>velikima</i>
	PL	<i>velika</i>	<i>velika</i>	<i>velikih</i>	<i>velikih</i>	<i>velikim</i>	<i>velikimi</i>

Table 4: Declension of adjectives (shown with *velik* “big”)

As illustrated in *Table 4*, in the adjectival declension, genitive and locative do not distinguish dual and plural forms. Furthermore, nominative and accusative forms are

syncretic in the dual and plural for all three genders, and in the singular for masculine and neuter.¹⁴

1.5 Verbs

Verbs agree with nominative subjects in person, number, and gender. In the present tense, verbs (i.e. lexical verbs, copulas, modals, aspectuals, etc.) agree only in person and number. In periphrastic constructions consisting of a present, past, or future auxiliary and a participle, such as the *l*-participle (cf. Marvin 2007) or the passive participle, the auxiliary agrees in person and number, whereas the participle agrees in number and gender (i.e., shows nominal agreement). *Table 5* below presents the conjugation patterns of *delati* “work” in synthetic and compound tenses (in which the auxiliary is “be”) as well as in the imperative.

	person	SINGULAR	DUAL	PLURAL
Present tense	1 st	<i>delam</i>	<i>delava</i>	<i>delamo</i>
	2 nd	<i>delaš</i>	<i>delata</i>	<i>delate</i>
	3 rd	<i>dela</i>	<i>delata</i>	<i>delajo</i>
	person	SINGULAR	DUAL	PLURAL
Past tense auxiliary	1 st	<i>sem</i>	<i>sva</i>	<i>smo</i>
	2 nd	<i>si</i>	<i>sta</i>	<i>ste</i>
	3 rd	<i>je</i>	<i>sta</i>	<i>so</i>
	person	SINGULAR	DUAL	PLURAL
Future tense auxiliary	1 st	<i>bom</i>	<i>bova</i>	<i>bomo</i>
	2 nd	<i>boš</i>	<i>bosta</i>	<i>boste</i>
	3 rd	<i>bo</i>	<i>bosta</i>	<i>bojo</i>
	person	SINGULAR	DUAL	PLURAL
Imperative	1 st		<i>delajva</i>	<i>delajmo</i>
	2 nd	<i>delaj</i>	<i>delajta</i>	<i>delajte</i>
	gender	SINGULAR	DUAL	PLURAL
Future and past participles	masculine	<i>delal</i>	<i>delala</i>	<i>delali</i>
	feminine	<i>delala</i>	<i>delali</i>	<i>delale</i>
	neuter	<i>delalo</i>	<i>delali</i>	<i>delala</i>

Table 5: Conjugation of *delati* “work” in synthetic and compound tenses and the imperative.

As can be seen from *Table 5*, the 2nd and 3rd person dual forms are syncretic, but there is no syncretism across number values in the verbal paradigm in the synthetic tense,

¹⁴ The adjectival paradigm also shows syncretism across genders. In the dual and plural all three genders are syncretic for genitive, locative, dative and instrumental. Feminine and neuter gender are further syncretic in the dual for all cases, while masculine and neuter are syncretic in the singular for genitive, locative, dative, and instrumental.

the imperative, or the auxiliary forms of the compound tenses. The participle, which essentially shows nominal agreement, shows the same syncretisms that are observed in the nominal domain.

2. Use of the dual

2.1 Dual and agreement

Traditionally, the dual is described as a grammatical number used when the subject refers to two people/items, which includes subjects that are formed with coordination of two singular subjects (“dual [refers] to [the value] 'two' (or rather, 'one plus one')”; Toporišič 2000: 271).¹⁵ The subject triggering dual agreement can be of any type: a simple noun phrase, (2), a coordination, (3), a pronoun, (4), and since Slovenian is a pro-drop language, also by a non-overt dual subject, (5).

- (2) *Otroka* *sta* *igrala* *odbojko.*
 child.DU.M.NOM AUX.DU play.DU.M volleyball
 "The (two) children played volleyball."¹⁶
- (3) *Žodor in Ilija* *sta* *igrala* *odbojko.*
 Žodor and Ilija AUX.DU play.DU.M volleyball
 "Žodor in Ilija played volleyball."
- (4) *Midva rada planinariva.*
 we-two like.DU.MASC hiking.DU.1P
 "The two of us like to hike in the mountains."
- (5) *Včeraj* *sva* *bila* *doma.*
 yesterday AUX.DU.1P were.DU.M home
 "Yesterday, we(-two) were at home."

In Slovenian the noun agrees in number, gender and case with all prenominal elements inside the noun phrase, (6), as well as on postnominal adjective phrases (*umazana kot vrag*) and on depictive secondary predicates (*pozabljena*), (7).¹⁷

- (6) *oba tista dva Anina*
 both.DU.M.NOM those.DU.M.NOM two.DU.M.NOM Ana's.DU.M.NOM
rdeča bicikla
 red.DU.M.NOM bicycle.DU.M.NOM
 "both of those two red bicycles of Ana's"

15 The dual also shows up with numbers like 102, 202 etc., (i) (and the singular, like in English, with numbers like 101, 201 etc.), which seems to be a consequence of how these numbers are composed (i.e. 100 [Ns +] 2 Ns).

(i) *Posadili smo 102 drevesi.*
 Planted AUX 102 tree.DU
 "We planted 102 trees."

Given the nature of Slovenian two-digit numbers, where ones precede tens (21= *ena in dvajset* 'one and twenty'), the number 2 does not come close to the noun with numbers below 100.

16 Throughout this chapter, we translate Slovenian bare dual nouns to English with the combination of a parenthesized numeral *two* and a noun in order to distinguish the translations of bare dual nouns from those of the combinations of 'two' and a dual noun.

17 The glosses ignore animacy, for which see Toporišič (2000).

- (7) *Bicikla, umazana kot vrag, sta ležala*
 bicycles.DU.M.NOM dirty.DU.M.NOM as devil AUX.DU lay.DU.M
pozabljena v kotu.
 forgotten.DU.M.NOM in corner
 "The (two) really dirty bicycles were lying in the corner all forgotten."

Also, when the head of a relative clause is in the dual, the relative pronoun has to be in the dual too.

- (8) *Oba otroka, s katerima je učiteljica*
 both.DU.M.NOM children.DU.M.NOM with which.DU.INST AUX.SG teacher.SG
pospravila razred, sta dobila nagrado.
 cleaned.SG classroom AUX.DU.2P got.DU.M reward
 "Both children with whom the teacher tidied up the classroom got a reward."

In short, agreement with a dual NP results in dual agreement forms.

Some exceptions to the general rule presented above—"dual is two, or else one plus one"—can also be found. The clearest case comes from conjunct agreement, where coordination of two dual nouns does not necessarily trigger plural agreement on the verb (Marušič et al. 2008, Šuligoj 2017), (9)

- (9) *Prevleki in naslonjali sta narejeni iz usnja.*
 cover.DU and armchair.DU AUX.DU made.DU from leather
 "The (two) covers and the (two) armchairs are made of leather." (Šuligoj 2017)

Similarly to how conjunct agreement behaves when one of the conjuncts is a default-agreement-inducing noun phrase with a 5&up numeral (cf. Marušič and Nevins 2010), whenever the noun phrase closer to the verb is in dual, the verb typically surfaces with dual agreement, regardless of what the other conjunct is, (10)-(11).

- (10) *Skleda in cedili sta ležali v koritu.*
 pot.SG.F and strainer.DU.N AUX.DU laid.DU.F/N in sink
 "A pot and (two) strainers were laying in the sink." (Šuligoj 2017)
- (11) *Pet skled in dve pokrovki sta ležali v koritu.*
 five pot.PL.GEN and two cover.DU AUX.DU laid.DU in sink
 "Five pots and two lids were lying in the sink."

It should be noted, though, that with a coordination of two dual noun phrases plural agreement is also possible, in particular when the two noun phrases are human, as in (12). In fact, when the coordinated subject includes the first person dual pronoun, dual agreement does not even seem possible, (13).

- (12) *Dva Rusa pa dva Američana so šli staviti ...*
 two Russians.DU and two Americans.DU AUX.3PL went.PL.M bet.INF
 "Two Russians and two Americans placed bets ..."
- (13) a. *Midva in vidva bomo igrali nogomet.*
 we-two and you-two AUX.1PL play.PL.M football
 "The two of us and the two of you will play football."

- b. **Midva in vidva bova/bosta igrala nogomet.*
 we-two and you-two AUX.DU.1P/2P play.DU.M football
- c. **Vidva in midva bova/bosta igrala nogomet.*
 you-two and we-two AUX.DU.1P/2P play.DU.M football

2.2 Pair nouns and lexical restrictions

It has been observed (Kopitar 1808: 218, Jakopin 1966: 99, Priestly 1993: 440-1, Derganc 2003: 172, Jakop 2008, Dvořak and Sauerland 2006, etc.) that the dual is, perhaps surprisingly, not used in Slovenian when the noun refers to an item that typically comes in a pair. For example, when used to denote a person's (or animal's) pair of legs, arms, eyes, etc., the nouns *noga* "leg", *roka* "arm", *uho* "ear", etc., are used in their plural forms (*noge* "legs.PL", *roke* "arms.PL", *ušesa* "ears.PL") rather than in their dual forms (*nogi* "legs.DU", *roki* "arms.DU", *ušesi* "ears.DU").

- (14) *Noge me bolijo.*
 leg.PL.NOM I.DAT hurt.PL
 'My legs hurt.' (Derganc 2003, (28))
- (15) *Peter ima velika ušesa.*
 Peter has.3P.SG big.NEUT.PL.ACC ear.NEUT.PL.ACC
 'Peter has big ears.'
- (16) *Si si sezul čevlje?*
 AUX.2P.SG REFL.DAT take-off.SG shoe.PL.ACC
 'Did you take off your shoes?'
- (17) *Pokliči svoje starše.*
 call.2P.SG.IMP self's.PL parent.PL.ACC
 'Call your parents.'

When these nouns are used in their dual form, a possible interpretation is that the two items are not the pair of body parts belonging to the same person. For example, the dual noun in (18) is interpreted as denoting two ears, but these are not Peter's own ears; they could be two puppet ears that were assigned to him to wash. In (19), the dual 'arms' describes two hands that are not known by the speaker, at the moment of speaking, to belong to the same person (to be a person's pair of hands) as the person is hidden behind a tree, so the speaker reports seeing two independent hands sticking out from behind a tree.

- (18) *Peter ima veliki ušesi.*
 Peter has.3P.SG big.NEUT.DU.ACC ears.NEUT.DU.ACC
 'Peter has (two) big ears.'
- (19) *Roki, ki štrlita izza drevesa, sta od Melise.*
 arm.DU.M.NOM that stick.DU.3P from-behind tree
 AUX.DU.3P of Melisa
 'The (two) hands sticking out from behind the tree are Melisa's.'

However, in addition to the plural, certain nouns of this class, as noted for *starši* 'parents' by Derganc (2003: 174), also allow the dual when reference is made to a pair, (20)-(21). Although (21) is considered substandard by the Toporišič *et al.*

(2001) manual of style, such dual-marked pair nouns are abundantly attested in contemporary written standard Slovenian as it appears in newspapers.

- (20) *Starši* *so* *me* ***obiskali***. (Derganc 2003, (37))
 Parents.PL AUX.PL me visited.PL
 "My parents visited me."
- (21) *Starša* *sta* *me* ***obiskala***. (Derganc 2003, (38))
 Parents.DU AUX.DU me visited.DU
 "My (two) parents visited me."

Another such paired noun is *dvojčka* "(two) twins" (and expressions like *enojajčna dvojčka* "identical twins", *siamska dvojčka* "Siamese twins" etc.), which is not only widely attested in both its dual and plural forms in contemporary written standard Slovenian as it appears in newspapers, but also has the terms *siamska_{DU} dvojčka_{DU}* "Siamese twins" and *enojajčna_{DU} dvojčka_{DU}* "identical twins" listed only in the dual in Toporišič *et al.*'s (2001) prescriptive manual of style. Whereas 'give birth to twins' is exemplified in both Toporišič *et al.*'s (2001) manual of style and Bajec *et al.*'s (1970-1991) Slovenian dictionary only with the plural form, as in (22), a Google search of the internet reveals a usage ratio of 1:1.5 in favor of the dual variant, *rodila je dvojčka_{DU}* (perhaps partly an effect of hypercorrection). Nevertheless, in some uses and registers, the plural *dvojčki* is clearly more frequent than the dual *dvojčka*: comparing *voziček za dvojčke* "stroller for twins.PL" and *voziček za dvojčka* "stroller for twins.DU", a Google search of the internet reveals a usage ratio of 6:1 in favor of the plural variant.

- (22) *Rodila* *je* ***dvojčke*** (Bajec *et al.* 1970-1991)
 give-birth AUX twins.PL
 "She gave birth to twins."

As shown by (23)-(24), it is a characteristic feature of paired nouns that *dva* "two" and *oba* "both" generally cannot be used with a plural-marked paired noun (though see footnote 12 above), thus overriding the otherwise preferential use of the plural on pair nouns, presumably in line with the plural forms of paired nouns being restricted to reference to a person's pair of legs as a single entity.

- (23) *Obe nogi* *me* ***bolita***. [contrast with (14) above]
 both leg.DU.NOM I.ACC hurt.DU
 "Both of my legs hurt." (Derganc 2003, (31))
- (24) *Vsi imamo* *dve roki* *in dve nogi*.
 all have.1.PL.PRES two hand.DU and two leg.DU
 "We all have two hands and two feet." (Derganc 2003, (30))

2.3 Numerals and quantifiers with dual nouns

It is often noted that Slovenian nouns carrying dual morphology are, perhaps surprisingly, typically used together with the numeral "two" or a quantifier like "both", as shown by (25) (based on (30) from Dvořak and Sauerland 2006: 109).

- (25) *Kupil sem *(dve) knjigi.*
 bought AUX two book.DU
 ‘I bought two books.’

It is also known, however, that this is neither a hard-and-fast nor an across-the-board rule. For Dvořák and Sauerland (2006: 103), a dual-marked noun “generally needs to be” preceded by the numeral/quantifier when it is “initially introduced”; for Derganc (2003: 168), this numeral-/quantifier-modification “can be omitted if the speaker knows that the nominal phrase refers to two entities”; for Jakopin (1966: 99), dual-marked nouns without numeral/quantifier modification seem to receive a definite interpretation. An example of such an unmodified definite dual-marked noun is in (26).

- (26) *Dva kupca sta stopila v trgovino. Ko sta si kupca
 two buyers.DU AUX.DU step.DU in shop when AUX.DU REFL buyers.DU
 ogledala blago, sta začela naročati.* (Jakopin 1966: 99)
 see.DU goods AUX.DU start.DU order.INF
 ‘Two shoppers entered the store. After the (two) shoppers have had a look
 at the goods, they starting ordering.’

Definiteness as the licenser of the absence of overt expression of duality next to the dual-marked noun can also be invoked for Dvořák and Sauerland’s (2006) examples from (27)-(28), in which the relevant dual noun (underlined) does not appear with a lexical marker of duality – although duality *is* overtly encoded inside the complement of the dual-marked noun as in (27) and (through the coordinated subject) inside the restrictive relative clause as in (28).

- (27) *Voznika* *dveh avtomobilov sta se kregala.*
 drivers.DU.M.NOM two.DU.GEN cars.DU.M.GEN AUX.DU REFL argued.DU.M
 ‘The drivers of (the) two cars were arguing.’
 (Dvořák and Sauerland 2006: 105, (17))
- (28) *Moža*, *ki sta poročena z Mojco in Ano,*
 man.DU.M.NOM who AUX.DU.3P married.DU.M with Mojca and Ana
sta srečna.
 AUX.DU.3P happy.DU.M
 ‘The men who are married to Mojca and Ana are happy.’
 (Dvořák and Sauerland 2006: 105, (18))

Dual nouns without any overt/lexical expression of duality are common in headlines (Jakopin 1966: 100), typically with a specific interpretation, (29). Moreover, as already mentioned in 2.2 above, *enojajčna dvojčka* ‘identical twin.du’ is listed in dictionaries as a technical term in the dual¹⁸, and can easily be used without numeral modification in noun phrases not carrying any degree of givenness, even acting as type-denoting NP, as in (30).

18 This might make it seem as an instance of an otherwise unattested ‘dualia tantum’ noun. However, in contexts like ‘give birth to identical twins’ or ‘expect identical twins’, ‘identical twins’ and ‘twins’ more generally can also be used, as is the case with standard paired nouns, in the plural form; attestations of this are also found in corpora. Moreover, this phrase, as well as the noun ‘twin’ on its own, can also be found in the singular, as in ‘the other identical twin’ or ‘my identical twin’.

- (29) *Policisti po Gorici lovili tatici*
 police-officers around Gorica chased thief.ACC.DU
 ‘Police chase (two) thieves around Gorica’
- (30) *A si že videl enojajčna dvojčka?*
 Q AUX already seen single-egg.ADJ.ACC.DU twin.ACC.DU
 ‘Have you ever seen (two) identical twins?’

The only thing that seems to be given in this case is the duality of twins, i.e., the fact that twins come in pairs.

In certain cases, dual-marked nouns without numeral modification can also be used with a generic interpretation. Contrasting (31)-(33), Jakopin (1966: 99) observes that unlike the singular and the plural versions, the version in (33), with the dual-marked noun, cannot be a generic statement about children’s attitudes but only a report about the attitude of two concrete children.

- (31) *Otrok se rad igra.*
 child.NOM.SG REFL glad.SG.MASC play.SG
 ‘A child likes to play.’
- (32) *Otroci se radi igrajo.*
 child.NOM.PL REFL glad.PL.MASC play.PL
 ‘Children like to play.’
- (33) *Otroka se rada igrata.*
 child.NOM.DU REFL glad.DU.MASC play.DU
 ‘The/Our (two) children like to play.’

However, generic interpretation is possible in the case of nouns that were mentioned in 2.2 as partly behaving like pair nouns, and in which a generic characteristic can sensibly be ascribed to pairs (rather than to any individual on their own), such as ‘spouses’, ‘twins’, ‘parents’, ‘brothers’, (34).

- (34) *Saj veš, kako je – zakonca / dvojčka / brata vedno držita skupaj.*
 spouses.DU twins.DU brothers.DU always stick together
 ‘You know what it’s like: (two) spouses / (two) twins / (two) brothers will always stick together.’

3. Semantics and pragmatics of the dual

Slovenian dual is typically claimed to simply mean "two" (cf. Kopitar 1808: 218, Janežič 1863: 69, Toporišič 2000: 271, Herrity 2016: 35), and as it is often accompanied by the numeral "two" (see 2.3 above) the conclusion that it basically means the same as the numeral becomes enticing. But as the question about the interpretation of numerals is not settled (cf. Schulz and van Rooij 2006, Breheny 2008, Barner 2012, etc.), saying that the interpretation of dual is akin to that of the numeral 2 does not explain much. If we suppose that the dual has exact interpretation—that its meaning is simply "exactly two"—we have made it different from the other non-singular number: the plural clearly cannot have an exact interpretation as it means "more than one/two". But even for the singular it has been argued that its semantics is really "more than zero" rather than "one" (Chierchia *et al.* 2008).

A similar claim has, in fact, been made for Slovenian by Toporišič (2000), who claims that the singular is semantically unmarked with respect to the dual and the plural because it can, in certain contexts, be used for more than one item. (35) shows a singular-marked noun used to refer to more than one item, as its command is typically understood as calling on each person to grab a different, their own rifle.

- (35) *Vsi puško na ramo.*
 all.PL.NOM rifle.SG.F.ACC on shoulder
 'Everyone put a rifle on your shoulder.'

Toporišič (2000) further claims that the plural is semantically unmarked with respect to the dual because it is used instead of the dual with paired body parts (see section 2.2 above). Using examples similar to (35), it could then be argued that the dual is unmarked with respect to the plural. A command stating "grab (two) guns.DU", when given to a group of people, can be understood as calling on each person to grab two different guns, (36), suggesting that the dual, too, can be used to express a quantity larger than 2.

- (36) *Vsi (dve) pištoli za pas.*
 all.PL.NOM two pistol.DU.M.ACC behind belt
 'Everyone put their (two) pistols by their side.' (without the numeral)
 'Everyone put two pistols by their side.' (with the numeral)

However, this type of data may not constitute valid evidence. When (36) is used with the numeral, what licenses the dual noun phrase could be the numeral supporting an 'at-least two' interpretation. And when it is used without the numeral, the noun phrase is interpreted definitely, and so rather than from the dual-/singular-marked noun itself, this interpretation of (35)-(36) could result from whatever Slovenian uses instead of the definite article that serves as a distributor (Luisa Martí, p.c.).

On the other hand, the dual seems to have a weak inclusive interpretation, much like the plural (cf. Krifka 1989, Cabredo Hofherr this volume, etc.). For example, the Slovenian plural can get an inclusive reading under negation: (37) does not mean that Juš did not wave to the plurality of classmates, but simply that he waved to no classmates of his.

- (37) *Juš ni pomahal sošolcem.*
 Juš.SG.NOM not-aux.3P.SG waved.SG.M child.PL.M.GEN
 'Juš did not wave to his classmates.' (=waved to no classmates of his)

Inclusive readings of weak plurals are licensed under negation, in if-when contexts, in questions, and in modal environments. A good example to test the Slovenian dual on this is hard to construct as typical pair nouns are used with the plural (see section 2.2); it seems, however, that non-lexicalized pair nouns like *posvojitelja* "adoptive-parents" do get an inclusive reading when used in the relevant contexts, (38)-(40), much like the plural in (37).

- (38) *Juš ni pomahal posvojiteljema.*
 Juš.SG.NOM not-aux.3P.SG waved.SG.M adoptive-parents.DU.M.DAT
 'Juš did not wave to his (two) adoptive-parents.' (i.e. neither of them)

- (39) *Ali prideta tudi tvoja posvojitelja?*
 Q come.3P.DU also your.DU.M.NOM adoptive-parents.DU.M.NOM
 'Will your (two) adoptive parents come too?'
- (40) *Če posvojitelja to dovolita, lahko otroka*
 if adoptive-parents.DU.M.NOM this allow.3P.DU easily child.SG.M.ACC
iz vrtca odpelje kdorkoli.
 from day-care take anyone
 'If (two) adoptive parents allow it, the child can be picked up from the
 daycare by anyone.' (i.e. even if only one allows it)

Sauerland (2008) claims that akin to the plural, which can be used for reference to one-, two-, and multiple-item sets, as in (37) and (41), Slovenian dual can also be used for reference to one- and two-item sets. His examples were experimentally tested by Marušič *et al.* (in prep.), who did not find the dual to have such properties. Concretely, Sauerland argues that in the situation described in (42), the dual is appropriate because the speaker is unsure whether they are talking about one person or two. In their acceptability task, Marušič *et al.* (in prep.) found that only 19% of their 30 Slovenian subjects find the dual in this example acceptable. The experiment did not test this situation, for comparison, with a singular or plural version of the sentence; our intuition, however, is that in such an example the plural works best.

- (41) A: *Ali ima Črt otroke?*
 Q has Črt kids.PL.M.ACC
 "Does Črt have children?"
- B: *Ja. Ima enega.*
 Yes has one.SG.M.ACC
 "Yes, he has one."

- (42) Situation: I want to have someone over for dinner, but I only have enough food in the house to invite either Bill and his brother or John, who eats for two people.
- Naj prideta točno ob osmih.*
 PTCL come.3P.DU exactly at eight.LOC
 'They (dual) should come at 8 o'clock sharp.'
 (adapted from Sauerland 2008: p.75, (28))

Another example on the basis of which Sauerland (2008) claims that the dual can be used for reference to one- and two-item sets is given in (43), where according to him, the dual and the singular are both possible. However, this was again not confirmed by the experimental findings reported in Marušič *et al.* (in prep.), where only 3,6% of the subjects accepted (43)b. with the dual. On the other hand, both the singular and the plural seem possible to some degree (the acceptance rate for both was around 50%).

- (43) Situation: Each student brought at least one book. Some brought exactly one book, and others brought exactly two books, but none of them brought more than two books.
- a. *Vsak študent je prinesel s seboj svojo*
 every student AUX brought with self his.SG.F.ACC.
knjigo.
 book.SG.F.ACC

- "Every student brought his book."
- b. *Vsak študent je prinesel s seboj svoji knjigi.*
 every student AUX brought with self his.DU.F.ACC
 book.DU.F.ACC
 "Every student brought his (two) books."
- c. *Vsak študent je prinesel s seboj svoje knjige.*
 every student AUX brought with self his.PL.F.ACC
 book.PL.F.ACC
 "Every student brought his books."
 (adapted from Sauerland 2008, (25))

The data discussed here run against the claim that the dual in Slovenian is semantically less marked than the singular. There seems to be no conclusive evidence for the dual to be less marked than the plural, but there does seem to be some sort of weak dual which allows an inclusive interpretation parallel to the weak plural (cf. Cabredo Hofherr this volume). In fact the dual seems to have an interpretation corresponding to the numeral "two".

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