

# THE CLUSTER /DR/ IN THE BALKAN LANGUAGES BASED ON JUDEO-SPANISH METATHESIS /RD/>/DR/<sup>1</sup>

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The present paper approaches the preference of the consonant cluster /dr/ over /rd/ in intervocalic position in Balkan languages, opposing the preference of /rd/ in the majority of European languages, (except Slavic). The preference of intervocalic /dr/ over /rd/ is regarded as Balkan areal feature, based on the specific change of rhotic metathesis in Judeo-Spanish after its separation from the Ibero-Romance continuum. The well-known Judeo-Spanish innovation of rightward metathesis of /r/ in intervocalic cluster /rd/ to /dr/ compared to Spanish, e.g. JS *guadrar* vs. Sp. *guardar* ‘to save’, JS *akodrase* vs. Sp. *acordarse* ‘to remember’, JS *pedronar* vs. Sp. *perdonar* ‘to forgive’. The frequency of the consonant clusters /dr/ and /rd/ is analysed in texts in Judeo-Spanish, Balkan and few European languages. The obtained results reveal that in Balkan languages /dr/ is more frequent than /rd/, unlike several European languages. Judeo-Spanish resembles the Balkan languages and the intervocalic cluster /dr/ prevails over /rd/ in the analyzed texts. However, in Judeo-Spanish both the innovative and conservative forms co-exist. Language contact is regarded as the main trigger for this long-discussed consonant innovation, distinguishing Judeo-Spanish from Spanish and other Ibero-Romance languages. The same feature also differentiates the Balkan languages from other languages of Europe, yet it is also present in the Slavic languages. Contact with the latter may explain the higher /dr/ frequency in Romanian contrasting with other Romance languages. Further studies are needed to investigate the expansion of the consonant feature in question in Slavic, Balkan and Eastern-Mediterranean languages.

*Keywords:* Rhotic Metathesis /RD/>/DR/, Language Contact

## Introduction

Languages joining a linguistic area after its formation provide relevant information about the historical development of the languages involved in the same linguistic area, as well as for its most outstanding features. Likewise, the specific case of Judeo-Spanish (hereinafter ‘JS’) provides crucial data about the most salient features of the Balkan Linguistic Area and the neighboring linguistic areas in Europe and Mediterranean.

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The changes acquired and the features retained by JS after its separation from the Ibero-Romance continuum and coming into contact with the Balkan and Eastern Mediterranean languages after the end of the XVth century shed light on the predominant areal features. Current advance in the mechanisms of language contact and analysis of linguistic data allow the detection of numerous dependencies and systematic changes induced by the contact.

The development of identical new features and the stable preservation of others for hundreds and thousands of years not only by co-territorial languages reveal certain expected and regular changes, found in the languages involved in the area. Nowadays, areal linguistics detects more regular changes in the mechanisms of contact between languages, as did historical linguistics few centuries ago, based on the comparisons between Indo-European languages and their independent development in different geographical regions.

### Scope and overview

The present paper approaches the rightward rhotic metathesis in JS consonant clusters /rd/ > /dr/ in intervocalic position, e.g. JS *sodro* / Sp *sordo* ‘deaf’, JS *kuadreno* / Sp *cuaderno* ‘notebook’, JS *tadre* / Sp *tarde* ‘late’, JS *syedra* / Sp *izquierda* ‘left’, as a feature induced by language contact. In turn, JS intervocalic cluster /dr/ remained stable in extra-Iberian environment, e.g. JS *madre*, *padre*, *ojaldre* ‘a type of a pasta’, *piedra* ‘stone’, *ladronim* ‘thieves’.

The metathesis /rd/ > /dr/ is one of the broadly discussed and earliest consonant changes in Judeo-Spanish phonology attested in JS texts as from XVIth century onwards, just a century after its separation from the Ibero-Romance continuum began. Initially, doublets in personal names are found, e.g. *d’Ardero* / *d’Adrero*. In her analysis of JS testimonies from the XVIth century, Benaim (2012) specifies that the unmetathesized form appears thrice in a rabbinical text from 1594 and the metathesized only once, while in 1863 edition of the same JS text, only the unmetathesized form is found:

So in texts 11: 23, 54, 59, the name *d’Ardero* (1594 edition) is written as such. In line 3 of the same text it appears metathesized to *d’Adrero*. In the 1863, edition it appears as *d’Ardero*. (Benaim 2012: 145).

The verbal form *averdardarian* ‘check, ascertain’ also appears both unmetathesized and metathesized in 1594 and 1863 editions of the same testimony (Benaim 2012: 145).

The coexistence of both the Hispanic/conservative unmetathesized /rd/ and the innovative/contact-induced metathesized /dr/ forms is typical for JS phonology. The coexistence of multiple options is typical also for JS vocabu-

lary and syntax, where both the innovative contact-induced and conservative features appear indistinctively in the same texts.

The specific preference or replacement of /rd/ by /dr/ established and expanded over XVI–XX centuries in all varieties of JS. However, it never developed in the Moroccan (Jaketía) variety of JS and is absent from JS texts written in Italy and Western Balkans. The metathesis in question is broadly discussed as one of the main consonant innovations in JS, as noticed by Bunis (2013):

The historically metathesized consonant sequence *-dr-* co-exists with historically older *-rd-* (the latter typical of Sarajevo Judezmo, and of course Castillian) in the writings of Kalwo, Shem Tov Semo, and Semo's sons. One finds the variants + *guardar/guardar* 'to watch', *pedronar/perdonar* 'to forgive', *rekodrar/rekordar* 'to remember', *vedrá/verdá* 'true, truth'. In our texts one only meets *-dr-* in *pedrer* 'to lose', *tadrar* 'to be late', *akodrase* 'to remember', *syedro* 'left', *por modre* 'for the sake of' (< *por amor de*) ('Aharon Semo uses *para modre*, with the preposition as in Sarajevo), and only *-rd-* in *morder* 'to bite'. .... 'Aharon Semo shows *-dr-* forms almost entirely (e.g., *kuedra* 'cord'); his single *-rd-* form *perdidos* 'lost'. ...Cf. Sarajevo forms in Romano 1995: *kaler* (201), *pre-/primer* (274), *muču/munču* (248), *guardar/-drar* (185), only *-rd-* in *pardonar* (262), *akordar* (52), *vardá(t)/verdad* (314), *para morde* (247), *morder* (247). (Bunis 2013: 92).

Further, Benaim (2012) summarizes:

Metathesis of /rd/ > /dr/ is a regular innovation in most varieties of Judeo-Spanish. ... This feature appears to be unrecorded in other varieties of Hispano-Romance, and is best regarded as one of the innovations of Judeo-Spanish. ... The variations could reflect changing speech forms or the printers may have been less familiar with the language. The point is that Judeo-Spanish does not like the flap /r/ directly preceding a consonant. (Benaim (2012: 145–146). [...])

Examples of metathesis, such as *se acodró* abound in the Me'Am Lo'ez (Me'Am Lo'ez Shemot 1: 124) (Benaim 2012: 114). [...])

The verb *akodrarsi* 'to remember' is found both with and without metathesis: *Acorda* (31: 15) is attested whilst co-existing in the same text with *acuerda* (31: 16). However when the same testimony that was sent to Adarbi is sent to R Joseph Caro *acuerda* (64: 19, 20) appears both times and also in text 27A: 4. It is interesting that *acuerda* / *acorda* appear with /rd/ unmetathesized ... Benaim (2012: 131).

Likewise, "the word *cuaderno* (28: 4, 15, 25, 29, 32) is also written without the metathesis in the 1595 edition; in the 1863 edition appears as *cuadreno* (28: 4, 15, 25, 29, 32). Benaim (2012: 146).

Contrary to expected, the JS rhotic + voiceless dental cluster /rt/ remained quite stable, e.g. JS *akortar* / Sp *cortar* 'cut', JS *apartar* / Sp *apartar* 'to move apart', JS *karta* / Sp *carta* 'letter'. The metathesized form *cotró* 'he cut' is reported by Benaim (2012: 146) as absent from the texts analyzed by her, however, *cotró* is attested beside the unmetathesized form of *cortó* in the 1863 edition

of the same text. The metathesis in the initial clusters /ter/ > /tre/ e.g. JS *tresero* / Sp *tercero* ‘third’ and /per/ > /pre/ e.g. JS *presona* / Sp *persona* are inherited Aragonese and Ibero-Romance features, and not contact-induced. As pointed out by Benaïm (2012):

*presonas* (27: 7) appears metathesized in all editions. Likewise, Minervini notes that *presona* and many other examples of metathesis (Minervini 1992: 69–70) are present in texts from the Aragonese region. In the classical Judeo-Spanish text *Me’Am Lo’ez presonas* appears frequently in its metathesised form. (Benaïm 2012: 146).

However, beside the French borrowing *perdon* ‘forgive’ of pan-Balkan expansion, the finite forms of the JS verb *perdonar* appear both metathesized and unmetathesized as *pedronar/perdonar* and not as *predonar* (if following the Aragonese pattern of metathesis /per/ > /pre/), see the examples *infra*.

Regarding the historical development of Spanish, the rightward rhotic shift /rd/ > /dr/ is absent, except at dental+rhotic initial clusters modifying equally voiced and voiceless dental clusters /tor/, /dor/ > /dro/, /tro/, attested for instance in Spanish colonial documents from New Mexico: Torcuato > Trocuato, dormir > drumir ‘to sleep’. Yet it affects any other stop+rhotic cluster: garbanzo > grabanso ‘greenpeas’ (Alonso 1953)<sup>2</sup>. The above examples confirm the existence of leftward shift of /r/ in the Hispanic varieties and the absence of the rightward shift of /r/ which is found only in JS. The scarce existence of the rightward metathesis /rd/ > /dr/ from the historical development of Spanish was supported by the results obtained from the simple search in the diachronical corpus of the Spanish language CORDE<sup>3</sup>. For instance, the search of the metathesized forms *tadre* ‘late’ and *vedre* ‘green’ returned single instances provided as examples in the linguistic works by classic Hispanists like Lapesa (1942: 530)<sup>4</sup>, Zamora (1967: 285), among others, commenting this feature in JS strictly as an internal Hispanic innovation, without considering the contact with other languages. The metathesized form ‘*guadra*’ appears as a noun, synonym of *espada* ‘sword’ in XVI century Spanish, but never as a verb; while *guadramaña* ‘trick, deceit’ is commented as archaic in the poem by Baltasar del Alcázar (1550–1606).

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<sup>2</sup> En Nuevo Méjico servir (servir), dormir (dormir), drumía, drumieron (A. M. Espinosa, BDH, II, §§121 y 155). Rosenblat, BDH, II, nota 213, documenta con ejemplos de distintos dialectos españoles y americanos la tendencia a la metátesis de -r final de sílaba para constituir el grupo muta cum liquida: Trocuato < Torcuato, grabanso < garbanzo, cadraber < cadáver; en judeo-español, -rd- < -dr- como proceso regular: godro, tadre, bastadro, y hasta par amodre de mí < por amor de mí. 55 El grupo -rd- no sufre metátesis, por el contrario, en el judeo-español de Monastir (Crews, pág. 38). (Alonso 1953).

<sup>3</sup> available online: <https://www.rae.es/banco-de-datos/corde> see bibliography.

<sup>4</sup> Abundan las metátesis como acodrarsi, bedri, guarar, por ‘acordarse’, ‘verde’, ‘guardar’. (Lapesa 1942: 530).

Several other JS researchers comment the metathesis in question, like Baruch 1930: 139; Romano 1933: 19, Luria 1930, Hassán 1995, Sala 1971: 121, 154), Kanchev (1975), Nehama 1977: XV, García Moreno 2004: 210, 2006), Quintana 2006: 107–109), Bradley 2006: 84–87) among many others, however, its contact nature continues unmentioned.

### **The rhotic metathesis /rd/ > /dr/ in Sephardic texts XIX–XXI centuries**

As mentioned above, the innovative JS **rhotic metathesis /rd/ > /dr/** established as a regular change in the XVIth century and increased in the following centuries. The metathesis /rd/ > /dr/ is absent from the Ferrara Bible (Judeo-Spanish in Latin characters 1553), and from other JS texts written in Italy, e.g. *La güerta de oro* by David Atias (Livorno, 1778)<sup>5</sup> and Western Balkans. However, the search in the Historical corpus of Judeo-Spanish<sup>6</sup> CORHIJE, containing some 55 Sephardic texts dated between 1550 and 1950, returned 33 instances of the metatheiszed form *tadre* ‘late’ in 13 texts (dated between 1733 and 1953 from various places, incl. Istanbul, Thessaloniki, Izmir, Cairo, Sofia, etc.) and the unmetathesized form *tarde* returned 15 instances in 3 texts (from 1815, Vienna, 1838, Izmir, 1874, Sarajevo).

(1) Few more examples from Sephardic poems and other texts follow:

... ma tus kantikas van a kedar i por ti mos van akodrar. (Albohaire 2017)

‘Your songs will remain and will remind us about you’.

(2) I a la tadre venian a dar la beraha a los chikos en la kuna. (Perez, 1986: 26 from August-Zareřska (2018: 237).

‘And in the afternoon they were coming to bestow blessings upon the children in their cradles’.

(3) Este Rosh ha-Shana, me los va yevar al Kal i sirvirme de eyos por akodrarne de la estorya de mi puevlo. (Alschech 1865)

‘This Rosh ha-Shana, I will take them to the Synagogue and apply them to recall the history of my people.’

However, JS text from Livorno and Sarajevo present no metathesis:

(4) ...quien avla la verdad perde la amistad; ma a\_mí poco me inporta perder la amistad de\_los que non son amigos de\_la verdad (Atias 1778, Berenguer 2016: 41)

‘The one who speaks the truth loses friendship, but I am little concerned of losing the friendship of those who are not friends of truth’.

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<sup>5</sup> Transcription and edition by Berenguer Amador (2015), PhD thesis, Complutense University of Madrid.

<sup>6</sup> available online: <http://www.recursos.esefardic.es/corhijelemas/consultas.php>, see bibliography.

(5) I al kavo del kavo veras ke te vas akordar de todas regulas gramatikas ke mensioní. (Papo 1999)

‘And from time to time you will see that you remember all the grammar rules I mentioned.’

In order to illustrate the expansion of the metathesis in question and present the co-existence of both the metathesized and unmetathesized /rd/ and /dr/ forms in JS, the analysis of a short-story from early XXth century will be presented. The complete transcription<sup>7</sup> in Latin characters of *La Ermoza Rahel* (Taragan 1905, the original in rashi characters was inaccessible) has a total of 13 734 words: among them, 134 instances of /dr/ were found, out of which 40 metathesized, and 38 instances of /rd/, out of which 23 unmetathesized. Relevant are the verbs *guadrar*, *rekodrar* and *pedronar*, and their derivatives coexisting with affiliate words like *guardianes* ‘nightwatches’ and the French borrowing *pardon*. Some examples follow:

(6) Si en verdad pekí kon mis palavras, ermoza muchacha, te rogo de pedronarmelo. No, no te lo perdono – avlo Rahel kon grasya – fin ke me aseguras de vijitarme kada dia. (Taragan 1905)

‘If indeed I have sinned with my words, beautiful girl, I beg you to forgive me’. No, I will not forgive you – said Rahel smiling – until you promise to visit me every day.’

(7) Si savias tu mi padre kuantas lagrimas vertian mis ojos dia por dia en rekodrandome de ti. (Taragan 1905)

‘If you knew, my father, how many tears had come out of my eyes by remembering you every day’.

The results obtained from the analyzed text of 17 pages may be summarized, as follows:

• **metathesized forms:**

1. *tadre* ‘late’ avd., *tadrates* ‘you were late’ 2nd.Sg.Pst;
2. *godro*, ‘fat’ adj. m, *godra* adj. f ;
3. *depedrér* ‘to lose’ inf., *depedrído* ‘lost’ participle.;
4. *por modre de* ‘for the sake of’;
5. *kuedras* ‘cords’ noun Pl.

• **unmetatheiszed forms:**

1. *reverdedos* ‘greenish’ adj. Pl;
2. *verdad* ‘truth’ noun, *en verdad* ‘indeed’ adv., *verdadero* ‘true’ adj. m, *verdadera* ‘true’ adj. f.;
3. *ekstraordinarya*, adj. f ‘extraordinary’.

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<sup>7</sup> *La ermoza Rahel* (1905), transcribed in Latin characters in *El Amaneser*, Num 14, December 2018, transl. to JS from Yiddish by Ben Tsiom Taragan., Izmir, Jerusalem. (original: *Di Sheyne Rochele* by Nahum Meir Shaykevitch [Shomer], Vilnus, 1883–84).

• **double forms:**

1. *guadradores* ‘preservers’ noun, Pl, *guadrar* ‘to preserve’ inf., *guadrando* ger., *guadra* Pres, *guadrava* Imperf. Sg, *guadravan* Imperf. Pl, *guadrara*, Fut 3Sg // *guardian*, Sg ‘a guard’, *guardianes* ‘guards’ Pl;
2. *rekodro* noun Sg, ‘memory’, *rekodros* ‘memories’ noun, Pl, *rekodrar se* ‘to remember’ Inf., *rekodran* Pres. 3 Pl, *akodrandose* ‘remembering’ ger. 3 Sg, *rekodrandome*, ger. // *en rekordandose* ‘by remembering’;
3. *pedronar* Inf., *pedronava* Imperf. 3Sg, *se pedronan* Pres. 3 Pl // *el perdon* Noun, *pardon* Imperativ, *perdoname* Imperativ, *la perdono* ‘forgive her’ Pres. 1Sg.

Likewise, the numerous versions of Sephardic romances, kantigas and sayings illustrate the observed polymorphism. For instance, simple google and youtube searches of the popular Sephardic story-song Chad Gadia, also known as *el Kavretiko* ‘The Little Goat’, returned the following results: the Moroccan version applies the unmetathesized verb *morder* ‘to bite’:

(8) ... i vino el gato i mordio al cabrito (*sic*) ke kompro mi padre por dos ochitos<sup>8</sup>  
‘and then came the cat that bite the goat my father had bought for two ochitos.’

and the Oriental JS versions<sup>9</sup> apply the metathesized form *modrer* ‘to bite’:

(9) vino el perro ke modrio al gato ke se komio al kavretiko ke merko mi padre por dos levanim.

‘and came the dog that bite the cat that ate the goat my father had bought for two levanim’.

A total of 150 instances were found of metathesized form *modrio* vs 2 instances of unmetathesized *mordio* from the text versions of Chad Gadia/el Kavretiko by a simple search in internet. Likewise, the Sephardic classic work Me’am Lo’ez by Yakov Juli (1730), re-edited in Smirna 1869, presented numerous metathesized forms:

(10) ... i en ke lugar se pone si es por la vanda dereca o por la isiedra (Me’am Lo’ez, 1869 [1969]: 137)

‘and at what place it is put, be it on the right side or on the left side’

(11) En dito tiempo enfortesieron las angustyas i se pedryo la sensya (Me’am Lo’ez, 1869 [1969]: 23)

‘In those times, sorrow increased and science was lost’.

Both metathesized and unmetathesized forms were found in the collection of Sephardic songs and sayings from Belgrade:

<sup>8</sup> <https://www.youtube.com/watch?v=g5vAguPGT3k>

<sup>9</sup> <https://www.youtube.com/watch?v=tIU5g-JDJeY> ; [https://www.youtube.com/watch?v=\\_jVaBaFJJU0](https://www.youtube.com/watch?v=_jVaBaFJJU0)

(12) Ken va pidrir, ke no yori (Tutunovic 2008: 93)  
'Those who lose, let them not cry.'

In his research of the rhotic metathesis in Spanish, Lipski (1990: 91-92) notes that the rightward shift of /r/ is found but in a few cases in Spanish (e.g. *brebaje* 'potion' > *berbaje* > *bebraje*, ), and confirms the metathesis from /rd/ to /dr/ proliferates in Judeo-Spanish presenting numerous examples: *aturdir* > *atudrir* 'to confuse', *orden* > *odren* 'order', *cordero* > *codrero* 'lamb', *albarda* > *albadra* 'packsaddle'.

### **The Preference of /dr/ in the Balkan languages and in Judeo-Spanish**

In the present section, the metathesis /rd/ > /dr/ is discussed as a mere adoption of the predominant Balkan areal pattern in JS, i.e. preference of the consonant cluster where the rhotic follows the voiced dental phoneme. Across the Balkan area, liquid metathesis has long been attested: since around 1500s BCE in Ancient Greek (van Beek 2022) and around 800–1000s in Old Bulgarian (Georgiev 1964). Therefore, the preference of /dr/ intervocalic clusters over /rd/ may be regarded as a Balkan phonological feature existing also in the Slavic and Eastern-Mediterranean languages. On one hand, Balkan languages use more frequently the /dr/ cluster in intervocalic position than the cluster /rd/ and may be called /dr/-preferring, or /dr/-languages. And on the other hand, Ibero-Romance and other Romance languages prefer /rd/ over /dr/ cluster, and may schematically be called /rd/-languages. Over its four-century development as part of the Balkan linguistic area, JS tended to use more /dr/ rather than /rd/ clusters in intervocalic position, thus aligning with the predominant areal pattern.

The phonological feature in question developed for thousands of years in the history of Greek and remained stable in Modern Greek. It is also found in the other Balkan languages (see the table 1) and it also distinguishes Balkan Romance from the remainder of Romance languages. Therefore, it is quite an expected change to appear in a neo-Balkan language, such as Judeo-Spanish. The examples presented above, illustrate this consonant change and showed its development in JS after its separation from the Ibero-Romance languages. Moreover, the absence of rhotic metathesis /rd/ > /dr/ in JS texts from Italy and Bosnia, Croatia (belonging to the Balkan Sprachbund) support the contact hypothesis for the adoption of this feature into JS consonantism.



## Methodology and Data Discussion

The methodology applied is quite an old-fashioned attempt to extract phonological information out of written texts by counting the frequencies of the consonant clusters /dr/ and /rd/.

For JS, Sephardic texts from 1800-2000s were used, transcriptions in Latin characters. For the other languages, randomly selected fictional and non-fictional texts from XIX–XX centuries were used.

The statistical supportive data for Modern Greek, Bulgarian, Albanian and Romanian reveal clear preference of the consonant cluster /dr/. The analysed texts<sup>10</sup> returned the following results: 33 ρδ vs 163 δρ instances from a Modern Greek text of 294 pages, incl. at initial position of the words; 1232 ρд vs 3572 дρ Bulgarian of 610 pages (+ another text of 112 pages дρ 274 vs ρд 49 instances) and Romanian 730 instances of /dr/ vs 98 /rd/ in a text of 312 pages, Albanian 2133 /dr/ vs 1116 /rd/. The data revealed the prevalence of /dr/ over /rd/ which is in line with the well-known phonological evolution from Proto-Indo-European to Old Greek and Proto-Slavic and further to Modern Greek and Bulgarian. Yet, this preference expands all over the Balkans, and is also found in Albanian which resulted to have the least /dr/ ratio (less than 2) out of the Balkan languages. The frequency of /dr/ is 7 times higher than /rd/ in the Romanian analysed text, taking into account that Latin clearly prefers /rd/. In their evolution from Latin, Romance languages had considerably increased their /dr/ frequency, however, all the analyzed Romance languages retain the preference of /rd/ over /dr/ except Romanian and Judeo-Spanish. The Balkan contact is regarded as the main trigger for this change. The analysed JS texts transcribed in Latin script returned 48 instances of /rd/ vs 123 /dr/ in a text of 80 pages, while another two Latin transcriptions (a total of 111 pages) of JS texts from 1880 Thessaloniki and 1899 Constantinople returned 134 /rd/ vs 410 /dr/. Examples like Judeo-Spanish *perdon* ‘forgiveness’ and *perde* ‘curtain’ borrowed as such directly from French and Turkish are available in all the Balkan languages, however, the cluster /dr/ is found in the finite forms of the verb *pedronar* ‘forgive’. The edition of the classical Sephardic work Me’am Lo’ez (1864, Smirna) in Hebrew characters returned 1026 instances of דר and 3713 instances of רד, showing the prevalence of /dr/ (ratio above 3). In respect to Turkish, the analysis revealed the highest /rd/-ratio of several tens of times /rd/ more frequent than /dr/<sup>11</sup>. Therefore, the Balkan languages tend to prefer /dr/, unlike other European languages which tend to prefer /rd/ in intervocal-

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<sup>10</sup> Including dictionaries, fiction works, folkloric tales, etc. see primary sources.

<sup>11</sup> As explained by my Turkish informant, common words like Tr *burada* ‘here’, *şurada* ‘here’, *orada* ‘there’, *nerede* ‘where’, among several others, are pronounced as *burda*, *şurda*, *orda*, *nerde* in the oral speech, which will rise the overall preference of /rd/ in Turkish to a higher ratio. Similar discrepancies between oral pronunciation and written text may be found in other languages.

ic position, except Slavic. In this respect JS resembles the Balkan languages, while Turkish is characterized by a high /rd/ preference, surpassing in times Romance and Germanic languages. The statistical data need further expansion and more languages involved in the contact with the Balkan ones should be added in the analysis. Within the Balkan Linguistic Area, /dr/ prevails: the ratio is highest in Romanian, while Greek and Bulgarian have a /dr/ ratio above 3 and Albanian /dr/ ratio below 2. Simultaneously, Slavic languages appeared to prefer/dr/ over /rd/ and the contact with Slavic may explain the high ratio in Romanian differentiating it from the other Romance languages. Out of the remainder analyzed languages, Italian is characterised by /rd/-ratio around 2, while French has /rd/-ratio below 1.5, yet /rd/ frequency prevails, despite the numerous infinitives ending at -dre. Ibero-Romance languages have /rd/-ratio above 3 and Germanic languages even higher.

Language	rd	dr	ratio	number of pages
Modern Greek	33 ρδ 3296	163 δρ12413	4.32	294
Bulgarian	1232 49 ρД	3572 274 др	4.24	610, 112
Romanian	98 rd	730 dr	7.45	312
Albanian	1116 rd	2133 dr	1.9	479
Spanish	rd 1910	985 dr	1.94	1158
Portuguese	354	170	2.8	279
Italian	77 686	28 467	2.21	40 181
French	1386 4661 4108	936 3421 3817	1.23	475 583 591
Latin	rd 3384	dr 645	5.2	1839
English	rd 10 829	dr 1823	5.94	994
German	rd 156; 290	dr 65; 110	2.52	50; 52
Slovenian	29	136	4.69	65
Polish	96	259	2.7	95
Russian	99 297	320 1823	4.68	107 280
Judeo-Spanish <sup>12</sup>	38 48 134 rd	134 123 410dr	3.05	17 80 111
Hebrew	1026 רד	3713 דר	3.62	596
Turkish	1649 3547	54 33	68.97	340 216

Table 1: Frequency of /dr/ cluster versus /rd/ in the Balkan languages, compared to other European and neighboring languages, showing Judeo-Spanish preference of /dr/ over /rd/.

/dr/-preferring
/rd/-preferring

As mentioned above, JS metathesis /rd/>/dr/ is attested in XVIth century texts and established as a regular JS feature after XVIII century texts, demonstrating the quick alignment to the Balkan predominant sound pattern. Contact

<sup>12</sup> No metathesis in the Sephardic Ferrara Bible 1553 Italy (3005/rd/ vs. 2660 /dr/ or 1.12 resembling Catalan).

with the local Balkan languages occurred at the internal level of Jewish communities, i.e. mainly between Sephardic and Greek, Italian or Slavic speaking Jews many of Italian origin (speaking the respective Italian, e.g. Venetian variety), as well as Ashkenazi Jews.

The metathesis /rd/ > /dr/ maintained for the forthcoming centuries and is present in JS spoken in the Balkans (except in Bitolia, Sarajevo and other parts of the Western Balkans) and Eastern Mediterranean region and nowadays found also in JS in Israel and the USA. It is present as a contrastive phonological feature distinguishing JS from Spanish and other Ibero-Romance languages.

## **Conclusion and Further Studies**

The preference and prevalence of /dr/ over /rd/ clusters in intervocalic position in the Balkan languages and the adoption of this phonological feature in Judeo-Spanish demonstrates its areal stability and expansion, i.e. the Balkan languages may be regarded as /dr/-preferring languages in contrast to other European languages (see Table 1). As a new-joiner to the Balkan Linguistic Area (end of XVth – early XVIth century), Judeo-Spanish adopted the most outstanding areal features in its phonology, vocabulary and syntax. The preference of the intervocalic cluster /dr/ results to be an areal phonological feature and this can be proved by its adoption in Judeo-Spanish consonantism over its development in the Balkans and Eastern Mediterranean. The absence from Hispanic and Ibero-Romance languages of the rightward rhotic shift provides further evidence of the contact origin of this feature in Judeo-Spanish. The contact with Balkan and Eastern Mediterranean languages (/dr/-languages) may be regarded as the main trigger of the Judeo-Spanish metathesis /rd/ > /dr/ in intervocalic position. The /rd/ > /dr/ metathesis unattested in JS texts from Italy and from JS varieties spoken in Sarajevo and Bitolia may be explained by Italian influence. The preference of the intervocalic /dr/ instead of /rd/ in the Balkan languages is a contrastive feature between Balkan and other European languages (except Slavic). Balkan Romance languages merit further comparisons with their non-Balkan counterparts in order to find more phonological contrasts. The data exposed in Table 1 may reveal relevant trends about the language contact and shows the development of an areal feature within the phonology of a new-comer to a linguistic area. The specific case of Judeo-Spanish reveals that the adoption of the sound pattern in question lasted for a single century and it originated in personal names (metathesis in surname attested in a text from the end of the XVIth century) and then spread to other nouns and verbs expanding to the complete nominal and verbal systems. However, the existence of doublets at later stages of Judeo-Spanish development in extra-Iberian environment, and indistinctive use of metathesized and unmetathesized forms by the same author and within the same text, as seen in the examples above, shows

the contact-induced sound change failed to develop completely, but remained at a rather initial stage. Co-existence of the retained Hispanic non-metathesized /rd/- and innovative contact-induced metathesized /dr/-forms is found in JS. Moreover, no specific regional variation was detected in the spread of the analysed phonological feature over Judeo-Spanish varieties: it is observed in Judeo-Spanish texts composed in Vienna, Belgrade, Thessaloniki, Sofia, Istanbul, Izmir, Rhodos, Beirut, Cairo, Jerusalem, among others.

The preference of the intervocalic /dr/ instead of /rd/ in Judeo-Spanish established as an areal phonological feature; this change occurred in a single century. The contacting Balkan languages are characterized by preference of /dr/ instead of /rd/ in intervocalic position, unlike Turkish (characterized by a high /rd/-ratio). Judeo-Spanish adopted the predominant areal pattern and the intervocalic /dr/ cluster prevailed over /rd/, in contrast to Spanish and other Ibero-Romance and European languages (except Slavic) which maintained the overall preference of /rd/ over /dr/. Further studies are needed in order to more precisely determine the areal spread of /rd/ and /dr/ across the languages of Europe and Eastern Mediterranean.

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КЛЪСТЕРЪТ /DR/ В БАЛКАНСКИТЕ ЕЗИЦИ ВЪЗ ОСНОВА  
НА МЕТАТЕЗАТА /RD/ > /DR/ В СЕФАРАДСКИЯ ЕЗИК

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Настоящият доклад разглежда предпочитанието в балканските езици на консонатната група /dr/ пред /rd/ в интервокална позиция, в съпоставка с обратното предпочитание в повечето европейски езици, с изключение на славянските. Предпочитанието на клъстера /dr/ пред /rd/ се анализира като балканска ареална характеристика, въз основа на специфичното изменение в испаноеврейския консонантизъм след отделянето от иберороманския континуум и развитието му на Балканите и Източното Средиземноморие. Дясното премятане /rd/ > /dr/ е добре позната испаноеврейска иновация и разлика между испански и сефарадски, напр. сеф. *guardar* спрямо. исп. *guardar* ‘пазя’, сеф. *akodrase* спрямо. исп. *acordarse* ‘помня’, сеф. *redronar* спрямо. исп. *perdonar* ‘прощавам’. Честотата на консонантните групи /dr/ и /rd/ се сравнява в текстове на сефарадски, балкански, европейски езици. Получените резултати показват, че в балканските езици честотата на /dr/ е по-голяма от тази на /rd/, докато /rd/ се среща по-често от /dr/ в европейските езици, с изключение на славянските. Сефарадският език наподобява балканските езици и честотата на интервокалния /dr/ клъстер надделява над /rd/ за разлика от испански и другите ибероромански езици, където има по-голяма честота на /rd/. Въз основа на сефарадски текстове от периода XVI–XX в. се проследява възприемането и разпространението на фонологичната характеристика и нейното стабилизиране като правилно изменение. Наред с иновацията, сефарадският запазва испанския/консервативен /rd/-модел и двете форми се употребяват без особена разлика, дори се установяват в един и същи текст от един автор, въпреки това има лек превес на интервокалния /dr/-клъстер. Същата консонантна характеристика разграничава балканските езици от останалите европейски езици, при все това, тя е силно изразена в славянските езици, контактът с които може да обясни високата честота на /dr/ в румънския език, в контраст с другите романски езици. Необходими са допълнителни проучвания, за да се установи ареалното разпространение на въпросното предпочитание в славянските, балканските и източно-средиземноморските езици.