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VERB-INDIRECT OBJECT-DIRECT OBJECT and VERB-DIRECT OBJECT-INDIRECT OBJECT: A variationist analysis of oral Spanish

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Abstract

The purpose of this paper is to contribute to the study of constituent order in ditransitive constructions by means of a variationist analysis based on spoken Spanish from Madrid. We analyze the variable position of objects in ditransitive clauses. We identify two variants: (1) Verb-Direct Object-Indirect Object and (2) Verb-Indirect Object-Direct Object. We include in the envelope of variation ditransitive constructions in which the DO is expressed by a noun phrase (sometimes preceded by the marker *a*) and the IO is expressed by means of a prepositional phrase preceded by *a* 'to'. The percentage of V-IO-DO constructions in our data is 33%. The results of our statistical analyses show that V-IO-DO is significantly conditioned by the following linguistic factors: grammatical person of the IO, type of DO, and verb type. Unlike previous studies, we find that information flow factors do not have a significant effect on this word order variation. Considering its recurrent usage patterns in the discourse, we identify the verb *decir* 'to say' and the constructions it occurs in as the likely source and spread of the V-IO-DO order.

Keywords: ditransitive constructions, indirect object, Spanish, usage-based grammar, word order.

1. Introduction

Word order variation has been one of the main areas of research of linguistic typology. In this area, typological approaches classify languages according to the position in which syntactic constituents occur in the clause as well as determine how rigid or flexible these positions are. After Greenberg's (1966) pioneering work, subsequent approaches (e.g., Tomlin 1986, Siewierska 1988, Dryer 1997, 2013a, 2013b) have focused on the study of the position that subject (S) and object (O) take with respect to the verb (V) in the (mono)transitive construction. From this perspective, Spanish is described as a flexible SVO language (López Meirama 1997). On the basis of this result, we also have a considerable number of quantitative studies whose aim is to account for the variable position of Spanish subjects both in the transitive and intransitive constructions (e.g., Ocampo 1990, 2002, Rivas 2008, 2013a, Llompart 2016, Erker at al. 2017, Roggia 2018, Pulido 2021) and of objects in the monotransitive construction (e.g., Leonetti & Escandell-Vidal 2009, Bogard 2010, Klee et al. 2011).

Constituent order in ditransitive or double object constructions, with both a direct object (DO) and an indirect object (IO), have received much less attention in the literature. In cross-linguistic typological studies (Primus 1998, Heine & Köning 2010, Haspelmath & the APICS Consortium 2013, Li 2015), it is shown that languages tend to place both objects on the same side of the verb (either preverbally or postverbally) and that their relative order is not arbitrary but conditioned by a number of cognitive and communicative factors such as prominence and weight. Since Spanish is a flexible SVO language, both direct and indirect objects tend to occur in postverbal position. In traditional grammars, it is argued that the "perfect" order in ditransitive constructions is V-DO-IO (Gili Gaya 1980: 86). This analysis is corroborated by quantitative studies. Company Company (2006: 515) notes that V-DO-IO is the preferred order throughout the history of Spanish, and this tendency remains the same in her 20th-century data, in which V-DO-IO occurs in approximately 70% of cases (see also Rosales Alvar 2004: 26). Cépeda and Cyrino (2020) propose that informational factors account for the relative position of Os in Spanish. Using a formalist approach, these authors argue that order V-DO-IO is the default or base order, and that V-IO-DO is derivationally related by means of movement operation motivated by informational factors. This movement operation takes place when the IO conveys given information.

The purpose of this paper is to contribute to the study of constituent order in ditransitive constructions by means of a synchronic analysis of Spanish based on spoken data. Our goal is to determine the frequency of occurrence of the order V-IO-DO in present-day spoken Spanish, in comparison to written Spanish, as reported in previous works. Using variationist methodology, we will also determine the linguistic factors that significantly constrain IO position in Spanish ditransitive constructions. Before we move on to the description of our data and methodology, we will provide a very succinct analysis of the grammatical relations of OD and IO, including the markers through which we identify these grammatical relations in Spanish.

2. Background

From a cross-linguistic typological perspective, the DO and the IO are participants of

the ditransitive construction (Givón 2001, Kittilä 2007), together with the subject. Prototypical instances of DOs and IOs present opposite semantic and pragmatic properties. The DO is the patient of the construction, that is to say, the participant that is directly affected by the action expressed by the verb. As such, DOs tend to be inanimate and indefinite. In contrast, the IO is the recipient of the construction, i.e., the participant who receives the DO by means of the verbal activity. IOs are generally human and definite. Consider example (1):

(1) COREC[1], ACON006D.ASC
Le di a Tato unas pelas
him.DAT.SG give.1SG.PST to Tato some money
'I gave Tato some money.'

In (1) we have an example of a ditransitive construction. In addition to a first-person singular agent-subject expressed through verbal agreement (*di* 'I gave'), we have a patient-DO *unas pelas* 'some money' which is inanimate and indefinite, and a recipient-IO *a Tato* 'to Tato', which is human and definite.

In Spanish, DOs are typically expressed by means of a noun phrase (NP) and do not display verbal agreement. An example of a DO is *los libros* 'the books' in (2a). However, DOs with specific human referents exhibit differential object marking (Bossong 2021), i.e., they take the preposition *a* 'to', as in shown in (2b). In addition, when they occur in preverbal position, nominal DOs tend to be duplicated on the verb by means of a clitic pronoun in the accusative case: *los* 'them.ACC-M-PL' in (3a) and *lo* 'him.ACC-M-SG' in (3b).

(2) a. Invented example
María salvó los libros del incendio
María save.3SG.PST the books of.the fire
'Mary saved the books from the fire.'
b. Invented example
María salvó a Juan
María save.3SG.PST to Juan
'Mary saved Juan.'

(3) a. Invented example
Los libros los salvó María
The books them.ACC.M.PL save.3SG.PST María
'Mary saved the books (lit: The books, Mary saved them).'
b. Invented example
A Juan lo salvó María
To Juan him.ACC.M.SG save.3SG.PST María
'Mary saved Juan (lit: Juan, Mary saved him).'

The preposition *a* 'to' is also the only preposition that may occur with nominal

[1] COREC = *Corpus Oral de Referencia del Español Contemporáneo* (Marcos Marín 1994).

IOs, such as *a mi hija* 'to my daughter' in (4).[2] Prepositional phrases (PPs) headed by *a* in IO function may be duplicated on the verb by means of a dative clitic: *le* 'him-DAT.SG' in (5). Additionally, as shown in (6), the IO (*a Quique* 'to Quique') also occurs in intransitive constructions with *gustar* ('like')-type verbs. In this context, the IO is typically the experiencer of the construction. These constructions, known *dative subject constructions* in typological studies (Givón 2001, Bhaskarara & Subbarao 2004), fall outside the scope of this paper.

(4) COREC, BCON015C.ASC
Pues, quisiera dedicar una canción a mi hija, Gema
well want.1SG.PST.SBJV to.dedicate one song to my daughter Gema
'Well, I would like to dedicate a song to my daughter, Gema.'

(5) COREC, ACON022C.ASC
¿Le hago una empanada a Almudena?
her.DAT.SG make.1SG.PRS one empanada to Almudena
'Should I make an empanada for Almudena?'

(6) COREC, ACON014A.ASC
A Quique no le gusta el verde tampoco, ¿no?
to Quique not him.DAT.SG like-3SG.PRS the green either no
'Quique doesn't like green either, right?'

In this paper, we will study ditransitive constructions in which both DO and IO occur in postverbal position. Based on these constructions, we will provide a variationist analysis (Labov 1994, Tagliamonte 2012) of the variable position of objects with respect to each other. We will distinguish two variants: V-DO-IO (e.g., *quisiera dedicar*-V *una canción*-DO *a mi hija*-IO 'I would like to dedicate a song to my daughter') and V-IO-DO (e.g., *quisiera dedicar*-V *a mi hija*-IO *una canción*-DO 'lit.: I would like to dedicate my daughter a song'). Our objective will be to account for the recurrent patterns of use of both constructions by determining the linguistic factors that have a statistically significant effect on the use of the less frequent and more innovative V-IO-DO pattern. In the following section we explain the data and methods we use for our analysis.

3. Data and Methods

We base our analysis on the usage patterns found in the conversational section of *COREC: Corpus Oral de Referencia del Español Contemporáneo* (Marcos Marín 1994). This section of the corpus consists of approximately 240,000 words distributed in 126 conversations, recorded in Madrid (Spain) and surrounding areas in the early nineties. In addition to face-to-face casual interactions, the corpus also contains phone conversations and oral interactions taken from radio and TV programs.

[2] In traditional Spanish grammars, in addition to *a* 'to', *para* 'for' is also considered an IO marker. However, when a *para*-NP and a dative clitic co-occur in the same clause, they are never coreferential. For example, in *le compré un libro para María* lit.: 'I bought a book from him for Mary', *le* and *María* have different referents.

From this corpus, we extract all examples of IOs (*N* = 3525). This number does not include reflexive clitics, i.e., cases in which the dative clitic has the same referent as the subject of the construction. The reason why these examples are excluded is that reflexive IOs are always expressed solely by means of a dative clitic. We do not find any examples in the corpus in which they are expressed by means of a PP headed by *a*.[3]

The IO occurs in ditransitive constructions in 77% (*N* = 2373) of all the examples of IOs we extract from the corpus. In 87% (*N* = 2056) of these tokens, the IO is expressed exclusively by means of a dative clitic, such as *le* 'him.DAT.SG' in (7):

(7) COREC, BCON014B.ASC
Pero le he dicho que tengo que hablar
but him.DAT.SG have.1SG.PRS say.PTCP that have-1SG.PRS that to.speak
con el electricista
with the electrician
'But I told him I need to speak to the electrician.'

Dative clitics are therefore the most frequent coding device of IOs in Spanish. This result ties in with ones found in previous studies (Company Company 2006: 504, Dufter & Stark 2008: 116, Vázquez Rozas & García Salido 2012: 284). As is noted by Ariel et al. (2015), referents in IO function are highly accessible to the addressee and therefore require little lexical information. In this line, clitic pronouns such as *le* in (7) present less lexical information than a full noun phrase such as *mi amigo* 'my friend' or *Juan*.

The remaining 13% (*N* = 317) occurs with an IO expressed by means of a PP headed by *a* 'to'. We eliminate from the analysis those examples in which the IO occurs in preverbal position: 26%, *N* = 81. In this way, we obtain 236 examples with a postverbal IO. From this count, we also exclude tokens in which the accompanying DO is expressed only by means of a clitic pronoun, such as *lo* 'it.ACC.M.SG' in (8), and occurrences in which the DO appear in preverbal position, as is the case with *eso* 'that' in (9).

(8) COREC, ccon018b.asc
se lo di a Tere para que me lo
her.DAT.SG it.ACC.M.SG give.1SG.PST to Tere for that me it.ACC.M.SG
corrigiera la primera
correct.3SG.PST.SBJV the first
'I gave it to Tere so mine was the first she would grade.'

[3] We also exclude from the total number of IOs constructions in which the verb is followed by the complementation pattern [NP + INFINITIVAL CLAUSE] if the NP is the 'logical' subject of the infinitive. This complementation pattern can be found in Spanish after perception (*ver* 'see', *oír* 'hear') and causative (*hacer* 'make', *mandar* 'order') verbs, as well as other verbs of manipulation such as *obligar* 'force' and *invitar* 'invite'. In these constructions, the dative-IO clitic is in syntactic variation with accusative-DO object, as is shown in previous studies (e.g., Enghels 2012 for perception verbs, Rivas 2013b for manipulative verbs, and Marchís Moreno & Navarro 2015 for causative verbs).

(9) COREC, ACON033A.ASC
Eso se lo conté yo a Escohotado
that him.DAT.SG it.ACC.M.SG tell.1SG.PST I to Escohotado
'I told that to Escohotado.'

This leaves us with only 95 examples of ditransitive constructions in which both DO and IO occur in postverbal position. Therefore, only 4% of all the examples of ditransitive constructions found in the corpus are relevant for the analysis. The reason why this pattern is so unusual in discourse is because it goes against the preferred argument structure of clauses in natural language (Du Bois 1987, 2003). One of the grammatical constraints of preferred argument structure, which also applies to Spanish (Ashby & Bentivoglio 1993), is to avoid more than one lexical argument per clause. Since most of the constructions we study have at least two lexical arguments (DO and IO), they go against this statistically preferred tendency and are therefore infrequent in natural data.

In order to obtain more data, we use *Corpus del Proyecto para el Estudio Sociolingüístico del Español de España y de América* 'Corpus of the Project for the Sociolinguistic Study of Spanish from Spain and America' (*PRESEEA* 2014). This corpus provides spoken data from different dialects and sociolects across Latin America and Spain. For this study, we use 19 interviews (*circa* 230,000 words) belonging to the corpus from Madrid. This corpus provides us with 46 additional examples of constructions where DO and IO appear postverbally.

Therefore, our analysis, grounded on almost half a million words of Spanish from Madrid, is based on a total number of 141 examples. This small number of examples reveals that the syntactic variable under study has a low token frequency in the discourse. For this reason, the results presented and discussed below should be understood as preliminary and tested by future research based on larger corpora. In these examples, 99% of the DO are inanimate and 87% of the IOs are human. These tendencies corroborate the findings provided by Ortiz Ciscomani (2006: 613), who bases her analysis on a large corpus of written Spanish with historical data ranging from the 13th to the 20th centuries.

Each of these examples is coded for the following linguistic factors:

Type of direct object: V-O compounds vs. V-DO constructions. We distinguish between ditransitive constructions with a referential DO, as in (10), from ditransitive constructions with a non-referential DO, also known as *complex predicates* (Mendívil Giró 1999), *verb-object compounds* (Thompson & Hopper 2001: 33), and *light verb constructions* (Alonso Ramos 2004). Some examples of this construction taken from the corpus are *armar una bronca* 'make a scene', *dar recuerdos* 'say hi', *dar paso* 'give way', *echar un pulso* 'arm wrestle', *hacer un favor* 'do a favor', *hacer fotos* 'take pictures', and *rendir homenaje* 'pay homage'. We provide another example of a V-O compound in (11): *poner aparato* 'have one's braces set up'. Our hypothesis will be that V-O compounds will favor the V-DO-IO order, in line with reports from previous studies (e.g., Company Company 2006: 518).

(10) V-DO construction: COREC, BCON007A.ASC
les quitaría<lengthening/> / el préstamo a mis padres
them.DAT.PL take.off.1SG.COND the loan to my parents
'I would pay my parents' loan.'

(11) V-O compound: COREC, ccon018c.asc
Le han puesto a Vanessa aparato
her.DAT.SG have.3PL.PRS put.PTCP to Vanessa dental.device
'Vanessa had her braces set up.'

Type of verb: we follow Delbecque and Lamiroy's (1996) classification of ditransitive verbs into verbs of material transfer (e.g., *dar* 'give'), verbal transfer verbs (e.g., *decir* 'say'), verbs of physical motion (e.g., *poner* 'put'), verbs of abstract motion (e.g., *transmitir* 'pass on'), verbs with a possessive dative (e.g., *cortarle el pelo al nieto* 'cut his grandson's hair')[4] as well as verbs with a non-actantial IO (Delbecque & Lamiroy 1996: 106), i.e., a dative that is not part of the valency of the verb (e.g., *marcarle un gol a alguien* 'score a goal against someone'). For the statistical analysis, we distinguish between verbs of material transfer (e.g., *coger* 'take', *comprar* 'buy', *conceder* 'award', *dar* 'give', *dejar* 'leave', *entregar* 'hand in', *quitar* 'remove', and *regalar* 'give as a present') vs. other. Our hypothesis is that verbs of material transfer will favor the order V-DO-IO. For verbs of this type, the order V-DO-IO is iconically related to the transfer of the DO from the subject to the IO. This linguistic order reflects the temporal order in the extralinguistic world (Heine & König 2010: 93). Our hypothesis is also based on previous findings from corpus-based approaches to Spanish. As is noted by Rosales Alvar (2004: 77), verbs of material transfer disfavor the order V-IO-DO in her 20th-century written data.

IO grammatical person: first and second person (pronominal *a mí* 'to me'*, a nosotros* 'to us'*, a ti* 'to you'*, a vosotros* 'to you all') vs. third person (pronominal *a él* 'to him'*, a ellos* 'to them' and nominal, e.g., *a mi hijo* 'to my son'). First- and second-person pronouns present high cognitive salience (e.g., Aijón Oliva 2019). In Spanish, for example, they are always duplicated on the verb by means of a dative clitic: *me* 'me.DAT.SG'*, te* 'you.DAT.SG'*, nos* 'us.DAT.PL'*, os* 'you.DAT.PL.' In contrast, postverbal third-person IOs may variably occur with or without clitic duplication in present-day Spanish (e.g., Guerrero Hernández 2014 and Aranovic 2016). Thus, our hypothesis is that, since first- and second-person IOs are more prominent arguments, they will tend to occur closer to the verb and hence, will favor the order V-IO-DO.

Discourse persistence of the IO: tracking vs. non-tracking. We code each of the examples for the number of mentions of the IO in the subsequent discourse. We distinguish between tracking IOs (more than one mention) and non-tracking IOs (one mention). Our hypothesis is that, if the IO is tracking, it will tend to occur before the DO. Tracking mentions are more topical than non-tracking mentions (Givón 1983), and more-topical grammatical relations are placed closer to the verb than less- or non-topical grammatical relations (Thompson 1991: 241).

Activation cost of IO: given vs. new vs. general: Du Bois and Thompson (1991, cited in Ashby & Bentivoglio 1993), and Hopper and Thompson (1993) distinguish between *particular* NPs to refer to the ones that are "used to speak about an object as an object, with continuous identity over time" (Hopper & Thompson 1993:361) and *general* NPs to refer to "a class whose members are considered to be interchangeable or any

[4] Delbecque and Lamiroy (1996: 96) note that verbs with a possessive dative are a "special configuration" because they entail an inclusion relationship between the DO and the IO, in which the latter "designates a body part (or, by metonymic extension, clothing and personal belongings." Verbs of material transfer, physical motion and abstraction motion can all occur with a possessive dative.

instance of a substance interchangeable with any other substance" (Ashby & Bentivoglio 1993: 69). Excerpt (12) provides an example of a general IO, *a niños* 'to children':

(12) COREC, ccon031b.asc
He visto dar muchas bofetadas a niños
have.1SG.PRS see.PTCP to.give many slaps to children
'I have seen people give many slaps to children.'

For particular IOs, we also consider their activation cost, that is to say, the amount of cognitive effort that the speaker assumes the hearer makes in order to process linguistic information (Chafe 1994: 74). We will distinguish between *given* information and *new* information (Chafe 1994: 72). Given information is active in the hearer's mind because it has been previously mentioned or is present in the communicative act. In (13), the IO *a Sergio* 'to Sergio' is given, because it is mentioned in the immediately preceding discourse:

(13) COREC, BCON014B.ASC
H2:No </simultaneous>. Sergio tenía uno y... y... teníamos
no Sergio have.3SG.IPFV one and and have.1PL.IPFV
uno < simultaneous >
one…
H3: No </ simultaneous >.
no
H2: ... y compró otro a Sergio
and buy.3SG.PST other to Sergio
'H2: No. Sergio had one and…and… we had one…
H3: No.
H2: …and he bought another one for Sergio.'

New information is inactive in the hearer's mind because it is introduced for the first time in the discourse. New information can be identifiable or non-identifiable (Du Bois 1980: 218) according to whether the hearer may or may not recognize the concept to which it refers. In (14) we provide two examples of new IOs: in (14a), *a Tato* 'to Tato' is identifiable, whereas in (14b), *a un amigo* 'to a friend' is non-identifiable. Given the low number of examples of new and non-identifiable IOs (N = 4), in the quantitative analyses we include both identifiable and non-identifiable IOs in the category of 'new'.

(14) a. COREC, ACON006D.ASC
Le di a Tato unas pelas
him.DAT.SG give.1SG.PST to Tato some money
'I gave Tato some money.'
b. COREC, BCON014A.ASC
si le ha dado la carta a un amigo
if him.DAT.SG have.1SG.PRS give.PTCP the letter to a friend
'if he has given the letter to a friend.'

As mentioned in the background section, Cépeda and Cyrino (2020) argue that the IO appears before the DO when it conveys given information. Consequently, our

hypothesis will be that given IOs will appear before the DO more frequently than new IOs.

In the following section we present a summary of the results of our quantitative analyses.

4. Results

One of the goals of this study is to determine the frequency of use of the syntactic pattern V-IO-DO in naturally occurring data. As can be seen in Table 1, this pattern is found in 33% of the examples we use for the analysis. This number is similar to the one found in previous studies on written Spanish and historical data: 29% in Rosales Alvar (2004) and 31% in Company Company (2006). Based on these results, we can conclude that the frequency of V-IO-DO remains the same across registers (spoken, written) as well as throughout the history of Spanish.

Table 1. Percentage of V-IO-DO order (*N* = 141)

Pattern	*n*	%
V-DO-IO	94	67
V-IO-DO	47	**33**

In order to determine which of the linguistic factors we consider in the analysis (i.e., type of DO, type of verb, IO grammatical person, discourse persistence of IO, activation cost of IO) significantly constrain the occurrence of the syntactic pattern V-IO-DO, we conduct linear regression models using the lme4 function in R (R Core Team). In addition to these fixed factors, we also use 'file' as a proxy for speaker and include it as a random effect. We find that there is collinearity between IO grammatical person and discourse persistence of IO, since all first- and second-person IOs are tracking. Moreover, IO grammatical person also correlates with activation cost of IO, since all first- and second- person IOs are given. Consequently, we conduct two separate runs. The first run includes type of DO, type of verb, and IO grammatical person, whereas the second run includes type of DO, type of verb, discourse persistence of IO, and activation cost of IO. In both runs we use file as a random intercept. The results of the first run identify all the factors included in the analysis as significantly constraining the V-IO-DO pattern. The second run selects all the factors as significant with the exception of discourse persistence of IO. Since the first run has lower AIC and BIC numbers than the second run (first run: AIC = 133, BIC = 147, second run: AIC = 164, BIC = 186), we will report the results of the first run (Table 2).

Table 2. Linguistic constraints of V-IO-DO order (*N* = 141)

Random effect	Variance	Std. Dev.			
File (intercept)	1.659	1.288			
Fixed effects	***n***	**% V-IO-DO**	**Estimate coef.**	**Std. error**	***p*-value**
(Intercept)	141	33	3.027	1.126	**

Type of DO: V-O compound	49	12	−3.114	0.952	***
Type of DO: V-DO construction	92	45	-	-	-
Verb type: other	87	37	1.657	0.69	*
Verb type: material transfer	54	28	-	-	-
Person of IO: third	18	89	−4.804	1.285	***
Person of IO: first, second	123	25	-	-	-
AIC = 132.7, Random effects: File (*N* = 66) Positive coefficients are associated with V-IO-DO expression Significance codes: p-value = 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ns 1					

As is shown in Table 2, the following factors significantly constrain the occurrence of the V-IO-DO order: type of DO, verb type, and IO grammatical person. The rate of V-IO-DO is significantly lower in verb-object compounds than in constructions with a referential DO (V-DO constructions). As far as verb type is concerned, the order V-IO-DO is favored with verbs of any type except for material transfer verbs, which are significantly more likely to occur in the V-DO-IO construction. Finally, when the IO is a third person, the order V-DO-IO reaches statistical significance, whereas first- and second-person IOs prefer the V-IO-DO order.

If, instead of IO grammatical person, we consider activation cost of the IO in the analysis, we find that given IOs significantly favor the V-IO-DO order. Is this finding the result of including first- and second-person IO pronouns in the category of 'given IOs', or does activation cost constrain word order variation regardless of person? In order to answer this question, we conduct a statistical analysis of only third-person IOs. The results of this analysis are summarized in Table 3.

Table 3. Linguistic constraints of V-IO-DO order (*N* = 124)

Random effect	**Variance**	**Std. Dev.**			
File (intercept)	1.559	1.249			
Fixed effects	***n***	**% V-IO-DO**	**Estimate coef.**	**Std. error**	**p-value**
(Intercept)	124	26	−2.336	0.831	**
Type of DO: V-O compound	45	9	−2.394	0.783	**
Type of DO: V-DO construction	79	35	-	-	-
Verb type: other	79	33	1.992	0.735	**
Verb type: material transfer	45	13	-	-	-
Discourse persistence of IO: non-tracking	50	26	0.41	0.638	n.s.
Discourse persistence of IO: tracking	74	26	-	-	-
Activation cost of IO: new	46	30	0.758	0.657	n.s.
Activation cost of IO: general	23	13	−1.251	0.959	n.s.
Activation cost of IO: given	55	27	-	-	-
AIC = 127.5, Random effects: File (*N* = 60) Positive coefficients are associated with V-IO-DO expression Significance codes: p-value = 0 *** 0.001 ** 0.01 * 0.05 . 0.1 ns 1					

As Table 3 shows, if we only consider third-person IOs in the analysis, neither activation cost of IO nor discourse persistence of the IO significantly constrains the

occurrence of the order V-IO-DO. Therefore, our results do not support Cépeda and Cyrino's (2020) argument that IOs precede DOs when the former convey given information. Activation cost of the IO does not significantly constrain variation when it is separated from IO grammatical person. Whereas first- and second-person IOs significantly favor the V-IO-DO order, in these data third-person IOs prefer the order V-DO-IO regardless of whether they convey given or new information. [5]

5. Discussion

When they both occur postverbally, DOs tend to precede IOs in Spanish ditransitive clauses. However, in spoken Spanish the order V-IO-DO accounts for almost one third of the examples we find in oral corpora of Spanish from Madrid. In this paper, we identify the linguistic factors that significantly constrain the use of this less frequent but persistent pattern—previous studies report a similar percentage in both historical data and present-day written Spanish.

One of the factors that favor the use of the V-IO-DO order is first- and second-person IOs. First- and second-person pronouns occupy the left-end point of the hierarchy of noun phrases (see Table 4). This hierarchy, originally formulated by Silverstein (1976), represents a natural arrangement of noun phrases that intertwines different, closely related, parameters such as animacy, definiteness, agentivity, and individuation. The referents of first- and second-person pronouns are the direct participants in the speech act. As is noted by Bhat (2004: 121), speech-act participants play a prominent role in the encoding of grammatical relations in language.

Table 4. Hierarchy of noun phrases

1st/2nd person pronouns	>	3rd person pronouns / proper names	>	human and/or definite nouns	>	non-human and/or indefinite nouns	>	mass nouns	>	generic nouns

Grammatical relations are generally expressed by means of devices such as case marking, agreement and clausal position. Languages often use specific markers to encode speech-act participants. For example, in Dyirbal and many other Australian languages belonging to the Pama-Nyungan family (Dixon 1994: 85), case marking operates on a nominative-accusative basis for speech-act participants, whereas other noun phrases follow an ergative-absolutive pattern of markedness. In this same line, agreement marking is often restricted to speech-act pronouns (Bhat 2004: 121) or is grammaticalized earlier in time with speech-act pronouns than with other types of noun phrases. For example, IO agreement in Spanish is obligatory with speech-act

[5] We also considered the effect of IO duplication on the variable position of the objects in these data. Since first- and second-person pronouns were always duplicated on the verb, IO grammatical person and IO duplication were not included in the same run in order to avoid collinearity. However, we replicated the model we report in Table 3 adding *IO duplication* as one of the fixed factors. This new factor incorporated in the model did not significantly predict IO position. The same factors were selected as significant with the same direction of effect as in the model reported in Table 3.

pronouns since the 17th century (Rini 1991: 279), but it is still not fully grammaticalized in the third person in present-day Spanish. In this same line, the results of our quantitative analyses suggest that speech-act participants may prefer different clausal positions to non-speech act participants. In IO function, speech-act participants significantly favor the order V-IO-DO, unlike non-speech-act participants, which tend to occur after the DO.

Another factor that significantly constrains word order variation in these data is the type of DO. As is shown in Table 2, V-O compounds strongly disfavor the V-IO-DO order. In constructions of this type (e.g., *rendir homenaje* 'pay homage'), O (*homenaje*) is non-referential (Thompson & Hopper 2001: 33) and therefore presents restrictions regarding modification and complementation. O also determines the argument structure of the construction, whereas V (*rendir*) generally has low lexical content and provides the grammatical information (tense, aspect, mood, person, and number) of the construction.

V-O compounds can be described as *chunks* (Bybee 2010: 34), that is to say, two units that occur so frequently together that are being stored in the speaker's mind as if they were one lexical item. The reason why V-O compounds strongly disfavor the order V-IO-DO is that V and DO are regarded as a unit by the speakers. In fact, V-O compounds often have an equivalent in a simple verb that is lexically related to the noun in O function (Sanromán Vilas 2009: 299-300), e.g., *homenajear* from *dar homenaje* 'honor, pay homage'.

Verb type also has a significant effect on the relative order of DO and IO when they both occur postverbally. Material transfer verbs favor V-DO-IO, perhaps because the order of linguistic elements reflects the temporal order of the transfer. In contrast, verbs of other types are more likely to occur with the IO preceding the DO. As is shown in Table 5, the percentage of use of the V-IO-DO order differs between the verb types included in the category of 'other', verbal transfer verbs being the type that exhibits the highest percentage of V-IO-DO order.

Table 5. Percentage of V-IO-DO order with verb types different from verbs of material transfer

Verb Type	***n***	% of V-IO-DO
Verbal transfer	36	64
Abstract motion	16	**25**
Physical motion	5	**25**
Other	19	**6**

Decir 'say, tell' is by far the verb with the highest text frequency, both within the category of verbal transfer and within the category of ditransitive verbs. In the *COREC* corpus, *decir* occurs in 64% of all the examples of verbal transfer verbs (n = 1121), and it appears in 30% of all ditransitive constructions (N = 2373). Out of all the 714 occurrences of *decir* 'say' we find in this corpus, only 27% (n = 193) take a postverbal DO. 72% of these examples (n = 139) are clausal DOs, as shown in (15):

(15) COREC, ACON006D.ASC
Le he dicho a mi padre que se entere
him.DAT.SG have.1SG.PRS say.PTCP to my father that learn.3SG.PRS.SBJV.REFL
a ver si estoy censa<(d)>o
to to.see if be.1SG.PRS register-PTCP
'I have asked my dad to find out if I am registered'

Clausal DO are heavy and grammatically complex elements. According to the end-weight principle (Quirk et al. 1985: §18.9), the heavier or more grammatically complex a constituent is, the more likely it is to appear at the end of the clause. Since clausal DOs are heavier than nominal IOs, constructions such as (15) will favor the order V-IO-DO. The high frequency of the construction [*decir* 'say' -IO-clausal DO] in the data (72% of constructions with a postverbal direct object), contributes to the strengthening of this pattern in the speaker's mind. By means of repetition, it is more easily accessible for production (Bybee 2010), and hence it can spread to other verbs occurring in the ditransitive construction.

Furthermore, 47% of the examples of *decir* 'say' in the *COREC* corpus occur with an IO clitic and no (pronominal or nominal) DO. As (16) illustrates, these constructions are typically used to introduce direct speech. In constructions of this type, if the IO is additionally expressed lexically (by means of a PP headed by *a* 'to'), it will occur right after the verb: [IO clitic + *decir* 'say' + lexical IO]. Consequently, the high frequency with which *decir* 'say' is used to introduce direct speech in discourse may also contribute to increasing the overall occurrence of the order V-IO-DO with verbal transfer verbs.

(16) COREC, ACON006A.ASC
Y esta me dice </simultaneous>, me dice la Carmen, dice:
and this me say.3SG.PRS me say.3SG.PRS the Carmen say.3SG.PRS
"Pues hija, no sé qué decir-te"
well daughter not know.1SG.PRS what to.say-you.DAT.SG
'And she tells me, Carmen tells me, she says "I don't know what to tell you, dear."'

6. Overview

Although Spanish is traditionally described as a V-DO-IO language, the analysis of naturally occurring data reveals that the IO precedes the DO in one third of the examples (33%). This result ties in with the ones found in previous studies based on present-day written Spanish and on data from previous stages of the language. The occurrence of the order V-IO-DO in spoken Spanish is significantly favored by the following linguistic factors:

First and second IO pronouns: first- and second-person pronouns are the direct participants in the speech act. The prominence of speech-act pronouns is sometimes marked in language by assigning specific grammatical (i.e., case, agreement, position) markers to them. In this same line, the result of our analysis suggests that, unlike other IOs, speech-act IO pronouns tend to occur before the DO in our data.

V-DO constructions: Constructions of this type favor the occurrence of the IO before the DO, whereas V-O compounds disfavor it. In V-O compounds, the DO is non-referential and presents restrictions regarding modification and complementation. The DO determines the argument structure of the construction, whereas the verb has low or no lexical content. These characteristics suggest that verb and DO may constitute a chunk (Bybee 2010) that is stored in the speaker's lexicon as if they were one lexical item. As a result, verb and DO tend to occur in adjacent positions.

Verb type: Except for verbs of material transfer, all verb types favor the order V-IO-DO, including verbal transfer, abstract motion, physical motion and others. Verbal transfer verbs are the ones with the highest percentage of IOs preceding DOs in the data (64%, *n* = 36). *Decir* 'say, tell' is by far the verb with the highest text frequency within the category of verbal transfer (64%, *n* = 1121). A usage-based analysis of this verb reveals the following recurrent patterns:

1. 47% of all the examples of *decir* are [IO clitic + *decir*] constructions with no DO. If the IO is expressed lexically, it will typically occur right after the verb.
2. If the DO is present, it is clausal in 72% of the examples. Clausal DOs tend to occur at the end of the clause, because of end-weight principle.
3. *Decir* is the ditransitive verb with the highest text frequency (30%).

The high frequency of these constructions leads to the strengthening of the grammatical pattern V-IO-DO in the speaker's mind. By means of its repetition, it becomes more accessible for production, which may lead to its spread to other verbs occurring in the ditransitive construction.

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