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OBJECT INVERSION IN ICELANDIC AND THE RISAMÁLHEILD CORPUS

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ABSTRACT

This paper discusses Object Inversion in Icelandic syntax, i.e. examples where the direct object precedes the indirect object (DO-IO orders) in active clauses. In contrast to the neutral IO-DO order, Object Inversion is incredibly rare with most ditransitive verbs and more or less restricted to ditransitive verbs in the DAT-ACC class. This is shown by extensive searches in the new Risamálheild Corpus. These searches also show that Object Inversion strongly favors examples where the DO encodes old information and is phonologically lighter than the following IO. These results yield new and important insights into the study of Object Inversion but also confirm earlier claims in the literature.

[1] INTRODUCTION

The neutral order of two objects in active clauses in Icelandic is indirect object (IO) before a direct object (DO). This is shown by the fact that IO-DO orders are not subject to any known syntactic or semantic-pragmatic constraints. This is not the case with DO-IO orders created by so called Object Inversion as they are basically restricted to verbs with a dative indirect object and an accusative direct object (DAT-ACC verbs), the biggest class of ditransitive verbs in Icelandic.[1] This class is exemplified by verbs like *afhenda* 'deliver', *banna* 'prohibit', *gefa* 'give', *kenna* 'teach', *selja* 'sell', *sýna* 'show', *tilkynna* 'announce' and many others.

The marked status of Object Inversion is also shown by the various factors that DO-IO orders are sensitive to and become readily apparent when the Risamálheild Corpus (RC) (Steingrímsson et al. 2018) is searched for relevant examples as we will discuss in more detail below. Thus, a shifted DO has a strong tendency to express old information and to be phonologically lighter than the following IO. Moreover, Object Inversion is highly infrequent in RC; with most

[1] As discussed in more detail below, DO-IO orders can also be the result of Heavy NP Shift moving the IO to the right of the DO. Thus, I will use the term DO-IO order as a purely descriptive term, irrespective of the correct analysis. I will also use the term shifted DO as a theory-neutral term to refer to a DO that precedes the IO.

ditransitive verbs it occurs in only about 1% of all examples where both objects appear. This is consistent with the findings reported by Dehé (2004) but it is still a much lower number than one would expect given how much Object Inversion has been discussed in the literature. One might take all of these facts about Object Inversion as indications that Object Inversion involves movement of the DO across the IO rather than a base-generated DO-IO order but this issue will not be settled here (but see Ottósson 1991, 1993, Holmberg & Platzack 1995, Collins & Thráinsson 1996 and Ussery 2018 for relevant discussion).

[2] THE RISAMÁLHEILD CORPUS (RC)

Since all the results reported here are based on RC, a few words about RC are in order before proceeding. RC is by far the biggest corpus ever constructed for Modern Icelandic. The results discussed here are based on the 2017 version which contains about 1,4 billion words from 35 subcorpora, mostly from written language. A big part of the corpus consists of highly formal texts that have been proofread, e.g. from the Icelandic parliament, the judiciary and the newspapers. As a result, RC is not representative of spoken or informal written language.

Since RC is only morphologically tagged, it is not possible to search for syntactic phrases or grammatical relations like subject and object. Hence, one must rely on morphological clues like dative or accusative case. Thus, we found DO-IO orders with a particular verb in the DAT-ACC class by searching for that verb followed by a word string containing one or two words with accusative case followed by another word with dative case. To find examples of the regular IO-DO order, the same strategy was used but with the object cases reversed.

The search strings that target DO-IO orders yield many examples of the right kind but also a lot of irrelevant hits, for instance examples where the morphological tag is incorrect or one or two of the case-marked words is not an object. Hence, it is quite time-consuming to sort out all the wrong results from these searches. An additional problem is that the search strings inevitably miss some relevant examples, e.g. cases where the accusative DO is more than two words or something intervenes between the two objects or between the ditransitive verb and the first object.

Despite these limitations, we have collected more than 15.000 examples of DO-IO orders with 67 ditransitive verbs. The results from RC discussed in the following sections corroborate earlier results obtained by judgment data but they also provide new insights into Object Inversion and raise new questions, e.g. about the demarcation between Object Inversion and Heavy NP Shift (HNPS). Since these insights go well beyond what any scholar can be expected to find by introspection, these results show how valuable linguistics corpora can be. This

is true not only for those who take naturalistic data to be the subject matter of linguistics but also those who seek to understand linguistic competence rather than performance. In fact, I can think of no better way to honor the memory of a fellow linguist and friend, Janne Bondi Johannessen, than by writing a paper to illustrate this point in view of her passion for corpora as important tools for theoretical linguistics.

[3] CLASSES OF DITRANSITIVE VERBS AND DO-IO ORDERS

Ditransitive verbs in Icelandic display at least five different case patterns: DAT-ACC, DAT-DAT, DAT-GEN, ACC-DAT and ACC-GEN (Zaenen, Maling & Thráinsson 1985; Yip, Maling & Jackendoff 1987; Jónsson 2000, and Maling 2002). As already mentioned, the neutral order of two objects is IO-DO, as in (1a), but a DO-IO order is also possible, as exemplified in (1b) (see Rögnvaldsson 1982, p. 133-135; Zaenen, Maling & Thráinsson 1985; Falk 1990; Holmberg 1991; Holmberg & Platzack 1995, p. 185-214; Ottósson 1991, 1993; Collins & Thráinsson 1996; Dehé 2004, and Ussery 2017, 2018, among others).

(1) a. Ég gaf Hjálmari bókina
I gave Hjálmar-DAT book.the-ACC
'I gave Hjálmar the book.'

b. Ég gaf bókina Hjálmari
I gave book.the-ACC Hjálmar-DAT
'I gave Hjálmar the book.'

DO-IO orders are also found in passives in the sense that the DO can move to subject position while the IO stays in situ, as in (2b). The example in (2a) shows the unmarked order, i.e. movement of the IO to subject position with the DO remaining inside VP. In both cases, the dative is preserved with the goal argument whereas the theme argument turns nominative:

(2) a. Hjálmari var gefin bókin
Hjálmar-DAT was given book.the-NOM

b. Bókin var gefin Hjálmari
book.the-NOM was given Hjálmar-DAT

I will not be concerned with passives in this paper although it is worth noting that search results from RC show that DO-IO orders are significantly more common in passives than in actives.

Object Inversion is often claimed to be restricted to DAT-ACC verbs (see e.g. Collins & Thráinsson 1996). This is largely confirmed by our searches in RC,

which turn up very few examples of DO-IO orders in other classes. Moreover, most of these examples have IOs that are unambiguously heavy as they contain an embedded clause. Hence, it is plausible to assume in such cases that the DO-IO order is due to HNPS moving the IO to the right, as in the following examples:[2]

(3) a. Gengi krónunnar... getur valdið vandræðum
exchange.rate the.króna-GEN can cause problems-DAT
þeim sem tóku lán í erlendri mynt
those-DAT who took loans in foreign currency
'the exchange rate of the króna can cause problems for those who took loans in foreign currency'

b. að undanþiggja skyldunni þessar litlu
to exempt the.duty-DAT these-ACC small-ACC
stofnanir sem ég hef verið að tala um
institutions-ACC which I have been to talk about
'to exempt from this duty these small institutions that I have been talking about'

c. að biðja afsökunar þá aðila sem hún
to ask forgiveness-GEN those-ACC parties-ACC which she
hafi dregið inn í málið
has dragged in into case.the
'to ask those she dragged into the case for forgiveness'

Still, a handful of examples seem to instantiate Object Inversion as shown e.g. with the verbs *valda* 'cause' (DAT-DAT), *undanþiggja* 'exempt' (ACC-DAT) and *biðja* 'ask' (ACC-GEN), as in (4):

(4) a. hefur... valdið tjóni mörgum húsbyggjanda
has... caused damage-DAT many-DAT house.builder-DAT
'(this) has (thus) caused many house builders damage'

b. að undanþiggja launaskatti tekjur sjómanna
to exempt payroll.tax-DAT salaries-ACC fishermen-GEN
'to exempt fishermen's salaries from payroll tax'

c. biðja afsökunar aðrar þjóðir á athöfnum
ask forgiveness-GEN other-ACC nations-ACC on actions...
'to apologize to other nations for (our) actions'

I find these examples somewhat unnatural but they must be pronounced with a

[2] Indriðadóttir (2017) remarks, citing a pilot study that she conducted, that native speakers of Icelandic seldom accept or produce sentences with HNPS of IOs. This indicates that HNPS is very much a trait of formal written language that is abundant in RC but this requires further investigation.

pause before the IO, signalling that the IO has been shifted to the right like a heavy constituent. Thus, the deviance of these examples is presumably due to the fact that the IO contains only two words and is therefore not heavy enough for HNPS.

Object Inversion can in principle be distinguished from HNPS since Object Inversion affects binding possibilities but HNPS does not (see Collins & Thráinsson 1996 for examples). However, since few if any examples of Object Inversion found in RC involve a binding relation between the two objects and there is no clear-cut definition of what constitutes a heavy DP/NP, it can be difficult to determine if particular examples of DO-IO orders are due to Object Inversion or HNPS.

Even though Object Inversion is clearly possible with DAT-ACC verbs in Icelandic, our searches in RC show that DO-IO orders are highly infrequent with most verbs in this class. With the verbs *færa* 'bring', *gefa* 'give', *greiða* 'bring' and *senda* 'send', these orders only corrrespond to 1% or less of all examples with two objects. There is a small class of verbs that have a much higher rate and they include *afhenda* 'deliver, hand over' (11%), *fela* 'entrust' (14%), *framselja* 'extradite, transfer' (20%), *selja* 'sell' (17%) and *tilkynna* 'announce' (28%).[3] I have nothing to say about this contrast here except that it does not seem to stem from any grammatical factors. I have at least been unable to find any kind of examples of Object Inversion that are only possible with verbs in the latter class but this requires further investigation.

[4] INFORMATION STRUCTURE

Pragmatic restrictions on Object Inversion were first discussed by Ottósson (1991), who pointed out that it does not apply freely to indefinite DOs. Ottósson (1991, p. 94) formulates his claim as follows: "The inverted object must preferably be unfocussed, it seems, or at least not more focussed than the unmoved object. Thus, the inverted object is often definite, but can be indefinite if the other object is also indefinite." In view of our search results from RC, it is tempting to pursue a somewhat simpler generalization, namely that IOs are unrestricted in terms of information structure whereas DOs must denote old information, i.e. they must be unfocussed. This can be seen in the following examples from RC, all of which feature an inverted DO encoding old information:

[3] While the contrast between these two verb classes is quite clear, there are two caveats relating to the precise percentages for each verb: We have not been able to check all examples with IO-DO orders and some examples of DO-IO orders are probably better analyzed as HNPS rather than Object Inversion.

(5) a. afhenda Ísland Bandaríkjunum fyrir 50 gamla...
hand.over Iceland-ACC USA.the-DAT for 50 old...
'to hand Iceland over to the USA for 50 old (destroyers)'
b. að framselja hann pólskum yfirvöldum
to extradite him-ACC Polish-DAT authorities-DAT
'to extradite him to the Polish authorities'
c. keypti húsið... en seldi það öðrum árið 1996
bought house.the but sold it-ACC others-DAT year 1996
'bought the house... but sold it to others in 1996'
d. Ég lánaði bústaðinn nokkrum Þjóðverjum
I lent summer.house.the-ACC some-DAT Germans-DAT
'I lent some Germans (my) summer house'

The pragmatic restrictions discussed here only apply to Object Inversion. Importantly, they do not hold of DO-IO orders created by HNPS. Thus, RC has many examples like (6) where an indefinite DO preceding a heavy IO encodes new information:

(6) að við séum ekki að greiða bætur
that we are not to pay compensations-ACC
þeim sem eru ekki í virkri atvinnuleit
those-DAT who are not in active job.search
'that we are not paying compensations to those who are not actively looking for work'

The examples found in RC have not been coded according to the information status of the two objects. However, I have examined the verb *gefa* 'give', which has a total of 787 examples of DO-IO orders, including 266 where the DO is indefinite. This amounts to 34% but most of the examples feature a heavy IO containing an embedded clause or an indefinite noun that forms an idiomatic expression with *gefa*. An analysis in terms of HNPS is plausible in the first case but the idiomatic expressions are more difficult to analyze because the indefinite noun is not an argument of the verb as it forms a complex predicate with the verb. As it turns out, there are far more examples of DO-IO orders with idioms in RC than indefinite DO arguments of *gefa*. This is most striking with the fixed expression *gefa gaum* 'pay attention', which is found in 110 examples, or 14% of all DO-IO orders with *gefa*.

If examples involving HNPS and idioms are excluded, around 30 examples of shifted indefinites remain. Three of these examples are shown below:

(7) a. gefa bækur börnum og unglingum
give books-ACC children-DAT and teenagers-DAT
b. gefa einkaleyfi einstökum aðilum
give patents-ACC individual-DAT parties-DAT
c. gefa heimild þessari ríkisstjórn
give permission-ACC this-DAT government-DAT

Since all these indefinites denote new information, they contradict the generalization that shifted DOs must express old information. However, the restriction proposed by Ottósson (1991) is only violated in (7c) because it allows for two objects encoding new information. In fact, with shifted indefinite DOs, it is clearly much more common for the IO to be indefinite as well.

For comparison, I have also examined the verb *afhenda* 'deliver, hand out', which has a much higher rate of DO-IO orders than *gefa*, i.e. 11% vs. 1%. Still, the restrictions on Object Inversion are basically the same as there are only 24 examples out of 1776 examples of all DO-IO orders where an indefinite DO expressing new information is shifted. Moreover, the IO is also indefinite in all of these cases.

[5] THE HEAVINESS EFFECT

Previous work on Object Inversion has not explored heaviness in any detail but our searches in RC show that a shifted DO is phonologically lighter than the following IO in about 90% of all cases. This heaviness effect holds independent of how common DO-IO orders are with individual verbs (see also Magnússon 2019). For instance, the verbs *gefa* 'give' and *afhenda* 'hand over, deliver' have almost the same rate for the heaviness effect (90% and 89%, respectively) but the overall rate for DO-IO orders is quite different, as discussed in section 4. Note that the criteria for heaviness used here is simply the number of words that the objects contain except that pronouns are assumed to be lighter than full DPs since object pronouns are usually unstressed in Icelandic. Although word count is not the only way to measure heaviness in syntax, it widely used and seems to work well (see Indriðadóttir 2017 for discussion relating to Icelandic).

The heaviness effect is most clearly seen in the fact that pronouns are very common as shifted DOs whereas the following IO is almost never a pronoun. Thus, 49% of all DO-IO examples with *gefa* have a shifted pronoun; the ratio for *afhenda* is even higher, or 63%. Moreover, in the handful of cases of pronominal IOs found in DO-IO orders, the pronoun must be stressed. This is consistent with the claim by Collins & Thráinsson (1996) that Object Inversion requires a stressed IO.

To be sure, it is difficult to calculate precisely how strong the heaviness effect

is with Object Inversion per se, rather than all DO-IO orders, because the dividing line between Object Inversion and HNPS is not always clear. Still, there are a lot of examples in RC consistent with the heaviness effect where the DO-IO order must be due to Object Inversion and not HNPS.

(8) a. safna fé og gefa það kirkjunni
collect money and give it-ACC church.the-DAT
'collect money and give it to the church'
b. tína upp bráðina og færa hana veiðimanninum
pick up prey.the and bring her-ACC hunter.the-DAT
'to pick up the prey and bring it to the hunter'
c. það þýðir ekki að banna þetta börnum
it works not to prohibit this-ACC children-DAT
'It is pointless to ban this to children'

Since the IO here is only one word it does not count as a heavy DP/NP. Still, it is heavier than the inverted pronominal DO, which would normally be pronounced as unstressed and cliticized to the ditransitive verb.

There are examples in RC that violate the heaviness effect and they amount to approximately 10% of all DO-IO orders. Some representative examples of this are shown in (9):

(9) a. sé Alþingi að framselja valdið ráðherranum
is parliament to transfer power.the-ACC minister.the-DAT
'...parliament is transferring power to the minister'
b. ákveðið var að bjóða húsið hæstbjóðanda
decided was to offer house.the-ACC highest.bidder-DAT
'it was decided to offer the house to the highest bidder'
c. borga sómasamleg laun sínu starfsfólki
pay decent-ACC salaries-ACC REFL-DAT staff-DAT
'to pay their employees decent salaries'
d. að fela þetta mál lögfræðingum
to entrust this-ACC case-ACC lawyers-DAT
'to entrust lawyers with this case'

The two objects are equally heavy in the first three examples here as they both contain the same number of words. It is only in (9d) that the DO is heavier than the IO. Examples of this last kind are quite rare in RC. For instance, there are only 25 such examples with *gefa* and nearly all of them involve a DO that consist of a noun modified by a phonologically light element. This can also be seen in (9d) since demonstrative *þetta* is typically unstressed in Icelandic.

The heaviness effect is consistent with the well-known generalization that light elements tend to precede heavier elements both in Icelandic and many other languages of the world. This tendency can also be seen with Object Shift in Icelandic, which is obligatory with unstressed pronouns, generally optional with full DPs but strongly dispreferred if the object is heavy (see Jónsson 2018 and reference cited there).

[6] CONCLUSION

Extensive searches in RC can not only be used to substantiate claims from previous studies of Object Inversion but also to provide new and interesting insights into this phenomenon. Thus, naturalistic data from RC show that Object Inversion is more or less restricted to DAT-ACC verbs in accordance with earlier claims in the literature. However, and more unexpectedly, they also show that Inversion is incredibly rare with most verbs in this class. Results from RC illustrate moreover that Object Inversion strongly favors cases where the DO expresses old information, as originally noted by Ottósson (1991), and the shifted DO is phonologically lighter than the following IO. This heaviness effect is most evident in the behavior of (unstressed) pronouns.

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