OV∼VO in Itelmen: Information Structure and Postverbal objects in a Verb-final language

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Abstract

Through a preliminary study of four contemporary texts, this paper argues that the alternation between object-verb (OV) and verb-object (VO) orders in Itelmen is primarily a function of Information Structure. Objects introducing a new discourse referent primarily occur in preverbal positions, while objects picking out a previously mentioned entity may occur in either order. This descriptive result, I argue, may shed light on the resolution of an analytic indeterminacy in two constructions in Itelmen. The result is also considered in a cross-linguistic context. The broad outlines of a generalization are tentatively discernible, whereby the discourse-related factors that influence the packaging of information structure may follow common themes across unrelated languages. More narrowly, these patterns may be best stated in terms of structure, rather than linear order as such. The pattern in Itelmen – pre-verbal O_{new} and optional extraposition of O_{old} – matches one that is known from other OV languages, where VO is a derived order, and which is potentially ultimately derivable from prosodic factors. This pattern is distinct from what has been seen in VO languages such as Russian, suggesting that the properties of the VO order in Itelmen are not (or not merely) the result of Russian contact. In addition, the asymmetry between the robustness of the ordering effect for O_{new} and the optionality for O_{old} fits to a common pattern where IS-driven ordering competes with pressure to retain a canonical order, yielding rigidity when these align, and optionality when they conflict. An alternative account in terms of communicative efficiency and redundant coding of grammatical roles is considered, but the account in terms of information structure is found to be superior.

Keywords: word order alternations, information structure, givenness, extraposition, optionality

1 Introduction

This paper provides a first examination of the distribution of object-verb (OV) and verb-object (VO) orders in Itelmen (ISO 639-3 itl, Chukotko-Kamchatkan, Kamchatka, Russia), primarily through the analysis of four contemporary Itelmen texts.[1] The central descriptive result is that a primary factor in the choice between OV and VO orders is Information Structure (IS): objects representing discourse-new referents most frequently precede the verb, and thus post-verbal objects tend to represent referents that have been previously mentioned in the discourse, that is *given* or backgrounded information.

This result is of potential interest for a variety of reasons. In the first place, no previous work discusses this aspect of Itelmen syntax, so the basic observation adds to our understanding of Itelmen grammar. This result also sheds light on at least two further analytical points of Itelmen syntax: perception verb complements and a passive/impersonal-like construction. These are in some ways ambiguous as to their transitivity, but looking at them from the perspective of the interaction of word order and IS suggests a resolution of both ambiguities. At a comparative-typological level, the finding that new information objects precede the verb while old information objects follow is consistent with what is known from other OV languages, including Turkish (Kural 1997; Kornfilt 2005; Şener 2010), (older) Khanty (Borise et al. 2024), Cherokee (Hsu and Frey 2024) and others. This in turn dovetails with other evidence for a verb-final basic structure for Itelmen, despite the common occurrence of both OV and VO orders. Since Itelmen patterns with other OV languages and against Russian when the IS properties associated with word order variation are taken into account, one might

[1]I am deeply grateful to the many speakers of Itelmen who generously shared their language with me, and especially to those who patiently allowed me to work with them for extended periods. For work on the texts examined here, I am grateful to Lyudmila E. Pravdoshina, and to the late Tatiana N. Bragina, Ekaterina E. Silina, and Agrafena D. Ivashova. For discussion of ideas presented here I thank Susi Wurmbrand, Jesse Snedeker, Klaus von Heusinger, Kate Davidson, Lena Borise, and audiences and seminar participants at GLOW 46, Generative Linguistics in Poland 2025, Harvard, Princeton, University College London, the Institute for Linguistic Studies (St. Petersburg), and the Universities of Vienna, Graz, and Göttingen, as well as Michael Daniel and an anonymous reviewer. My thanks to Lena Borise and Brian Hsu for sharing unpublished work on languages with apparently similar profiles. Miloje Despić and Irina Monich provided research assistance at an early stage of this project. Additional statistical support was provided by data science specialist Steven Worthington, at the Institute for Quantitative Social Science, Harvard University. The texts analyzed here were originally recorded with the support of a grant from the National Council for Soviet and East European Research (PI: David Koester). This material is based upon work supported in part by the National Science Foundation under Grant No. BCS-1065038 and in part under the auspices of funding from the Milton Fund (Harvard Medical School). Data and R-Code for analysis for this project are available at: `https://osf.io/f4ec8/overview?view_only=25a4146ac6b746179a9a3eb42e763e11`

doubt whether the VO order in Itelmen is a result of Russian contact, as has been occasionally suggested (Ono 2021:19). The proposal that VO order existed prior to Russian contact is in turn further supported by the reconstruction of verbal morphology.

At a more broadly theoretical level, the Itelmen facts may bear on the characterization of optionality in syntax (while new information O precede the verb, O denoting previously mentioned referents only optionally extrapose) and on the question of whether grammatical operations target new or given information. In a final section, I consider a possible alternative approach deriving from a proposal in Gibson et al. (2013), who suggest that in the absence of case-marking, OV∼VO alternations are motivated by communicative efficiency, in particular by the (perceived) need to disambiguate the grammatical roles of animate participants in events with semantically reversible predicates. They contend that VO orders arise as a means to signal that the post-verbal NP is not the Agent/Actor, and posit that there thus should be a correlation with animacy (no such disambiguation is needed for inanimate undergoers). It turns out that, while animacy is also correlated with order in Itelmen, the effect of Information Structure is stronger than that of animacy. Moreover, it is not clear that disambiguation of roles is ever a motivating factor in OV∼VO alternations in Itelmen, once the role of IS is taken into account.[2]

2 Background

Before proceeding to the main study, a few remarks on the Itelmen language are in order. Since Itelmen is not well described, I have opted to sacrifice brevity to some extent in the interests of offering illustration and discussion of analytical choices made in arriving at the main conclusion, rather than simply presenting the results to be taken on faith. Many questions are left open as space and time do not permit exploration of a number of ways this study could have been done differently. The texts are included as supplementary material in the hopes that others may engage with the material from other perspectives.

Itelmen (formerly also known as Kamchadal) is a Chukotko-Kamchatkan language indigenous to the Kamchatka Peninsula in the Russian Far East. At the start of the Russian colonial period in the 18th century, there were at least three dis-

[2]Abbreviations beyond the standard list from the Leipzig Glossing Conventions are: ASP aspect, AUGM augmentative, DIM diminutive, GO andative (associated motion), N N-construction, PTCL particle, 3CL third person clitic. Markers of the second transitive conjugation are glossed as II. Portmanteau agreement markers are indicated as subject>object, e.g., 1>3SG. Examples drawn from the texts are indicated as: AS = Angaqa Siske, TN = Tnaqol, KL = Kutkh and the Mice, TL = Tilval. Other unpublished sources are from the author's field notes [Notebook:page].

tinct varieties of Itelmen (Krasheninnikov 1755[1949]), of which only the variety of the Okhotsk coast (Western Itelmen) survived into the 20th century (Jochelson n.d.). Modern (Western) Itelmen consists of two mutually intelligible dialect groups: Northern (in the villages Sedanka and Tigil) and Southern (from Kovran south to Sopochnoe), and a transitional variety (Napana). The youngest speakers who remember Itelmen as the first language at home (at least prior to school age) were born in the 1930s and 1940s. For all speakers, at least since the repression and forced relocations in the first half of the 20th century, Russian has been the dominant or exclusive language of daily communication. The contemporary language thus shows contact influence and texts show some degree of code mixing (a consideration which we return to in passing below). The 1989 Soviet census reported 456 speakers, but an an informal survey in 1993-1994 identified only approximately 80 speakers for whom Itelmen was a first language and who continued to control it fluidly (Koester and Bobaljik 1994; see also Boltokova 2017 for discussion of some ways in which simplistic, idealized counts of "native speakers" in such contexts are problematic). Attrition has subsequently been substantial–as of late 2022 I am aware of only one person for whom Itelmen was their first language, who continued to speak it in some settings into adulthood, and who can converse fluidly and extemporaneously in Itelmen, although there is a penumbra of other speakers with varying command of the language and there is currently a small but tenacious language revitalization movement (Degai 2016). The earliest word lists and texts date from the 18th century (Krasheninnikov 1755[1949]; Steller 1774). Grammatical descriptions include Bogoras (1922); Volodin (1976); Georg and Volodin (1999) and Ono (2021).

The four texts to be discussed in this paper were recorded by the author in the spring of 1994 in Sedanka and Tigil. Together, they comprise 3,434 words, and 950 clauses. A list is given in (1):

(1)

	code	Title	Recounter	Clauses	Genre
1.	AS	The Wingless Gosling	T. N. Bragina	134	Myth/Tale
2.	TN	The Old Man	L. E. Pravdoshina	207	Story
3.	KL	Kutxh and the Mice	E. E. Silina	371	Myth/Tale
4.	TL	Tilval	A. D. Ivashova	238	Legend

Texts 1 and 3 are versions of frequently re-told stories that are part of the Raven cycle—stories of the exploits of the Raven/Creator Kutkh (called Qusqlhnequ or Kusklhnequ in the Sedanka dialect area, under Koryak influence), his wife Miti, and their family. Many of these stories are shared across linguistic groups in Kamchatka (see Menovschikov 1974).[3] Text 2 is a recounting of an event that

[3]As Michael Daniel observes, Text 1 bears significant similarities to the (Russian) story *Seray*

happened in the relatively recent past to an identifiable protagonist, while text 4 was presented as a legend. All four storytellers are speakers of the Northern (Sedanka/Tigil) dialect. The narrators of texts 2-4 represent the last generation for whom Itelmen was a primary language of communication in the home in their childhoods. The narrator of the first story was a generation or more (30-40 years) older than the others and was the oldest speaker I was fortunate to be able to work with.

The phenomenon of interest is exemplified by the following two consecutive lines from the first text, which can also serve to illustrate some basic points of Itelmen morphosyntax. The context is that the wingless gosling (the protagonist of the story) is sitting on a small pond, unable to fly south for the winter. A fox approaches, but the gosling refuses to go to the fox, and so the fox tries to drink up the lake in order to reach (and eat) the gosling.[4] The O in both sentences (boldfaced) has the same referent, namely the small body of water on which the gosling is swimming.

(2) "kma **miɬ knin iʔ** t'-il-aɬ-čen."
1SG all 2SG.POSS water 1SG-drink-FUT-1>3SG
'I will drink up all your water.' [AS (37)]

(3) k'-il-ʔin=(n)en **miɬ kəɬx^{w}-čaχ**
PTCP-drink-PTCP.TR=3CL all lake-DIM
'She drank up all the little lake.' [AS (38)]

In (2) the O precedes the verb, and in (3) the O follows the verb. Anticipating the main results of the paper, note that the referent of the O in (3) is previously mentioned (i.e., discourse given), though not the topic of the clause (which is the fox). The referent of the O in (2) has been previously mentioned by the narrator, but not in the discourse between the fox and the gosling. In that discourse, this sentence is the first mention of the body of water.

These sentences also illustrate the following basic properties of Itelmen grammar (to some extent these are simplifications for convenience—various qualifications could be made):

- In the "finite" conjugations, as in (2), verbs agree with their subject and object (if transitive).
- In the "participial" conjugation, seen in (3), characteristic of the narrator's voice in stories, the verb takes an invariant prefix and agrees only with the

šejka, (Grey neck) by D. N. Mamin-Sibiryak first published in 1893, and released as an animated film in 1948.

[4]Spoiler alert: this does not end well for the fox.

number of the subject (if intransitive) or object.[5] This conjugation is restricted to third persons.

- Subject and object are not distinguished by case marking (both are zero-marked, contrasting with a range of oblique cases).
- Both subject and object can be freely omitted (as the subject is in (3)). This does not depend on the presence or absence of morphological agreement on the verb. Overt pronominal subjects are nevertheless permitted as in (2) and are not in any obvious way necessarily contrastive or emphatic.

One additional point, worthy of note, but not shown by this sentence pair, is that the order of major constituents is generally quite flexible, not merely in the order of O and V. Table 1 gives a summary of the relative order of Subject (S), Object (O), and Verb (V) (ignoring other elements such as adverbials, obliques, and the like) in the four texts studied here.[6] O in these tables and below represents nominal objects (nouns, pronouns) and excludes clausal complements (which are quite generally post-verbal).[7] Across the approximately 900 clauses containing a verbal predicate, all but one of the possible permutations of S, O, and V are attested albeit to varying degrees (but see n.8 and section 3.2.2 for important qualifications.)

Attention could be drawn to the following points: S is expressed as a free element in about half of the intransitive clauses, and only about one quarter of transitive clauses.[8] O is less frequently omitted, but about one fifth of transitive

[5]The 3CL *=(n)in* is not considered to constitute agreement. Agreement affixes are obligatory but the clitic is typically optional and its use seems to vary across dialects. However, its distribution awaits more careful study.

[6]Among other potential lacunae, this means that the label OV does not distinguish between Os that are in the immediate pre-verbal position and those that are further to the left. In addition, discontinuous phrases do sometimes occur—for consistency, the position of the first element was chosen for determining order. This rarely makes a difference, but does sometimes, as in the following, coded as OV since the first part of the discontinuous O expression *miɬ …txaltxal* 'all the meat' is pre-verbal:

(i) **miɬ** m-zəl-ət-ən **txaltxal** pɬχ-aʔn-k
all 1SG.IRR-give-DISTR-3.OBJ meat friend-PL-DAT
'I will give **all the meat** to our friends.' [TL (48)]

[7]Bound person marking, including the third person subject enclitic *=(n)in*, was not treated as overt S or O. The clitic *=(n)in*, characteristic of the Sedanka dialect, is not recognized in previous descriptions, and its distribution has not been carefully examined. It is treated here as a clitic, rather than an affix, since it may occur in positions other than immediately following the verb. It is treated as a clitic rather than a pronoun, since it may double the regular subject pronoun.

[8]Since arguments may be freely omitted, and coordination is often asyndetic (unmarked), an analytic problem arises in constructions such as the following, which could be parsed in one of two

INTRANSITIVE	V	SV	VS	Total
	304	236	36	576
TRANSITIVE				SubTotals
no S,O	V			
	58			58
only S		SV	VS	
		16	4	20
only O		OV	VO	
		105	65	170
S>O	SOV	SVO	VSO	
	34	21	3	58
O>S	OSV	OVS	VOS	
	7	4	0	11
TOTAL TRANSITIVE				317

Table 1: Constituent Order (raw count)

clauses lack an overt (free) O argument. When S is expressed as a free element, it tends to precede the verb (SV outnumbers VS about 7:1 among intransitives, and a similar ratio holds for transitive clauses). Only about 1/6 of transitive clauses have both S and O overt, but among these SOV and SVO predominate.[9] When only O is overt, it precedes the verb more often than it follows at a ratio of approximately

ways:

(i) njaačiɬ aŋaqa-čχ k-ɸti-knen, k-ŋrep-qzu-knen
alone Angaqa-DIM PTCP-remain-PTCP PTCP-sing-ASP-PTCP
'Angaqe remained alone, and (he) sang' [AS (25)]

a. [Angake remained alone] & [*pro* sang]

b. [alone, Angake [remained] & [sang]]

On one parse, this could be two clauses with the subject omitted in the second clause (thus contributing one SV and one V to the counts in Table 1). Alternatively, this could be described as a single clause with VP (or verb) coordination–since the subject is shared, this could be treated as two SV clauses. Since this is largely unresolvable, all such examples are treated for the sake of consistency as clausal coordination (SV and V), recognizing that this will likely overcount unexpressed arguments, especially subjects, but this is innocuous in that the counts of overt or unexpressed arguments are not relevant to the main points of this paper.

[9]Georg and Volodin (1999:198) assert it as an absolute that the S always precedes the O in a transitive construction, i.e., that word order is used to distinguish Agent from Undergoer in the absence of other coding, similarly to Word Order Freezing effects reported for other languages. While a strong trend, this is not absolute, even in Volodin's material.

2:1 (105:65), but this varies across texts—VO is by no means rare, is generally accepted by speakers in elicitations and speakers will often assent to OV and VO versions of a sentence as meaning the same. Nevertheless, I will ultimately argue that Itelmen is a verb-final language and thus that OV orders are in some sense basic, with VO derived.

In the next section, I will show that the correlation between IS and word order seen in (2)-(3) constitutes a significant trend across the texts, at least to the extent that O introducing a previously unmentioned discourse referent (hereafter O_{new}) strongly tends to precede the verb, while O_{old} (O denoting a previously mentioned discourse referent) may precede or follow the verb. In section 5, I will refine that result, and argue that when various interfering factors are controlled for, the pattern becomes sharper, in the oldest text potentially even categorically so at the relevant level of description.

3 Text Study - Preliminaries

In principle, the set up of the text study reported here is straightforward: the four texts identified above were hand-coded for the relative order of major constituents and each nominal or pronominal (i.e., non-bound, non-clausal) O was coded as O_{old} (previously mentioned discourse referent) or O_{new}. In practice, various factors conspire to make this non-trivial, and various analytical decisions, some non-obvious, had to be made. These decisions are summarized briefly in the following sections.

3.1 Tagging Information Structure

It has of course long been known that languages use different strategies, including word order variation, for *packaging* (Chafe 1976) the information in a sentence with respect to the ongoing discourse, for example, signaling what information is already taken as part of the Common Ground (*given*) and what information is being presented as *new* (see, among others, Erteschik-Shir 2007; Krifka 2008). Our focus here is limited to nominal categories (nouns, NPs, pronouns), and the entities they refer to. Itelmen has no morphological marking of the given vs. new contrast, a role subsumed in some other languages (at least in part) by (in)definite articles, for example (Heim 1982). Thus, in order to operationalize the distinction in a manageable and mostly objective manner, simple prior mention in a discourse was used as the primary proxy for givenness. Since our focus here is on the relative order of V and O, we may set aside (for now, but see section 5.2) the *topic*, a discourse role that is normally associated with the subject.

Overtly expressed nominal and pronominal objects of transitive verbs were coded as O_{new} if the entity they denote was not previously mentioned, and as O_{old} otherwise, with the following caveats.

First, first and second persons were taken to always be given (O_{old}), as their referents are inherently salient in a discourse.

Second, a directly quoted dialogue within a larger text is taken to start a new discourse (see Jasinskaja and von Heusinger 2025 for evidence that referential activation generally does not cross over from the narrator's common ground to the internal common ground of the protagonists). For example, when the fox says (2) to the gosling, the water (pond) has just been mentioned in the narrative, but has not been mentioned in the quoted exchange between the gosling and the fox. It is therefore classed as O_{new}, in the sense that it is new (first mention) within the gosling-fox discourse. The next sentence (3) returns to the narrator's voice, and the water/pond is then classed as O_{old}.

Third, explicitly contrastive O were grouped together with O_{new}, in light of the treatments in the literature of a broad category of *focus* which includes both contrastive focus and new information (e.g., answers to questions). This may have been an unfortunate decision as there is growing evidence that languages treat the two types of focus distinctly (see, for example Kratzer and Selkirk 2020), but this affects only 2 examples with Os that were previously mentioned, but explicitly contrastive, that would have been coded differently. This has only a negligible effect on the statistics reported below.

Finally, we can acknowledge even before starting that using explicit prior mention as a proxy for givenness will introduce noise into the results, since explicit mention is not the only means by which an entity can become salient and be added to the Common Ground. As a large literature documents under rubrics such as "accommodation", "bridging", and "inference" (Clark 1975; Prince 1981; Krifka 2008) a referent can be treated at first mention as if it is given if it inferable from the context. Examples include part-whole relationships, producer-product, event-participant among others.[10] For example, in (4), the character Miti is has been previously mentioned (and is in fact the continuing topic in this sentence), but her hand, the direct object of the verb *teɬ-es* 'put (in)', has not been mentioned as such. It was tagged therefore as O_{new}, but with some trepidation, as it is not clear that a body part in this type of context should be treated as referentially distinct from the referent whose body part it is. Indeed, it is not clear that her hand here should be conceived of as introducing a distinct referent at all. It has what Lambrecht (1994) terms 'low referential activation'—it is not picked up again in

[10]Götze et al. (2007) propose a corpus-tagging scheme that distinguishes *given* (explicit mention) from *accessible*, and offers various subtypes for each of these.

the story and in this context, the sentence is equivalent to: 'Miti reached into the bag.'

(4) tolʲko Miti k-teɬ-an xkəč mešok-ank …
just Miti PTCP-put.in-PTCP.TR hand bag-DAT
'Just as Miti put her hand into the bag …' [KL (190)]

Conversely, treating previous mention as a yes/no opposition takes no account of anaphoric distance: in a long text with many referents, the salience of an entity may well decrease as a function of the time since prior mention. In the Tilval legend, the protagonist towards the end remembers his parents, who had been previously mentioned (thus tagged here as O_{old}), but where there had been some 40 lines of text since the last mention. One could clearly construct a more fine-grained analysis of the texts than is provided here, but the present aim is to make a preliminary case for the role of IS in Itelmen word order, for which the more coarse-grained division, which has the advantage of being objective and thus replicable, suffices.

Another potential source of noise in the counts comes from occasional discrepancies between the original audio recording and the edited transcriptions. These texts were first recorded as uninterrupted tellings, and then transcribed by the author with the generous assistance of the original storyteller (in three cases) or another native speaker (in one case). During the transcription process, speakers offered edits, for example, correcting disfluencies or false starts, offering Itelmen words in place of Russian loans or code-switches in the audio recording, and in some cases making other more substantial changes. For consistency, I followed the edited texts as these reflect the speaker's preferences as to the nature of their own texts. Most speaker edits did not affect the questions of interest for this study, but in a small number of instances, the edited versions did involve word order and IS. In fact this was the case for the example just considered— (4) was the edited version provided by the speaker after listening to the recording, but a transcription from the audio file is given in (5), which includes a pause evidently searching for a word. Note the difference in OV∼VO word order:

(5) Miti kniŋ tolʲko xkəč=nin <pause> eŋqaʔn <pause>
Miti then just hand=3.CL FILLER
k-teɬ-ʔan xoq mešok-ank …
PTCP-put.in-PTCP.TR there bag-DAT
'Just as Miti put her hand into the bag …' [KL: Audio transcript]

The hope is that despite these qualifications, if the core generalization is robust enough, it will be quantitatively discernible, even if a small number of examples and various edge cases are misclassified.

3.2 Transitivity: Coding Os

On the syntactic side as well, various qualifications need to be made before we turn to the results. For the most part, identifying transitive O in the texts is straightforward. As noted above, verbal morphology and case marking generally provide sufficient information (see Bobaljik and Wurmbrand 2002 for discussion of Itelmen verbal inflection, including important qualifications to the brief remarks here). The finite inflection, common across the Chutkokto-Kamchatkan family, combines prefixes (sometimes null), which index the subject (whether transitive or intransitive) and mood, and suffixes, which, to a first approximation, index the subject of an intransitive verb, but the object of a transitive one, sometimes via a portmanteau expressing both subject and object features. The participial conjugation indexes the subject of a transitive clause or the object of a transitive clause, with distinct suffixes in the two functions (S versus O).[11] Core arguments in the most common clause types are unmarked for case. In this, Itelmen differs from the languages of the Chukotkan branch of the family, all of which have an ergative-absolutive case alignment. Thus an O in Itelmen is a nominal in undergoer role, unmarked for case, which triggers object agreement on the verb.

By these criteria, we exclude various (uncommon) clause types that may be notionally transitive but are syntactically intransitive. For example, the verb *nukas* 'to eat' takes an instrumental undergoer, and the verb inflects intransitively, as seen in (6)—this is not considered an O in this study:

(6) omokom li č'in-aq mən-nu-k enu silqsilq-ał
together very beautiful-ADV 1PL.IRR-eat-1.SUBJ DEM pemmican-INST
'We (will) eat *silqsilq* (pemmican) very well together.' [KL (52)]

Another example that might seem transitive, but is syntactically intransitive involves the verb *le-kas* 'to become' which appears to take two unmarked nominal arguments in (7a). The inflection shows unambiguously that *le-kas* is intransitive and agrees only with its subject. The NP *li pleχ qsas* 'very big goose' is unmarked not by virtue of being an O but instead because it is a predicate nominal: the complement of *le-kas* may be of any category that may stand as a non-verbal predicate, including nouns, but also adjectives and adverbs, as in (7b). Since the verb is formally intransitive, such predicate complements were not treated as O arguments, and (7a) was tagged as an intransitive SV example.

[11] There is a small class of verbs, (Georg and Volodin 1999:246 list two dozen) for which the transitive and intransitive endings are syncretic in the participial conjugation, though not in the finite conjugation. This does not affect the main results of this paper, since our interest is in the position of overt objects, which by their presence disambiguate the transitivity of the participial verb.

(7) a. qat aŋaqa sisike li p-leχ qsas k'-le-knen
already Angaqa Sisike very big-ADJ goose PTCP-become-PTCP
'Angaqe had already become a very big goose, …' [AS (94)]

b. qat lq-aq k-le-qzu-knen.
already cold-ADV PTCP-become-ASP-PTCP
'Already it was becoming cold.' [AS (5)]

Two constructions, however, present a more challenging type of ambiguity as regards transitivity and identification of O and S: perception verbs and the passive or impersonal N-construction. In tagging the texts, the strategy taken in both instances was to report figures first for a broadly inclusive count (the "raw" count), where the nominals in question are treated as Os, and a narrow, refined count, in which these are excluded. This will allow us to see whether these constructions behave differently from regular transitive clauses as regards OV∼VO order. As we will see, they do.

3.2.1 Perception (and similar) complements

The example in (8) represents a typical example of a perception verb in Itelmen in construction with an embedded clause. Note that the verb is inflected transitively, and the NP is unmarked. What is not clear is whether the object/complement of the transitively inflected verb *k'əɬčkuin=(n)in* 'he saw it' is the NP *tsxalastas* 'fox', co-referent with an unexpressed subject in the clause expressing the perceived event (8a), or the entire embedded clause, in which the NP *tsxalastas* 'fox' is the subject of the embedded clause (8b). Context alone rarely serves to disambiguate these. Moreover, the panoply of constructions such as Prolepsis, Raising-to-Object/ECM, Long Distance Agreement, and the like indicates that semantics alone is not determinative of syntax. For example in an English example like *We believe the fox to be wearing socks*, the syntactic object of the verb *believe* is the NP *fox* although the semantic argument of *believe* is the entire proposition. See Lohninger et al. (2022) for a cross-linguistic survey and analysis.

(8) k'-əɬčku-in=(n)in tsxal-astas k-k'oɬ-knen
PTCP-see-PTCP.TR=3CL fox-AUGM PTCP-come-PTCP
'He saw a fox coming.' [AS (28)]

a. [saw fox$_i$] [(it$_i$) came] NP-complement
b. [saw [fox come]] clausal-complement

Independently of perception verbs, clausal complements of all types, both finite and non-finite, typically follow the verb that selects them. Since clausal conjunction is typically asyndetic, lacking any overt conjunction, and subjects are freely

omitted, the potential for ambiguity is real.[12] Rather than trying to resolve this a priori, the strategy taken, as noted, will be to provide two counts: a first raw count including all ambiguous NPs such as *tsxalastas* 'fox' in (8) and a refined count excluding all such NPs. The difference between the counts is discussed with reference to specific examples in the discussion of the texts below.

Alongside perception verbs, narrowly construed, some other verbs raise the same set of issues, including restructuring (clause union) verbs such as in the following example from the third text:

(9) muza-ʔn nt'-utu-z-in **βitβit** txuŋ-es
1PL-PL 1PL-be.unable-PRES-3.OBJ seal drag.out-INF
'We can't drag the seal out (of the water).' [KL (18)]

The NP *βitβit* 'seal' is clearly thematically the object of the embedded, non-finite verb *txuŋ-es* 'to drag out'—thus an instance of OV in the embedded clause. But at the same time it may trigger O agreement on the matrix, finite (modal) verb *utu-s* 'to be unable to' thus suggesting that it is in some sense the syntactic O of the matrix verb as well (compare clitic climbing in Italian or other types of object sharing in clause union/restructuring, Wurmbrand 2001). For present purposes, these are included together with perception complements, since they share the property that it is not obvious without additional analysis whether the overt noun is in the matrix or embedded clause.

3.2.2 The N-construction: passive or impersonal

The other ambiguity for which a broad/narrow (raw/refined) count approach is adopted is what we may neutrally term the *N-construction*. As noted above, the verb in the basic transitive conjugation inflects for person and number of subject and object. Both of these, if overt, bear unmarked (zero) case. Alongside this basic conjugation, there is also a construction which Volodin calls the *generalized-subject* conjugation (Volodin 1976:268) or *passive* (Georg and Volodin 1999:163), seen here:[13]

[12] There are certainly more than two analytic options to consider, including for example, a *prolepsis* construction, in which the matrix verb has a silent nominal complement, coreferent with the subject of the embedded clause (Polinsky 2003). Such constructions are attested in related languages, at least in some cases mistakenly analyzed as long-distance agreement (for Chukchi, see Bobaljik 2008:n.25). On cross-clausal agreement in a different context in Itelmen see Bobaljik and Wurmbrand (2005). Since we are interested in the position of overt O relative to its verb, the key distinction that (8) is intended to convey is whether or not the overt noun *tsxalastas* is the O of the matrix verb or not.

[13] Older work (Bogoras 1922; Volodin 1967) considered this to be an ergative construction, largely by analogy to the Chukotkan languages, but Volodin has subsequently argued against this. Bobaljik

(10) a. Mit-enk n-qzu-z-um
MITI-LOC N-wait-PRES-1S.OBJ
'Miti (is) waiting for me.' [KL (38)]

b. tixt tsxal-enk mił i? kəłx^{w}-čχ-enk n-ɣil-čen
So fox-LOC all water lake-DIM-LOC N-drink-3SG.OBJ
'So, all the water in the little lake was drunk by the fox.' [AS (47)]

On the one hand, the N-construction is passive-like in that the actor (i.e., the argument that would be the subject in the transitive conjugation) is "demoted" to an oblique: locative if animate and instrumental otherwise. The demoted actor fails to control subject (number) agreement and instead the verb (in the finite conjugation) takes a fixed prefix *n-*, homophonous with the third person plural.

On the other hand, this construction is unlike a passive and more like an impersonal in that there is no evidence that the undergoer is "promoted" to grammatical subjecthood: the undergoer in the N-construction controls object agreement on the verb (suffix *-(β)um* in (10a), *-čen* in (10b)), just as in the active, basic conjugation. While the actor may be expressed as an oblique, when it is not overtly expressed the construction may have an impersonal flavour (an unspecified subject: someone or something).[14]

The question, then, is whether the unmarked undergoer of the N-construction should be counted together with Os of the basic transitive conjugation in analyzing word order in transitive clauses. While it is an O, it is not in opposition to a clausemate unmarked S, a factor that may be relevant in considering the relationship between grammatical role and information structure. Rather than making an arbitrary decision from the start, the strategy again was to provide two counts: these NPs are included as Os in the raw count, but excluded from the refined

(2019) building on earlier work argues that heteroclisis of the N-construction and the basic conjugation provides a clear historical source for the ergative conjugation in Chukotkan, including peculiarities such as the alternation in case syncretisms in nominals and the so-called "inverse" prefix (Comrie 1980a).

[14]When the actor is unexpressed, for first and second person objects, the N-construction and regular transitive inflection are syncretic (for third person objects there are distinct O agreement suffixes for the N-construction and for 3PL subjects). The following is, for example, potentially ambiguous between regular transitive syntax with an unexpressed 3PL subject and an N-construction (although from context, the N-construction with an unspecified subject is the more likely parse):

(i) kma n-oms-qzu-βum
1SG N-leave-ASP-1SG.O
'They left me behind.' or 'I was left behind.' [AS (46)]

This may have led to some mis-identification, but since only 26 out of 318 clauses were coded as N-constructions, and most were unambiguous, the effect was presumably negligible.

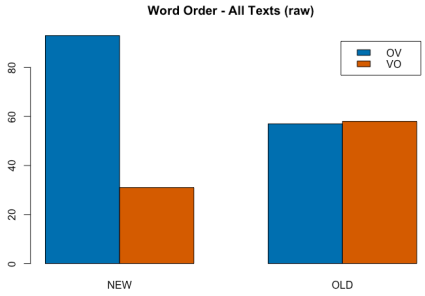
count, allowing us to see clearly the effects of the two choices.[15]

4 The Text Study - First Results

The first (raw) results of the text study are reported in the table in (11) and corresponding bar plot. Of 239 transitive clauses with an overt nominal O, we find that O_{new} are three times more likely to be pre-verbal than post-verbal, while O_{old} are evenly split. The distribution is significant, but not categorical.

(11) All texts OV∼VO × old/new (raw) (Fisher's Exact p<.0001)

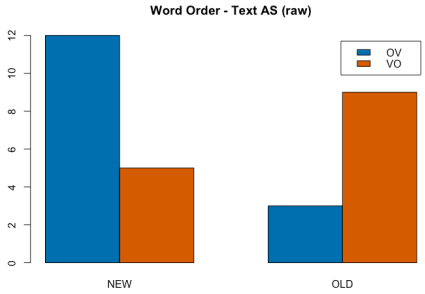
	OV	VO	Total
O_{new}	93	31	124
O_{old}	57	58	115
Totals	150	89	239



Recall from the introduction that the speaker in Text 1 is a full generation older than the other speakers. If we single out only the first text, although the totals are small, the same preference for pre-verbal O_{new} is clear, but the overall distribution is more asymmetrical, as shown in the table and graph in (12), a point to which we return somewhat tentatively below.

(12) Wingless Gosling (raw) (Fisher's Exact p=0.02533)

	OV	VO	Total
O_{new}	12	5	17
O_{old}	3	9	12
Totals	15	14	29



These results allow the prima facie inference that IS is a contributing factor to OV∼VO alternations in Itelmen. Moreover, as noted in the introduction, the fact that O_{new} preferentially occur in pre-verbal position, and that VO order is associated with O_{old}, at least as a trend, aligns with a pattern reported for other

[15]In addition, the oblique actor of the N-construction was coded as S in the broad count, but as an oblique in the narrow/refined count.

languages, including Cherokee (Hsu and Frey 2024), and also predominantly OV languages such as Turkish (Kural 1997; Kornfilt 2005; Şener 2010), (older) Khanty (Borise et al. 2024), and Amharic (Kramer and Eilam 2012) and against the IS patterning seen in VO languages like Russian, for which recent descriptions posit the opposite correlation. Bailyn (2012:Ch. 6) summarizes a substantial literature (see also Slioussar 2006; Dyakonova 2009; Titov 2012:and much literature cited there) documenting both a basic SVO order for Russian, and an effect of *Right Focus* whereby new information focus occurs clause-finally. With this in mind, it is worth considering what evidence there is for an underlying or basic order of constituents in Itelmen.

4.1 Itelmen as an OV language

Despite the relatively high frequency of VO orders, other aspects of Itelmen syntax suggest a head-final verb phrase. Notably, auxiliaries and other light verbs normally follow their complements. This is seen in negation, which involves (in the present and past tenses) three components: an uninflectable negative particle, the main verb stem with a negative suffix (which varies for transitivity) and an auxiliary, which bears the regular verbal inflection:

(13) qaʔm ɬəm-aq t'-iɬ-čen
NEG kill-NEG 1SG-AUX-1>3SG
I didn't kill it. [S3:9]

With few exceptions, the three components must occur in that relative order (14):[16]

(14) a. * t'-iɬ-čen qaʔm ɬem-aq
1SG-AUX-1>3SG NEG kill-NEG
'I didn't kill it.' [S3:9]

b. * qaʔm t'-iɬ-čen ɬem-aq
NEG 1SG-AUX-1>3SG kill-NEG
'I didn't kill it.' [S3:9]

[16]Volodin (1976:275) notes that there are rare occurrences of the order in (14b) in his material, giving three examples. He notes further that all three involve first person negative desideratives 'I/we do not want to x'. He provides context only for the first of these, in which the verb/VP is explicitly mentioned in the previous sentence: 'Come here and eat!' – 'We don't want to eat.' The other two are given without context, but are plausibly taken from similar contexts (one is evidently from a text where the gosling resists going to the fox). These examples are thus consistent with an underlying rigidly aux-final order if VPs denoting previously mentioned event-types can extrapose, just as O_{old} can (compare VP topicalization in German). There is too little evidence to draw any firmer conclusions. My thanks to Jago Rowe for raising this issue.

However, the elements of this construction need not be adjacent—other clausal constituents may intervene between the particle and verb (15a-b), or between verb and auxiliary (15c):[17]

(15) a. kma qaʔm enu βimsx əɬčku-q t'-iɬ-čen
1SG NEG that woman see-NEG 1SG-AUX-1>3SG
'I didn't see that woman.' [S3:11]

b. qaʔm k'e k'oɬ-kaq ɬ-in
NEG who come-NEG AUX-3SG
'No one came.' [S3:23]

c. qaʔm k'oɬ-kaq zin-xʔal ɬ-iʔn
NEG come-NEG woods-ABL AUX-3PL
'They didn't come from the woods.' [S3:12]

The verb *le-kas* 'to become' and light verbs likewise (apparently) always follow their complements, as already seen in (7a)-(7b). There were 18 examples of the verb *le-kas* 'to become' across the 4 texts. In all examples, the predicate complement, whatever its category, occurs before the verb *le-kas*.:[18]

Light verb constructions show the same head-finality. These consist of an element giving the lexical meaning (the uninflectable particle *xaq* in (16a) or a possibly nominalized verb stem in other examples) followed by an inflected auxiliary verb. In addition to a handful of native constructions, the light verb construction provides a common means for incorporating borrowed Russian verbs (in their infinitive form, as in (16b)):

(16) a. xaq tχi-ʔn k-təl-knen
know 3PL-PL PTCP-AUX-PTCP
'They recognized (lit: knew) him.' [TN (63)]

[17]As noted in Bobaljik (2001), indeterminate pronouns, which may be interpreted as indefinites or as interrogative pronouns, show a scope interaction with negation: if they occur before negation they function as question words, but if they occur between the negative particle and the verb (as in (15b)), they are interpreted as negative indefinites. This pattern holds for indeterminate pronouns regardless of grammatical role (subject, object, oblique, etc.). Earlier descriptions do not mention this scope effect, and instead treat negative+indefinite combinations as lexically-formed negative pronouns, but this is inadequate: for example, the indefinite need not be adjacent to the negative particle and thus does not form a word with it. Parallel facts are reported for Koryak by Abramovitz (2019).

[18]Caveat: Unlike the auxiliary and light verb constructions, the alternative order with *le-kas* was not checked in elicitation to verify that it is impossible as opposed to merely unattested in this sample.

b. noz-əʔn knank napravit t'-iɬ-če-ʔn
dried.fish-PL 2SG.DAT make.ready(<Russ.) 1SG-AUX-1>3-PL
'I've got jukola (dried fish) ready for you.' [KL (12)]

One other property that would be expected for an OV language would be postpositions, rather than prepositions (e.g. Dryer 1992). However, Itelmen lacks adpositions, so there is no correlation to be had with pre- or post-positions.[19] Clausal complements normally follow their selecting verb (which generally takes transitive inflection, see below), but this is not informative of underlying headedness as extraposition of clausal complements is well known from otherwise head-final (OV) languages.

In sum, the evidence from auxiliaries supports the view that Itelmen is underlyingly head-final in the verb phrase, i.e., an OV(Aux) language, with the possibility of extraposition of objects. The IS asymmetry whereby extraposed O are more likely to be discourse-old rather than discourse-new thus converges with a pattern reported for other OV languages (Koptjevskaja-Tamm 1993).

At this point, we may turn to the refinements promised earlier.

5 The Text Study - Refinements

In section 3.2, two constructions (perception-type complements and the N-construction) were identified as being in some ways ambiguous as to their transitivity. Rather than attempting to decide the matter a priori, the strategy taken was to include all examples of these in the raw counts reported above, and then to run the counts again excluding these constructions. Table 2 provides the revised counts for all four texts, broken down by text. There is a significant correlation in the aggregate between word order and IS.[20] The preference for objects representing

[19]Georg and Volodin (1999:74) describe a class of location words as 'postpositions', but this is inexact: even if one were to treat these elements as adpositions (which is debatable), the elements in question occur freely before or after the nouns with which they are associated and are thus not (pure) postpositions in the sense relevant to word-order correlations. A more careful study of Itelmen locative expressions is in preparation.

[20]A Fisher's Exact Test for the aggregate 2x2 contingency for all four texts shows that the correlation between word order and IS is significant, two-tailed $p<.00001$ OR = 7.03 (95% CI = 3.51-14.73). On a text-by text basis, the correlation is significant (with Bonferroni correction for four tests α = 0.05/4 = 0.0125) for texts 1 (AS) $p = .001905$ OR = 33.98 (95% CI = 2.66-2119.90) and text 3 (KL) $p<0.0001$ OR = 17.65 (95% CI = 5.60-65.01), but is not significant for texts 2 (TN) $p=.1963$ OR = 2.63 (95% CI = 0.57-14.46) or text 4 (TL) $p=.3379$ OR = 2.19 (95% CI = 0.50-11.49). In texts 2 and 4 there is an overall preference for OV order regardless of InfStr type. That effect is stronger for O_{new} than for O_{old}, but not significantly so for this sample size. The failure to reach significance in the latter two texts individually may be due to a lack of sensitivity due to the rather small sample sizes: a Fisher's Exact text on the combination of TN and TL does show that the correlation between order

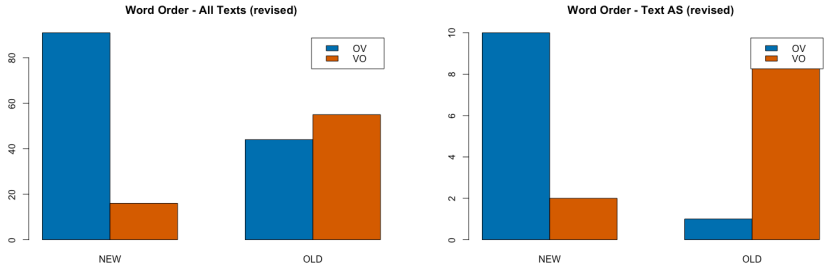
new (or contrastive) referents to occur preverbally is twice as strong (6:1) as it was in the raw results above. The distribution of O_{old} remains varied: in the aggregate there is a small trend toward post-verbal position, and a clear asymmetry in texts 1 and 3, while in texts 2 and 4 even O_{old} occur more often in pre-verbal position.

	OV					VO					Total
	AS	TN	KL	TL	**Sum**	AS	TN	KL	TL	**Sum**	
O-New	10	14	51	16	**91**	2	4	6	4	**16**	**107**
O-Old	1	13	12	18	**44**	9	10	26	10	**55**	**99**
Totals	11	27	63	34	**135**	11	14	32	14	**71**	**206**

Table 2: Constituent Order Transitive Clauses (revised)

Barplots for the aggregate total and first text are provided in (17) in order to facilitate an eyeball comparison with the corresponding raw tables above. As before, the first text is singled out as it represents the oldest speaker: while in the aggregate, O_{old} continue to occur in both OV and VO orders, for the oldest speaker, the correlation between Information Structure and word order becomes nearly categorical. I discuss these in more detail below.

(17) Order × InfStr for all texts (L) and AS (R)



and IS in these texts when combined approaches marginal significance; p=.0.1054 OR = 2.40 (95% CI 0.85-7.31).

5.1 Post-verbal new objects: perception-like complements

In the aggregate, most of the difference between the raw and refined counts is attributable to the status of perception complements as in (8), repeated here. Recall that these are analytically ambiguous between two parses, one in which the NP *tsxalastas* 'fox' is the direct object of the matrix verb (and either shared with the subject position of the embedded clause or coreferent with an unexpressed embedded subject), and one in which the entire clause is the complement of the matrix verb, and the NP in question is the subject of the embedded clause.

(18) k'-əɬčku-in=(n)in **tsxal-astas** k-k'oɬ-knen
PTCP-see-PTCP.TR=3CL fox-AUGM PTCP-come-PTCP
'He saw a fox coming.' [AS (28)]

a. [saw fox$_i$] [(it$_i$) came] NP-complement
b. [saw [fox come]] clausal-complement

In this example, the noun *tsxalastas* 'fox' introduces a new discourse referent. Therefore, in the raw (inclusive) counts, this was tagged as VO with O$_{new}$. But on the clausal complement parse, this example has no O and is thus excluded in the revised counts. This one analytic decision turns out to have a substantial import. Half (15/31) of the examples tagged as VO$_{new}$ in the raw count table in (11) are perception verb (and similar clausal complement) constructions. Additional examples are given in (19).[21]

(19) a. k-əɬčku-ʔin=(n)in **jimsx-čaχ** k-k'oɬ-knen atx-laχ
PTCP-see-PTCP.TR=3CL woman-DIM PTCP-come-PTCP white-ADJ
qoβsk'el-čaχ tzəl-əz-nin
parka-DIM wear-PRES-3>3SG
'He saw a woman coming, wearing a white parka.' [AS (41)]

b. k'-joβa-ʔa-ʔn=(n)in **qsə-ʔn** k'oɬ-kilat
PTCP-encounter-PTCP.TR-PL=3CL goose-PL come-NMLZ.PL
'He encountered geese coming.' [AS (76)]

c. t'-əɬčku-at-aɬ-čen **k'e=ze** enu ɬ-qzu-in
1SG-see-GO-FUT-3SG.OBJ who=PTCL DEM BE-ASP-3SG
'I'll go see who was there.' [TN (101)]

[21] As an aside, it may be noted that in two of these examples, the embedded verb is finite, while in the others, it is in a nominalized (19b) or non-finite (19d) form. This variation is not obviously relevant to the point at hand and is put aside here. The matrix predicates do not uniquely select particular complement types. Georg and Volodin (1999:205) give examples of the non-finite complements also with *əɬčku-s* 'to see' and *elɸse-s* 'to hear'. They call examples with non-finite predicates as in (19b) *Objektsatz* 'clausal object' and label examples like (18) *juxtaposition*, but do not offer further discussion or analysis.

d. muza-ʔn nt'-utu-z-in **βitβit** txuŋ-es
1PL-PL 1PL-be.unable-PRES-3.OBJ seal drag.out-INF
'We can't drag the seal out (of the water).' [KL (18)]

In all these examples, the perception verb is transitive, inflected for a third person object (plural in (19b) and singular in the others), but it is not clear whether this is agreeing with the boldface NP directly or with the clausal complement, or perhaps with a silent pro-form in a prolepsis construction.[22] In none of 17 examples of perception verbs with clausal complements across the four texts does the NP in question precede the perception verb. Despite agreement with the matrix predicate, the word order is always consistent with a clausal complementation analysis, and the NP, even when introducing a new discourse referent, never occurs in the preverbal position otherwise strongly associated with O_{new}. The most parsimonious account thus treats each of the NPs in question as an argument of the embedded verb, and not as the direct object of the matrix predicate. This one assumption removes half of the apparent examples of post-verbal O_{new}, strengthening the correlation between IS and word order that we posited already from the raw data. When these are excluded, preverbal O_{new} outnumber postverbal O_{new} by 6:1.[23]

[22]Plural agreement in (19b) does not decide the issue, since in this example the embedded predicate *k'oɬ-kilat* 'come-NMLZ.PL' is nominalized and itself plural, agreeing with the plural NP *qsə-ʔn* 'geese'.

[23]A complication arises with the object agreement on the matrix verbs which in some examples indexes the embedded nominal. While long-distance agreement is attested in this family, particularly with restructuring verbs such as (19d), Bobaljik and Wurmbrand (2005) show that in structurally similar examples where scope relative to matrix negation is discernible, the agreeing O takes scope over the negation in the matrix verb, suggesting movement of the embedded O into the matrix clause at some level of representation. For example, in the Itelmen translation of 'I forgot to close all the windows', the lack of O agreement on 'forget' is compatible with a scenario in which I closed some, but not all the windows [forget $>\forall$], but when the matrix verb agrees with the embedded object, the only reading is one in which all windows remain open [$\forall >$ forget]. This adds complexity to the discussion here, but is compatible with the current proposal if we assume that movement of a high-scoping O into the matrix clause moves to the (or a) post-verbal position, just as in languages like German, where both old information and high-scope-taking objects scramble. Such movement out of an extraposed infinitive will be string vacuous if the O moves from pre-verbal position in the (extraposed) infinitive: the agreeing object in (19d) could be in preverbal position in the extraposed infinitive or in the post-verbal position in the matrix clause, preceding an extraposed infinitive. This consideration is unchanged if one assumes that the object moves (high, to the right) prior to (remnant) extraposition of the infinitive. In the interests of space, showing this is left as an exercise for the reader.

5.2 The N-construction: pre-verbal given objects

The other case of uncertain transitivity mentioned above is the N-construction, illustrated in (20). As a reminder, this construction involves, loosely speaking, demotion of the actor (omitted or expressed as an oblique and not indexed on the verb) but no obvious promotion of the undergoer (which continues to trigger O agreement on the verb).

(20) Sinaŋeβt-enk kma n-txunɬ-qzu-βum anqle
Sinangewt-LOC 1SG N-raise-ASP-1SG.OBJ winter
'I was raised by Sinangewt in the winter.' [AS (85)]

Across all four texts there are at least 26 clauses in the N-construction, in 17 of which the undergoer argument is a free expression.[24] In all but one of these examples, the undergoer is pre-verbal. The oblique demoted actor, if expressed, may precede the undergoer (as in (20)) or may follow it as in the following:

(21) a. a bolʲše **na** qaʔm k'e-nk əɬčku-q k'-iɬ-ʔin
CNJ more 3SG NEG who-LOC see-NEG PTCP-AUX-PTCP.TR
'And nobody saw him any more.' [TL (126)]

b. **miɬ** lʲelʲku-ʔn-k k'-əntxla-kne-ʔn
all mouse-PL-LOC PTCP-carry.away-PTCP-PL
'It was all taken by the mice.' [KL (84)]

While excluding the N construction turns out to have little quantitative impact on the results, it does permit at least an incremental refinement of the IS notions involved.

To this point, we have considered only the IS status of O arguments, the objects of transitive verbs: O_{old} for O denoting a previously mentioned discourse referent, and O_{new} for those that have not been previously mentioned.[25] This classification has made no mention of the subject arguments. While intransitive subjects may introduce new discourse referents, transitive subjects in the Itelmen texts do so rarely, if at all. Subjectively speaking, transitive subjects tend to be topics, often continuing as subjects from one sentence to the next (unsurprisingly so, cf. Lambrecht 1994). Presumably, this is why transitive subjects are omitted more often than not, as they are recoverable from context. For present purposes, it suffices to recognize that transitive clauses may be seen as having a topic-comment articulation, where the subject is canonically the (primary) topic,

[24] An exact total cannot be given since, as discussed in n.14, some clauses are ambiguous as to whether they are examples of the N-construction or not.

[25] Plus the six explicitly contrastive Os, grouped together under the concept of focus.

while the comment is internally divided into at least a focus (new information) and a background (given referents that are not topics, i.e., *discourse anaphoric* elements in the sense of Neeleman and van de Koot 2008 or *tails* in the terminology introduced by Vallduví 1992).

Returning to the N-construction, Georg and Volodin (1999:197) describe its function as a means to background the logical subject/actor.[26] We may understand this as follows: For transitive (and intransitive) clauses, the S (whether expressed as a free element or only via a bound person marker) is quite generally the topic, representing discourse-old information and either continuing the topic from the previous sentence or marking a shift in topic. But in the N-construction, where the actor is an oblique and controls no bound marking on the verb, the undergoer, while still morphologically coded as an O on the verb, is the only direct argument of the predicate. Indeed, although criteria for topichood are somewhat subjective, it does seem to me that the O in the N-construction is plausibly the topic in most examples. In (20) the undergoer/object *kma* 'me' is not only a given referent, but is also clearly the topic. The brief four-line utterance by the gosling in which this occurs (2 lines of which are in the N-construction) explains how it survived the winter; the gosling's first person is the main topic throughout. The same point is made in (22). This sentence is drawn from the discourse between the gosling and Sinangewt, and is part of a four-line reply to the question 'Why didn't you fly away?' Although the sentence is morphosyntactically indeterminate between the N-construction and a regular clause with a 3PL subject, there is no contextually salient agent to count as the 3PL subject here, and once again, it is part of a discourse in which the gosling is the continuing topic.

(22) kma n-oms-qzu-βum
1SG N-leave-ASP-3>1SG
'I was left behind / They left me behind.' [AS (46)]

A near minimal contrast is given by the following pair. Both examples describe

[26] "…eine produktive Technik der Agensausblendung." Sheifer and Ganieva (2023) present an alternative characterization of the N-construction drawing on a text corpus. They argue for a disjunctive condition: the N-construction is used if either (i) the O precedes the S, or (ii) the undergoer outranks the actor on a hierarchy of ontological saliency (potential agency), where pronouns (including the universal quantifier *m(n)iɬ* 'everyone/everything) > nouns (including proper names) > indefinite pronoun. The common observation with Georg and Volodin (1999) is that one way or another, the N-construction seems to be associated with contexts in which the undergoer (O) is more discourse-salient than the agent. Sheifer and Ganieva (2023) suggest a connection to ergativity, and one might draw a further connection to the "high absolutive" effect in some ergative languages whereby absolutives are syntactically objects (as diagnosed by reflexive binding, control, etc) but are the most prominent NP in information-structure terms (topicality, perhaps also default quantifier scope etc). See, among others, Ershova (2019); Royer (2025) for recent discussion, along with earlier evidence in Bittner (1994); Wharram (2003).

the fox drinking up the lake, but they differ in whether the fox is the topic (a) or not (b).

(23) a. k'-il-ʔin=(n)en mił kəɬx^{w}-čaχ
PTCP-drink-PTCP.TR=3CL all lake-DIM
'She drank up all the little lake.' [AS (38)]

b. tixt tsxal-enk mił iʔ kəɬx^{w}-čχ-enk n-ɣil-čen
So fox-LOC all water lake-DIM-LOC IMP-drink-3SG.OBJ
'So, all the water in the little lake was drunk by the fox.' [AS (47)]

Sentence (23a) repeated from above, is part of a passage of sequential lines about what the fox said and did. In other words, it can be seen as answering the (implict) question under discussion: *What did the fox do next?* and thus the fox is the continuing topic. The sentence in (23b) describes the same event in the N-construction, but this time is part of the answer to the explicit question, directed to the gosling: *Why didn't you fly away?* Similarly in examples (21a) and (21b) like those above, the context is one where the undergoer is plausibly the topic: (21a) closes the story about Tilval, and (21b) is part of the answer to the question of whether the *silqsilq* (the referent of *mił* 'all (of it)') is still there.

With the benefit of hindsight, we may now perhaps understand why the O of the N-construction should not have been grouped together with transitive O in examining the OV∼VO alternation. The deciding factor for the OV∼VO alternation in normal transitive clauses is whether the O is new information or backgrounded (tail, discourse-anaphoric). But the (erstwhile) O in the N-construction is neither/nor—it is instead most typically the topic, a role normally taken by the unmarked S argument in a regular transitive clause. Put differently, identifying O arguments by their morphosyntax, and then dividing them into O_{new} versus O_{old} lumped together under the rubric O_{old} two types of entity that should have been kept distinct: $O_{background}$ and O_{topic}. While in both cases, the referent is given, these constitute two different types of information structural status, and the distinction is relevant to the grammatical patterning we observe.

As with the perception complements, then, what we see is that one class of examples that are potentially anomalous from the perspective of a correlation between word order and information structure in transitive clauses turns out to have an internal consistency and to be the result of a particular, somewhat arbitrary coding choice. A different coding choice—excluding O of the N-construction as not transitive in the relevant sense—reveals a cleaner pattern, and is motivated by understanding the key difference between transitive clauses, which have two direct arguments, and the N-construction, in which the O does not compete with an S for topichood. While this does not have as large an effect in the aggregate as

excluding the perception complements did, its effect varies from text to text. In the two traditional texts about mythical figures (1 and 3), the ratio of post-verbal to pre-verbal positions for O_{old}, once the N-construction is set aside, is 9:1 (text 1) and 26:12 (text 3). By contrast, in texts 2 and 4, even with the corrections just offered, old-information transitive O arguments remain roughly equally (text 2) or even predominantly (text 4) in pre-verbal position.

To this point, we have seen an empirical generalization about Itelmen word order, notably that there is a strong preference for O_{new} to occur in preverbal position, at least across the four texts scrutinized here, and that while this may reflect the basic OV nature of Itelmen, O_{old} are roughly speaking as likely as not to extrapose. In section 6 I will begin to sketch an account of these facts. But first, we take another small digression. Recognizing that perception verbs take clausal, not nominal, complements removed at one stroke half of the apparent examples of VO_{new} in the raw counts. We might therefore productively ask whether true VO_{new} ever arises. This is reportedly disallowed in languages like Turkish, and we can thus profitably ask whether the rather unrefined diagnostic for newness used here (lack of prior explicit mention) might simply have introduced a measure of noise into an otherwise categorical distribution by leading to misclassification of some examples.

5.3 Further down the rabbit hole: scrutinizing VO-new

This section revisits some of the remaining examples that were tagged as VO_{new} in the study, with the aim of asking whether the preference for O_{new} to occur preverbally might be stronger than even the revised numbers indicate, perhaps ultimately categorical. In the interests of space (and of the reader's attention span) I do not provide a comprehensive listing but instead look at the first text, the Wingless Gosling (AS). In this text, after the perception complements are set aside for the reasons noted, there are 12 examples coded as picking out referents that have not been previously mentioned in the discourse. Of these, only two are post-verbal (the same ratio as in the aggregate of all the texts).

One such example is given in (24):

(24) "q-taβoŋ-xe'n tinuʔn sisi-ʔn-č"
2.IRR-try-2>3PL DEM.PL wing-PL-DIM
"Try these wings." [AS (63)]

This is clearly a deictic use of the demonstrative, activating (or evoking, in Prince's 1981 terms) a referent that is contextually salient to the discourse participants. Sinangewt has just sewn wings for the wingless gosling, and just put them on the gosling. These were coded as O_{new} because of the coarse-grained objective

coding schema that relied on explicit prior mention, but the referent should clearly count as given under accounts that acknowledge accommodation or bridging. In this instance, the wings are high on the givenness hierarchy (Gundel et al. 1993) by virtue of being salient in the discourse participants' immediate extralinguistic context, rather than via prior explicit mention.

A different consideration is at play in the only other example of apparent VO_{new}, which occurs in the second line of text. The story opens as follows:

(25) a. k-zunʲɬ-qzu-kne-ʔn qsə-ʔn
PTCP-live-ASP-PTCP-PL goose-PL
'There lived some geese.' [AS (1)]

b. qsə-ʔn k'-ənsxt-ʔeʔn tχi-ʔn p'e-ʔn
goose-PL PTCP-give.birth-PTCP.TR.PL 3PL-PL child-PL
'The geese, they gave birth to children.' [AS (2)]

Here there is no question about whether the object *p'e-ʔn* 'child-PL' introduces a new discourse referent. It clearly does, in fact, the group that includes the main protagonist of the story. But the fact that this occurs at the opening of the story is noteworthy. The first sentence shows a VS order that is otherwise quite rare (SV outnumbers VS by about 7:1 in intransitives) and exemplifies the construction that is characteristic of the opening of narrative texts (sometimes with a preverbal locative or temporal expression). All four texts open in this way, and this otherwise marked order seems to be the almost formulaic means to introduce the protagonist at the start of a story.[27] The start of the other three texts is given in (26).

(26) it'e k-zunʲɬ-qu-knen **li** **staroj tnaqol**.
when PTCP-live-ASP-PTCP very old old.man
'Once there lived a very old man.' [TN (2)]

(27) it-qat k-zunʲɬ-qu-kne-ʔn **Kusxɬnequ i Miti**,
when-already PTCP-live-ASP-PTCP-PL Kutkh and Miti
'Once there lived Kutkh and Miti,' [KL (1)]

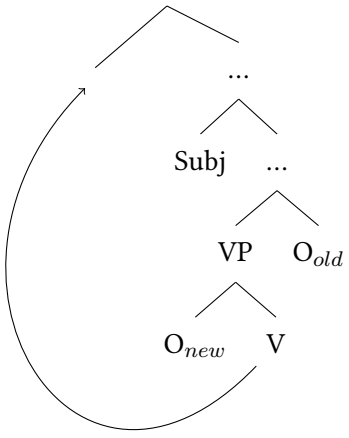
(28) it-qata zin-k k-zunʲɬ-qzu-kne-ʔn **č'amza-ʔl**.
when-already woods-LOC PTCP-live-ASP-PTCP-PL person-PL
'Once in the woods there lived some people.' [TL (1)]

[27] The same construction 'lived (and was) S' is also a standard opening in Russian (and other Slavic) folktales (*žil (da) byl pʲes* 'lived (and) was dog' etc.) and the possibility of a calque cannot be excluded here.

In functional terms, one may see this as a distinct construction, overriding the otherwise normal word order patterns. In more structural terms, if one assumes a basic order from which deviations are derived by movement, one could see this as akin to what Dyakonova (2009) calls "narrative inversion" in Russian, a verb-initial order characteristic of (but not limited to) folklore and similar genres (Yokoyama 1986; Bailyn 2012). Analytically, we might follow Bailyn (2012:337) in taking this "inverted" (i.e., relative to the language's canonical order) to involve movement of the verb leftwards away from its canonical position, and across the subject, leading to the VS order.

Returning to (25b), we might see this example as a continuation of the inverted syntax from the previous clause: both sentences in (25) introduce story protagonists and both involve movement of the verb to the left of the subject (the subject occurs twice in (25b)—we could take the pronoun to be the "actual" subject and *qsə-ʔn* 'geese' to be a hanging topic or a false start, which is impressionistically consistent with the audio recording). If "preverbal" and "postverbal" positions for new and old information objects are structurally defined relative to the canonical position of the verb, rather than relative to surface strings, then it could be that the object in (25b) is in the "preverbal" position for new information after all (i.e., the VP-internal position that would end up preverbal if the verb is not displaced), but that the difference between the two positions has been obscured by the leftwards movement of the verb under narrative inversion, as shown in (29).

(29) Inversion



In sum, for the first text, it seems plausible that the main effect that orders O_{new} before the verb (or equivalently, which limits extraposition to O_{old}) could be categorical. Apparent examples of postverbal new information O reflect the interac-

tion with other processes, such as Narrative Inversion, which obscure the underlying uniformity, or are artifacts of the lack of refinement in the criteria used for tagging O as O_{new} or O_{old}.

Similar considerations may hold for some (but not all) examples in the other texts. One relevant example was already discussed in (4), in which the post-verbal O *xkəč* 'hand' had not been mentioned as such, but where it may well be a mistake to consider it to be introducing a new discourse referent distinct from *Miti*. A similar example is in (30). The door, *nuč*, has not been previously mentioned but follows the verb (thus VO_{new}) in this example:

(30) k'-ənɬe-ʔan **nuč**
PTCP-open-PTCP.TR door
(He) opened the door. [KL (132)]

Like the example of Miti's hand, previous mention is undoubtedly too blunt a proxy for the linguistically relevant IS categories. The house (whose door Kutkh opens) is quite salient at this point—it has been mentioned 10 times in the preceding 15 sentences, Kutkh is rushing towards it, believing that it is on fire. This too is a clear bridging context where a part of an entity (the door) is treated as given having been inferable from mention of the whole (compare the use of the definite article in English: *He saw* a_{new} *house, ran towards* it_{given} *and opened* ***the***$_{given}$ ***door****.)*

Not all examples of apparent post-verbal new information O across all the texts are readily reconsidered in these terms (and of course, reconsidering the criteria for new vs old would require us to also revisit examples that were tagged as being consistent with the main generalization), but the examples are mentioned here to illustrate some considerations one would want to explore in a more refined study. The numbers alone provide evidence that there is a strong, although not absolute, correlation between information structure and word order in one direction: O arguments introducing discourse-new referents strongly tend to precede their clausemate verb. This subsection has raised some further considerations that might suggest that methodological choices may have muddied the waters, and that the generalization might be stronger still, depending, for example on how "newness" and "givenness" are diagnosed. These points are less sharply delineable than the perception complement structure and have therefore not been incorporated into the revised counts, but in turning now to an analysis, I will provisionally work as if the effect that O_{new} precedes the verb is categorical in Itelmen, and that apparent examples of VO_{new} order are to be reinterpreted in one way or another.[28]

[28]If this turns out to be incorrect, in the sense that genuine postverbal new O are attested, albeit

5.3.1 Aside: VO in Itelmen—new or old?

Although it is somewhat of a side point, we might now return to the question of the origin of VO order in Itelmen. Some in the Itelmen language sphere (scholars and community members, e.g. Ono 2021) have suggested that the VO order in Itelmen is a result of Russian contact. I think at least two arguments can be given against this view and in favour of the idea that VO order is old.

In the first place, I suspect that the idea that VO is a Russian calque comes from the notion that Itelmen is fundamentally an OV language and that therefore, the verb should be final. Since Itelmen has long been in contact with Russian, and since VO orders are attested, this could lead to the inference that VO order is a result of this contact. This line of thinking rests on the premise that OV languages should be rigidly verb-final. But as noted above, this is not the case. Some languages, perhaps including Japanese, are rigidly head-final, prohibiting post-verbal arguments, or allowing them only as "afterthoughts", with a clear prosodic separation.[29] But as we have already seen, not all OV languages are rigid in this way. Turkish, at least in its spoken registers, apparently clearly allows post-verbal material, syntactically and prosodically integrated into the clause, though with the proviso that such material cannot introduce new discourse referents and must therefore be given (Kural 1997; Kornfilt 2005; Şener 2010). Thus the simple occurrence of VO orders in an otherwise OV language is not necessarily a sign of contact influence.

Moreover, the use that Itelmen makes of VO orders is, in IS terms, the same as what we find in other OV languages like Turkish, and unlike what we find in Russian, where VO orders are associated with new information focus (Bailyn 2012; Titov 2012). This observation constitutes an argument that the Itelmen pattern is true to type for an OV language. If Russian influence were the source of this order, we might have expected VO orders with O_{new} as the result of such contact, but these are in the minority (and perhaps, in light of the last section, not genuinely attested when interfering factors are controlled for). This speaks, perhaps, against

rarely, one might ask if these examples are induced by prolonged contact with Russian and Russian-dominant bilingualism. Borise et al. (2024) argue that OV languages may progress over time along a cline from rigid verb-finality, to allowing only expressions denoting old information to follow the verb (as in Turkish, and, as I describe it here, Itelmen), through eventually undergoing a prosodic reanalysis and admitting new information expressions following the verb as well. Borise et al. argue that in their sample, the latter change is always an effect of language contact with a VO language. One could then also interpret the material I have presented as showing that Itelmen as changing in this direction, parallel to Khanty as discussed by Borise et al. (2024).

[29] Although even for Japanese there is some dissent about whether post-verbal material is limited to afterthoughts or can be integrated into the clause, for a recent discussion see Takano (2014) and references therein.

attributing VO order to Russian contact in Itelmen.

There is a second argument one can make for seeing the VO order, with O_{old} as an old property of Itelmen, in fact of the entire Chukotko-Kamchatkan family. As noted above, the entire Chukotko-Kamchtakan family shares a complex pattern of agreement, the individual pieces of which are largely cognate. Within this system, the core personal object agreement suffixes are clearly historically related to the personal pronouns. This has been obscured somewhat by sound changes in Itelmen, but is clearer in Chukchi, as shown in (31) (from Skorik 1977:62).[30]

(31)

	Itelmen (N)		Chukchi	
	O.AGR	PRON	O.AGR	PRON
1SG	n-…-βum(nin)	kma	ne-…-ɣəm	ɣəm
2SG	n-…-in	kza	ne-…-ɣət	ɣət
1PL	n-…-βum(niʔn)	muzza	ne-…-mək	muri
2PL	n-…-sxin	tuzza	ne-…-tək	turi

The object marking thus undoubtedly arose via univerbation of object pronouns. But for this to have happened, there must have been a stage at which unstressed (i.e., backgrounded) object pronouns followed the verb as Comrie (1980b) argues for the emergence of subject agreement suffixes in head-final Mongolic, Turkic and others.[31] We can safely then reconstruct a stage before the Chukotko-Kamchatkan languages diverged, centuries before Russian contact, in which at least destressed pronominal objects could follow the verb, despite the predominant OV order.

6 Analysis and Discussion

The sections above have established an answer to the descriptive question with which the paper started, namely: What conditions the choice between OV and VO orders in Itelmen? The primary finding is that this order is partially correlated with IS, specifically in that O_{new} are robustly preferred in OV order, while O_{old} may occur in either order. I have argued that Itelmen is basically an OV language, and that this pattern is true to type for such languages: the OV order is basic, and there is an optional process of extraposition that displaces O_{old} to the right. At this point, we may ask three questions: (i) why is there is there partial optionality,

[30]There is a fair amount of variation in Itelmen, not directly relevant to the point made here. Volodin (1976) gives *-ɣʷŏm, -ɣʷin* where I have *-βum, -in*, more parallel to Chukchi. 1.OBJ is also attested as *-məŋ* or *-miŋ*, clearly cognate to Chukchi *-mək*; Itelmen *-sx* corresponds to Chukchi *-tk* in other contexts as well (e.g., aspectual marking).

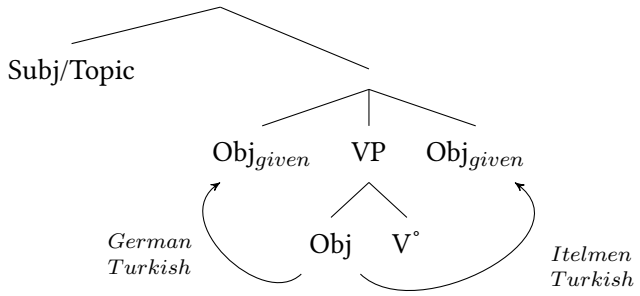
[31]For a survey of this literature and arguments against alternatives, see Kirby (2022).

and only for O_{old}? (ii) is there evidence that supports the claim the VO is derived, rather than a second basic order (e.g., flexible ordering in the VP)? and (iii) are there alternatives? We look at these in turn in the following sections.

6.1 Partial optionality: Competing constrains

The Itelmen pattern considered here fits readily with existing approaches to the interaction of constituent order and IS that are not Cartographic (i.e., which do not assume a syntactically dedicated focus position). Such approaches (see Vallduví 1992; Truckenbrodt 1995; Zubizarreta 1998 for some examples, and Büring 2013 for a brief overview) contend, at their core, that the syntactic clause consists of a nuclear constituent, such as the VP (or larger projection) and that elements in that phrase (other than the verb itself) are canonically interpreted as being in focus. Elements which are given (and thus not in focus) move out of that clausal core, either to the left or the right. This is sketched loosely in (32).

(32)



For an important subclass of these approaches, this is to be understood as being driven by prosodic considerations: phrasal stress by default (cf. the Nuclear Stress Rule of Chomsky and Halle 1968; Cinque 1993) occurs on the sister of the verb—the pre-verbal position in OV languages and the post-verbal position in VO languages. The relation between constituent order and IS is, on this view, regulated by a principle that privileges alignment of IS-focus and prosodic prominence (a proposal with antecedents going back at least to Jackendoff 1972; Schmerling 1976; Gussenhoven 1983; Selkirk 1984, among many others).

For example, Truckenbrodt (1995); Büring (2016) and others propose a default prosodic phrasing, as in (33), where ϕ is a prosodic phrase, ω a prosodic word; the prosodic head of each constituent is marked by 'x', here corresponding to sentential stress.

(33)

a.	(						x	$)_\phi$		b.	(		x						$)_\phi$
	(	x	)	(		x	$)_\omega$				(		x	)	(	x			$)_\omega$
	[VP	verb		[NP		object	]]				[VP	[NP	object	]		verb			]]

Alongside this structure is a FOCUS constraint, as in (34), lightly adapted from Büring (2016:164) (which is in turn based on proposals in Truckenbrodt 1995; Jackendoff 1972).[32]

(34) The highest stress (prosodic prominence) in a domain D falls within a constituent that is in focus in D.

All else being equal, this would yield a tight correlation between IS and constituent order in an OV language with flexible order, like Itelmen: O_{new}, being in focus, should always occur before the verb (where it would receive, by hypothesis, primary stress), and O_{old} should resist this position (as otherwise it would have prosodic prominence without being in focus, in violation of (34)).[33] This is only half right, as O_{old} shows apparent optionality between pre-verbal and post-verbal position.

This situation, though, turns out to be widely attested in the literature on correlations between constituent order and IS, where three out of four logical possibilities are acceptable (what Bobaljik and Wurmbrand 2012 dub a $\frac{3}{4}$ signature in interactions between word order and scope in German). These have been modeled in terms of conflicting constraints (or some equivalent thereof). One constraint prioritizes the canonical word order, and another constraint is something like the focus constraint in (34). For Itelmen, the basic order is OV, as we have seen.

However these conditions are to be made precise, for O_{new}, OV order satisfies both conditions at once, while for O_{old} the conditions impose apparently conflicting requirements. Extraposing the O will satisfy the prosody condition, allowing the O to escape the default prosodic prominence, but at the cost of using a non-canonical word order. Conversely, leaving O_{old} in situ will adhere to the

[32]Early work grouped contrastive focus and new information focus together for the purposes of this constraint. Others, notably Kratzer and Selkirk (2020), argue that these should be kept distinct. For the Itelmen data, it is new information focus that is most relevant to the discussion.

[33]Here and in what follows I have cast this hypothetically in terms of prosody; work on Itelmen prosody is in its early stages. In a pilot study with one of the texts here, Borise and Bobaljik (2025) find that preverbal objects are indeed more prosodically prominent than postverbal ones on a variety of measures (intensity, mean f0, and f0 excursion). The key observation in this section is that focus, in OV languages, prefers the preverbal position. While casting the discussion as if Itelmen is prosodically similar to other OV languages provides a promissory grounding to the generalization, the work in the sketch of an analysis to follow relies only on the observation that there is a correlation between constituent order and IS, but ultimately not on the reason for that correlation to be as it is.

canonical word order, but at the cost of sacrificing the correspondence between prosodic prominence and IS prominence. If the conditions are equally weighted (tied), this correctly captures the asymmetry between O_{new} and O_{old}, whereby only O_{old} shows significant optionality in ordering.

In English, an analogous pattern arises in the interaction between focus and word order when the verb takes both a PP and an NP complement. In sentence pairs such as the following, various authors have noted that the first sentence is compatible with focus on either the NP or the PP, while the second sentence is restricted to having focus on the (extraposed) NP, all else being equal (Rochemont and Culicover 1990:24; Williams 2003:34; Bobaljik and Wurmbrand 2012).[34].

(35) a. Andrea bought a brand new computer for Bill.
b. Andrea bought for Bill a brand new computer.

(36) a. Chris gave all the marbles in the bag to Dale.
b. Chris gave to Dale all the marbles in the bag.

Rochemont and Culicover (1990) note (for analogous pairs) that either (35a) or (35b) constitutes a felicitous answer to the question *What did Andrea buy for Bill?* while only (35a) felicitously answers *Who did Andrea buy a new computer for?* The interpretation the authors cited above offer is, in effect, that this pattern arises as the effect of two conditions: (i) the canonical order of English complements is NP-PP, and (ii) focus tends to be final. When focus is on the PP (*Who did Andrea buy a computer for?*), then the canonical order satisfies both constraints, and the shifted order, (35b) which violates both, is excluded. But when the focus is on the NP, it is impossible to satisfy both constraints simultaneously. Optionality therefore arises: (35a) retains canonical word order, sacrificing focus-finality, while (35b) satisfies the focus-final condition, but at the cost of deviating from canonical word order. In other words, operations (in this case HNPS) that yield a non-canonical word-order appear to be optional, but are only possible when they lead to some improvement in the sense of satisfying a constraint that is not satisfied in the canonical order. Spurious application of HNPS, when the PP is in focus, is not permitted.

Parallel reasoning is reported for German in Büring and Gutíerrez-Bravo (2001). They present the sentence pair in (37), noting that in a context where the foreign minister has been previously mentioned ('Who nominates the foreign minister?') and prosodic focus is on *KANzler* 'chancellor', both responses are possible, while

[34]Hawkins (1994) criticizes this body of work and argues that phonological weight (number of words in the NP or PP) is the primary determinant of NP-PP orders in English, but does acknowledge that the pattern in (35) and (36) emerges when the weight factor is controlled for. See also Arnold et al. (2000).

in a context with no prior mention of the foreign minister ('What will happen at the press conference?') only (37a), with main stress on *AUSsenminister* 'foreign minister', is felicitous.

(37) Es wird erwartet, dass ...
it is expected, that
'It is expected that ...'

a. der Kanzler den Aussenminister ernennt. (SOV)
the.NOM chancellor the.ACC foreign.minister nominates

b. den Aussenminister der Kanzler ernennt. (OSV)
the.ACC foreign.minister the.NOM chancellor nominates
'the chancellor nominates the foreign minister.'

The reasoning is the the same as for English: the basic word order (in embedded clauses) in German is SOV, but IS mapping generally prefers given information to precede new. When the object is in focus, the order in (37a) satisfies both conditions, and movement of the O would be unmotivated, hence excluded. On the other hand, when the O is old, and the S is new, the conditions pull in the opposite direction: both the basic SOV order (with a non-canoncial intonation in order to satisfy (34)) and the non-canonical constituent order (with canonical pre-verbal sentence stress) are possible. When it is not possible to have both canonical order and canonical intonation, optionality emerges.

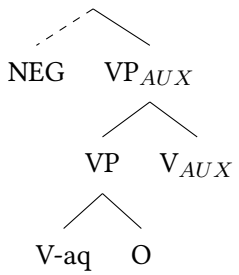
The approach just sketched makes the pattern in Itelmen, and in particular the asymmetry between O_{new}, which is robustly associated with pre-verbal position, and O_{old}, which shows optionality, directly comparable to a range of patterns known from associations between IS and constituent order cross-linguistically, and thus amenable to a similar analysis. Moreover, we could speculate that inter-speaker differences in the weighting of the constraints might provide a means to model the subtle inter-text (inter-speaker) variation in Table 2: while all speakers produce more VO with O_{old} than with O_{new}, there is variation in the proportion of O_{old} that occur in VO order as opposed to preverbally (see n.20).

6.2 Aside: Old O = High O?

Before moving on, we might push a step further and ask if there is any independent evidence that the post-verbal position is derived. On movement approaches, such as (32), the post-verbal position for O is structurally higher than the preverbal position, here assumed to be the canonical (base) position of the object. The available evidence is precariously slender, but I note here one observation that might be taken as the absence of evidence for the alternative view, namely a low, VP-internal post-verbal position.

The relevant consideration is the combination of O_{old} and constructions with an auxiliary (light verbs and negation). We saw above that Itelmen auxiliaries are head-final—they follow the VP headed by the lexical verb. Now, if VO and OV orders were both in the (lexically-headed) VP, then all else being equal we would expect post-verbal objects to occur between the lexical V and the auxiliary, as schematized in (38):[35]

(38)



This order is not attested in the texts surveyed here. Neither, however, is V-AUX-O with nominal objects.[36] However, there may be some relevant evidence from elicitations. In an independent session, aiming to set a baseline for more complex investigations of scope and negation, four permutations of the sentence in (39) were presented, with *βeqaʔnʲɬ* 'bear' in each of the numbered positions indicated. These were out-of-the-blue utterances with no context provided.

(39) <1> qaʔm <2> ɬəm-aq <3> t'-iɬ-čen <4>
NEG kill-NEG 1SG.-AUX-1>3SG
'I didn't kill (the/a) bear.' [S3:9-10]

Position 2 was the preferred position (in this and other contexts) and that order occurs in the texts. Positions 1 and 4 were also judged acceptable, and freely repeated back. But a prompt with O in position 3 (readily accepted with a locative expression in (15c)) engendered significant hesitation, and when asked to repeat

[35]The discussion here follows an argument from CP extraposition given in Biberauer et al. (2014). That work proposes the the Final-Over-Final Constraint (FOFC): head-initial projections cannot be dominated by head-final projections in the same extended projection (e.g., a lexical VP and its auxiliary). The structure in (38) would run afoul of the FOFC. Biberauer et al. (2014) note that there are languages with head-final VP-Aux orders in which clausal complements are (or can be) post-verbal: V-CP. However, drawing on Koptjevskaja-Tamm (1993), they state that in all such languages, the CP follows the auxiliary: V-Aux-CP, and that languages with the the order V-CP-Aux are not attested, which they take as evidence that the CP is not in the complement position of the lexical VP.

[36]The order V-O-Aux occurs once, with a light verb construction, in the original audio recording, but was changed by the story-teller in the editing phase.

it, the consultant substituted the phrase with the noun in position 2. That is, in the material currently available, whether in texts or elicitations, the V-O-Aux order is not (to the best of my knowledge) reliably attested, whereas all other permutations are. Since the unattested order is the one that would have been expected if OV∼VO alternations were due to flexible order in the lexical VP, I take this state of affairs as being suggestive of a VP-external position for post-verbal objects, convergent with the FOFC generalization.

7 IS and Communicative Efficiency: Against an alternative

Thus far, we have seen that there is a partial, but robust, correlation in Itelmen relating the OV∼VO alternation to IS (old/new). Beyond demonstrating the correlation, and addressing some potential confounds, I have argued that the particular shape of the generalization (that the $O_{new} \rightarrow$ OV part is strong, while O_{old} are evenly split between OV and VO orders) can be made sense of in light of what is known from other languages. That is, we can understand why the correlation obtains: this pattern is characteristic of head-final languages, and of the way IS:word-order constraints interact, yielding apparent optionality when constraints conflict. Nevertheless, we may ask now whether there are other possible accounts of the alternation.

In this section, I investigate the possible role of animacy in Itelmen word order. Animacy is identified as a potentially relevant factor since various recent studies have extrapolated from non-linguistic gesture experiments to posit a role for animacy of the O in OV∼VO alternations.

Goldin-Meadow et al. (2008) report an experimental task where participants are asked to describe events using only pantomime or gestures and no words. Regardless of the word order of participants' native language, they produce event depictions with the order agent-undergoer-action (interpreted as analogous to SOV) more than any other order. Subsequently, Gibson et al. (2013), Hall et al. (2013), and others have refined this finding, noting that animacy (or humanness) of the object has a significant effect. The preference for SOV order remains strong when the agent is human and the undergoer is an inanimate object, but when the undergoer, like the agent, is human, the use of SOV order decreases and the use of other orders increases, notably (for our purposes) SVO, but also OSV and others (Hall et al. 2013). This result is again independent of the order in the participants' languages: in Gibson et al. (2013)'s study, Japanese and Korean speakers (both rigid SOV languages) as well as English speakers, produced more SOV orders with inanimate undergoers and more SVO orders when the undergoer was animate. Some of the authors of these studies extrapolate from the non-linguistic tasks in

their experiments to make suggestions about word order alternations in language. I will focus in this section on the proposal in Gibson et al. (2013) because that analysis seems to make the clearest predictions for Itelmen for reasons that will become clear below.

Gibson et al. (2013) propose that the animacy effect they observe in their non-linguistic gesture experiments reflects a strategy of efficient communication in a "noisy channel." The gist of their proposal, as I understand it, is that some aspects of the message sender's coding choices are made with an eye (ear?) to maximizing message transmission even in situations where not all of the linguistic signal will get through (Shannon 1948). They assume a universal default preference for SOV. But this preference is tempered, in their view, by the risk of unrecoverable loss of information in a noisy channel when both agent and undergoer are human. More narrowly, they contend that in case one NP is lost (whatever that exactly means), the recipient can unambiguously recover the grammatical role of the remaining NP if the expected sequence is verb medial: agent-verb-undergoer, as the partial order will still be unambiguous about the noun's role (*child chased* - agent, versus *chased child* - undergoer). But if the expected sequence was agent-undergoer-verb, then a garbled message (*child chased)* would not only be incomplete, but would moreover be uninformative about the role of the one transmitted NP. No such concerns arise when agent and undergoer differ in animacy: *hat* in *hat wore* or *wore hat* could be relatively safely interpreted as the undergoer, regardless of order. Gibson et al. contend that speech act participants are at least tacitly aware of these considerations and act accordingly, choosing SOV (by universal preference) when there is no worry about reversibility, and SVO with two human referents where reversibility is, in theory, a potential concern, in conformity with their gestural experiment results.

It is worth noting that Gibson et al. (2013) present no linguistic data in support of their hypothesis. No actual language, for example, is discussed that conforms to this ordering pattern. Other concerns have also been raised. Kocab et al. (2018) note that sentences with two inanimate participants are also reversible (*The shopping cart hit the car* or *The car hit the shopping cart*), but in replicating the gesture paradigm with reversible inanimate-inanimate scenarios, they found that participants not only do not switch to actor-action-undergoer (SVO) order for two inanimates, they showed a preference for undergoer-actor-action (OSV) order which is no less ambiguous in a lossy context, and thus no more informative, on Gibson et al. (2013)'s account, than the canonical SOV order. Other researchers have also found an increase in OSV order, not just SVO order, even in the human-human condition (Hall et al. (2013), and an unpublished study by I. Meir and colleagues,

cited there), a result that is not readily accommodated by Gibson et al. (2013).[37] Nevertheless, the Itelmen situation seems particularly well-suited to engaging with Gibson et al. (2013), since it has all the properties which should lead (on their view) to an animacy-driven OV∼VO alternation: (i) it lacks case marking distinguishing core nominals, (ii) OV and VO orders are both available, and (iii) by a wide margin, it is rare for both S and O to be overt in a transitive clause, as seen in Table 1.

In order to assess the contribution of animacy as against IS, all Os in the text were tagged for animacy (two levels: animate versus inanimate). Animacy and IS, as it turns out, are somewhat correlated: O_{anim} more often denote previously mentioned entities than new ones, while inanimates are more often new. This may be because new animate discourse referents are more typically introduced as the S of intransitive clauses (including those embedded under perception verbs, a common device in these texts), where inanimates often appear at first mention in O function.[38] In light of this, a binary logistic regression model was used to analyze the relationship between information structure (old vs. new), animacy (animate vs. inanimate), and order (OV vs. VO).[39] Text (here equivalent to speaker) was included as a random factor (4 levels). Under this model, both information structure and animacy are identified as statistically significant factors in determining order in this dataset, but they differ in the odds ratios, a measure of effect size.

Holding all other predictor variables constant, the odds ratio for VO order for O_{anim} compared to O_{inan} is 2.1 (95% CI [1.1, 4.4]). That is, an animate O is just over twice as likely as an inanimate O to be post-verbal, all else being equal. But holding all other predictor variables constant, the odds ratio for VO order for O_{old}

[37]Koizumi (2023) reports an interesting twist on this paradigm. Koizumi and colleagues partially replicate the findings of previous authors, to the extent that in the gesture experiment, speakers of Kaqchikel (Mayan), whose default order is VOS, produce largely SOV and SVO orders (Ch.8). In contrast to Gibson et al. (2013), though, the Kaqchikel speakers do not produce significantly more SVO with a human object than with an inaminate object (though they produce somewhat more SVO when the object is an animal). On the other hand, using similar pictures but with a verbal task, Koizumi (2023:Ch.9) report that Kaqchikel speakers produce SVO order to a surprising degree, given that it is otherwise a marked order in the language. While they report that there is an effect of animacy of the object, SVO order predominates in this experiment regardless of whether the O is animate or not, and also predominates when agent and undergoer differ in number, so that verbal agreement provides an unambiguous clue as to grammatical role. The default order, VOS is in a minority in all contexts (and SOV does not occur).

[38]To the extent that this is cross-linguistically true, it suggests an alternative account of the undergoer-agent-action (OSV) order found by Hall et al. (2013); Koizumi (2023), even with animate/human O, namely that introducing a new, animate discourse referent in O position is dispreferred, and is replaced by a bi-clausal-like construction: there is a boy, a girl hugged (him).

[39]The model, using package lme4 (Bates et al. 2015), was: *glmer(ORDER ∼ INFSTR + ANIMACY + (1|TEXT), family=binomial.*

compared to O_{new} is 6.0 (95% CI [3.0, 12.7]). That is, an O denoting a previously mentioned referent is 6 times as likely as O_{new} to be post-verbal.[40]

While the model including animacy as well as IS performs better than the model with IS alone, the effect of IS is much stronger than that of animacy. Hsu and Frey (2024) also find that for Cherokee "information-structural and thematic properties are stronger predictors of clausal word order than noun animacy and phonological length" (p.e126), and their final model after nested model comparison eliminated animacy as a significant factor in their corpus. These results challenge Gibson et al. (2013)'s contention that communicative efficiency relative to a noisy channel is the main driver of such alternations, with, as they say, no need for "sophisticated [grammatical] machinery."

Furthermore, although there is some role for animacy in word order over and above the effect of IS, it is not clear that it is attributable to pressure for animates to occur in VO, as Gibson et al. suggest. The same skew would be compatible with the reverse: a bias for inanimates to occur in pre-verbal position more than would be expected by IS alone. Some evidence that this may indeed be the case comes from another limitation on the IS tagging scheme used.

In tagging the text, one simplifying assumption was to treat all nominals as referential, so that it was a more or less objective task to determine if their referent had been mentioned before or not. But this is clearly open to challenge. Objects may be of 'low referential activation' in the sense of Lambrecht (1994), especially in conventionalized expressions. The examples in (40) may be a case in point:

(40) a. esx-ank-əŋ li pleχ-aʔn **txuʔ-iʔn** q-la-qzu-čx-eʔn
father-DAT-DAT very big-PL greeting-PL IMP-tell-ASP-II-PL
'Give (tell) your father big greetings!' [TN (110)]

b. muza-ʔn miɬ esx-aʔn-k-əŋ **txuʔ-iʔn** nt'-la-aɬ-xŋ-eʔn
1PL-PL all father-PL-DAT-DAT greeting-PL 1PL-tell-FUT-II-PL
'We will all give (tell) our fathers greetings!' [TN (112)]

For the current study, the object *txuʔ-iʔn* 'greetings' was tagged as O_{new}, pre-verbal at first mention, but was tagged as O_{old} in the girls' reply. But it is not really clear that 'greetings' here genuinely refers to some actual or intended greetings, as opposed to forming part of a stock expression: *txuʔiʔn la-kas* 'to tell greetings', i.e., 'give my best,' etc. The objects in such constructions might be instances of 'semantic incorporation' (van Geenhoven 1998, see also papers in Borik and Gehrke 2015): non-referential nouns that are syntactically objects, but semanti-

[40]Treating TEXT as a fixed, rather than random, factor does not change these results substantially: for *glm(ORDER ∼ INFSTR + ANIMACY + TEXT, family=binomial* gives O_{anim} OR = 2.3 (95% CI [1.1, 4.9]) and O_{old} OR 6.6 (95% CI [3.2, 14.1].

cally part of the predicate, compare German *staub-saugen*, literally 'to dust-suck', but used to mean 'to vacuum' regardless of whether what is being vacuumed is dust or crumbs or something else. If, as seems likely, the non-referential objects in semantic incorporation configurations like this are predominantly inanimate, and being non-referential, simply exempt from the new vs. given dichotomy, and thus normally in the default pre-verbal position, this would have exactly the effect of changing the proportions of inanimate:animate O between OV and VO orders, independently of IS, that we observe. To get a sense of whether this is plausible, data were evaluated post-hoc for whether the O (regardless of word order and previous mention) could plausibly be seen as non-referential in this way. Twenty-two such examples were identified, and when these were eliminated, the main effect of information structure remains robust, while that of animacy is reduced to marginal significance (p=.0725, OR 2.0 (95% CI [0.9, 4.3]). It should be noted of course that the coding as "plausibly semantically incorporated" is at this stage subjective, so this particular remark should be seen primarily as suggestive of a future direction to pursue. The point is, though, that the mere existence of an (in)animacy effect on word order is insufficient to indicate that that effect is driven by the kind of disambiguation strategy suggested by Gibson et al. (2013).

Before closing, we may note with the benefit of hindsight that once the role of IS is acknowledged, it is not clear how much need there is in actual usage for the kind of disambiguation strategy that lies at the core of Gibson et al. (2013)'s proposal. Even though most transitive sentences in Itelmen have at most one participant overtly expressed (see Table 1), there is little reason to think that this provides an impediment to comprehension. The subject of a transitive clause (whether overt or not) is likely to be a topic, often the continuing topic from the preceding sentence. It is recoverable from context and subjects are far more often omitted than objects. In only 20 of 190 transitive clauses with a single expressed NP (in the raw counts) is that NP the subject. If one of the two event participants introduces a new discourse referent, it is overwhelmingly likely to be the object (or to be packaged in a non-transitive construction). Even where agreement and semantic plausibility do not disambiguate, the structure of the discourse in many cases does. It is also worth noting that subjects may occur postverbally (if rarely) even in transitive clauses and even when the subject is the sole overt argument, so the putative verb-medial disambiguation strategy is fallible. This is problematic under Gibson et al. (2013)'s perspective but unsurprising on an IS approach: in other OV languages with the possibility for extraposition (such as Turkish, discussed above), subjects, as well as objects, may occur post-verbally, but usually, and importantly, only when they represent given discourse referents.

In sum, (S)OV and (S)VO are the two most common orders in Itelmen when the O argument of a transitive clause is overt. I have argued in this paper that the

choice between OV and VO is largely conditioned by information structure—the basic order is (S)OV, but VO orders are possible (and for some speakers evidently preferred) when the object denotes backgrounded, given information. This section has considered a potential alternative account of OV∼VO alternations based on a notion of communicative efficiency, which holds that in languages where case marking does not distinguish subject from object, word order may be used to disambiguate, and that it is for this reason that animate objects will be more likely to occur in post-verbal position, in order to keep them distinct from subjects. While there is an effect of animacy in the Itelmen data, it is weaker than the effect of information structure, which latter is clearly the primary factor in the data surveyed. Moreover, to the extent that the weak effect of animacy does exist above and beyond the contribution of IS, an alternative interpretation of that effect in terms of semantic incorporation is also available and has at least some motivation internally to this data set. It is an old idea that some notion of communicative efficiency shapes language use, but in the domain at hand, that general idea does not supplant the need for grammatical considerations in explaining the observable data. Moreover, the observed association between word order and IS, rather than animacy, is one that is attested from other OV languages which permit VO orders. Itelmen seemed to provide a prima facie test case for conjectured extrapolations from experiments on gesture order to word order in natural languages, but the evidence at hand seems to indicate that IS rather than disambiguation of grammatical role is the main factor in conditioning OV∼VO alternations.

8 Conclusions

I have presented evidence that Itelmen, at least insofar as the four contemporary texts from the Sedanka dialect considered here are representative, shows a strong preference for nominal objects introducing new discourse referents to precede the verb, while objects denoting given entities may precede or follow the verb. This effect is subtle enough that it escaped notice in elicitation with speakers and has not been observed in prior research on the language, but it emerges robustly in the statistical evidence in the texts, the more so once various complicating factors are controlled for. In addition to the descriptive generalization and its implications for our understanding of other aspects of Itelmen syntax (the analysis of perception clauses and the passive-like or impersonal-like N-construction), this pattern is consistent with one that has been documented for other OV languages. That observation is consistent with other evidence for positing a basic head-final constituent order in the VP, despite the wide attestation of VO orders. This in

turn suggests a possible understanding of why the pattern in Itelmen is robust in one direction (O_{new} is preverbal), but optionality arises in the other (O_{old} in either order). The shape of a cross-linguistic generalization is readily discernible, which suggests that the discourse factors that influence the packaging of information structure may follow common themes across unrelated languages. Within the comment portion of the topic-comment organization, there is no cross-linguistic uniformity in terms of absolute linear relations (Itelmen shows new before given, the reverse of the Prague School generalization), but there may be uniformity if linear order is derived from structure: O denoting new information remains in the base position, as complement of the verb in the core VP, and grammatical operations may displace O denoting given entities away from that position, but either to the left or to the right. Optionality arises when IS-motivated displacement and preservation of canonical word order conflict, such that both cannot be satisfied simultaneously. A long-established tradition sees at least some of the association between constituent order and IS as driven by alignment with default prosody, identifying an obvious next step that could eventually be pursued further in Itelmen. As things currently stand, the Itelmen facts are consistent in particular with the view that "there is no grammatical marking of newness: the apparent prosodic [or here, word order-JDB] effects of newness are the result of default prosody," (Kratzer and Selkirk 2020) and that the grammatical operation at issue (optionally) targets given Os. This study has been preliminary in various respects, and much more remains to be done: in addition to the prosody, a larger study might provide a more fine-grained tagging of the Itelmen texts. For example, one could ask whether pronominal objects behave differently from full NPs, or look more closely at discontinuous objects. There is room for looking more closely at different types of verbs, and obviously for asking about other constituents, such as obliques and adverbials. Despite the lack of such refinements, the pattern uncovered here is statistically significant, a striking result, in my view, in that the identification in the data of this particular correlation between IS and word order, especially after extensive linguistic contact with Russian, was at the outset of the study by no means a given.

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