Redundant Coding is not a good account of OV/VO alternations in Itelmen
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Gibson et al. (2013) suggest that SVO order in languages with no case distinction between S and O is explained by communicative efficiency, without sophisticated grammatical "machinery." They contend that (only) SVO (and not SOV) provides redundant coding of grammatical function of an NP for semantically reversible predicates with two animate NP arguments in situations where only one NP is perceived by the addressee. If the NP precedes the verb it is S and if it follows it is O. Itelmen (Chukotko-Kamchatkan) provides a test case: it has no case marking on S and O, freely allows (S)OV and (S)VO order—approaching parity in some texts—and the majority of transitive clauses have only a single overt NP. Analysis of four texts (ca. 900 clauses) from the last generation of fluent speakers shows that information structure (InfStr) is a far better predictor of word order than animacy, contrary to the expectations of the redundant coding analysis. This perspective helps further resolve various additional points of analytical uncertainty in Itelmen morphosyntax, suggests a codicil to the analysis of scope and restructuring in Bobaljik and Wurmbrand (2005), and makes a subtle but apparently correct prediction in connection with the Final-Over-Final Constraint (Biberauer et al., 2014).

OVVO in Itelmen: No prior work addresses the OV/VO alternation in Itelmen (1)-(2). Although speakers report that both orders mean the same, the text study presented here reveals a statistically significant correlation with InfStr: discourse-new or contrastive objects (O_{new}) are three times more likely to be in pre-verbal position, and postverbal O tend to be O_{old}.

(1) kma mił knin   iʔ   t'-il-ał-čen.   OV
    1SG all 2SG.POSS water 1SG-drink-FUT-1>3SG

    'I will drink up all your water.'

(2) k'-il-ʔin=(n)en   mił kəłxʷ-čaχ.   VO
    PRT-drink-TRANS.PRT=3CL all lake-DIM

    'She drank up all the little lake.'

|	OV	VO	Total
O_{new}	89	28	117
O_{old}	56	59	115
Totals	145	87	232

Tbl1: OV/VO × old/new (raw)
(χ^2=18.54, p= .000017)

Refinements   Table 1 includes clauses where there is an analytic ambiguity in the syntax, arguably masking an even sharper correlation: perception verbs such as (3) are indeterminate as to whether the highlighted NP is the O of the matrix clause or the S of embedded clause. As it happens, all such examples in the texts have the order in (3) regardless of whether the referent of the NP is previously mentioned. Treating these as clausal complements (the b-parse) accounts for this (clausal complements are always post-verbal) and removes 15 of the 28 instances of apparent VO_{new} from Table 1: with this correction O_{new} are 6.5 times more likely to be pre-verbal than post-verbal (χ^2=39.9008, p<.00001). Similarly, more careful consideration of the syntax of the impersonal/passive conjugation removes a set of apparently pre-verbal O_{old} from Table 1. In the oldest text examined here, the correlation after such adjustments is nearly perfect.

(3) k'-əłčku-in=(n)in   tsxal-astas k-k'oł-knen   a. [saw fox_i] [(it$_i$) came]
    PRT-see-TRNS.PRT=3CL fox-AUGM PRT-come-PRT   b. [saw [fox   come]]

    'He saw a fox coming.'

Animacy and Redundant Coding   Gibson et al. (2013) propose that communicative efficiency, not grammar, is responsible for OV/VO alternations: VO order allegedly makes an O more easily identifiable as an O when it is the sole overt NP (as in (2)). Since potential confusion only arises with reversible predicates, and subjects are mostly animate, G. et al. predict that animacy should correlate with VO order. It does, but animates are also more likely to be previously mentioned. In a binary logistic regression model (using glmer in R) with InfStr and animacy as fixed effects (and text as a random effect - results are similar with text as a fixed effect), holding all other predictor effects constant there is a slight effect of animacy on order (Odds ratio 2.2, 95% CI [1.1, 4.8]) but there is a stronger effect of information structure: OR 7.7 (95% CI [3.7, 16.9]). That is: denoting a previously mentioned referent (or not) is nearly four times better than animacy as a predictor of VO or OV order. Furthermore, once we recognize that subjects are predominantly topics, the class of possibly ambiguous examples is reduced to only those where the sole NP is old information: the redundant coding model should therefore predict an interaction between animacy and InfStr. None is found (glmer(ORDER ~ INFSTR * ANIMACY + (1|TEXT)): only INFSTR is significant).

FOFC, VO, Movement   Light-verb constructions, predicate complements to 'become', and rigid V-AUX order all point to head-finality in verbal projections in Itelmen. Pre-verbal O_{new} (focus) with the possibility of extraposition of discourse-anaphoric (backgrounded) NPs is attested in other OV languages such as Turkish (Kural, 1997; Kornfilt, 2005; Şener, 2010), and could be explained in non-cartographic terms if O_{new} prefers the position of natural phrasal prosodic prominence, while O_{old} may (but need not) move (Arregi, 2016). Note further that if OV and VO were both base-generated orders (correlated with InfStr), then the combination of VO (head-initial VP) and VP-Aux (head-final vP) would constitute a counter-example to FOFC (in (4)): the generalization that there are no head-initial complements of final heads in the same extended projection (Biberauer et al., 2014). However, when O occurs post-verbally in Itelmen in constructions with an Aux, both in texts and in elicitation, it avoids the position between V and Aux (available to other constituents) and occurs after the Aux, reinforcing the conclusion that the post-verbal position of O_{old} is not VP-internal but is a higher, derived position.

(4)   * βP
       αP   β°
       α°   γP
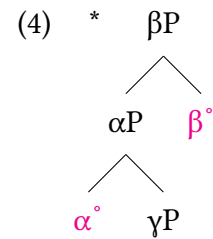
Conclusion   The distribution of OV∼VO in Itelmen has a grammatical explanation: O_{new} prefers the base position and O_{old} may move to a higher, derived position. This patterns with other OV languages, and is the opposite of Russian (Dyakonova, 2009; Bailyn, 2012), thus is unlikely to be an effect of language contact. While there is undoubtedly a role for communicative considerations such as redundant coding in understanding the nature of grammars, rumours of the demise of grammar in explaining word order have been greatly exaggerated.

Arregi 2016 Focus projection theories, *Oxford Handbook of Information Structure*; **Bailyn** 2012 *Syntax of Russian*; **Biberauer et al.** 2014 A syntactic universal, *Ling Inq*; **Bobaljik/Wurmbrand** 2005 Domain of agreement, *NLLT*; **Dyakonova** 2009 ...Russian free word order, PhD Amsterdam; **Gibson et al.** 2013 A noisy-channel account ...word order variation, *Psych. Science* 24; **Kornfilt** 2005 Asymmetries ...Turkish, In *Free word order phenomenon* Mouton; **Kural** 1997 Post-verbal constituents in Turkish, *Ling Inq*; **Şener** 2010 (Non)peripheral matters in Turkish, PhD UConn.