Salvation and non-salvation of defectiveness under ellipsis

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1. Introduction

The concept of *salvation by deletion* has provided a fruitful way to discuss the nature of locality constraints on movement and their interaction with ellipsis operations since Ross's (1969) seminal work on sluicing. In the following example, for instance, omission (i.e. non-pronunciation) of the portion including the island crossed by wh- movement makes the resulting sentence acceptable.

(1) John saw the man who kissed one of the girls, but I don't know which of them (*John saw [$_{NP}$ the man who kissed t]).

There has been an intense debate on whether examples like this indeed instantiate salvation by deletion, or whether instead they signal the presence of a derivation that evades islandhood, or whether perhaps there may even be no hidden syntactic structure of the type indicated above at all (see Chomsky 1972; Baker and Brame 1972; Merchant 1999; Lasnik 2001; Barros, Elliott, and Thoms 2014; among many others).

In this squib we present what we contend are bona-fide cases of salvation and non-salvation by deletion, in the context of *defective* verbs, as a way to probe into lexical representations. It has been previously demonstrated that what would otherwise be ineffable gaps in a verbal paradigm seem to be able to appear inside ellipsis sites. Thus, the Russian stripping examples shown in (2) are good, despite the fact that the neither *buzit* 'to make a fuss' nor *šelestet* 'to rustle' have a proper form for first person singular non-past:

(2) On {buzit / šelestit}, a ja net. he makes.a.fuss / rustles but I not 'He {makes a fuss/ rustles} but I don't.'

(adapted from Abels 2018)

Similar observations have been made for lexical gaps in other domains; cf. Oku 1998; Kennedy and Merchant 2000; Kennedy and Lidz 2001; Merchant 2015. The intuition behind these works is that lexical gaps, such as the 1sg non-past for the verbs above, arise from the lack of a proper allomorph. Crucially, if ellipsis is an instruction to prevent morphophonological realization, the problem doesn't arise inside the ellipsis site. This logic, we will show, is only partially correct, as some lexical gaps *cannot* be saved by ellipsis.

We thus distinguish two types of defective verbs: (i) defective verbs that can be saved by PF-deletion, which we take to lack an eligible allomorph for certain environments within a language, and (ii) defective verbs that cannot be saved by PF-deletion, which we take to signal the lack of a morpheme necessary to build certain structures within a language.

2. Brazilian Portuguese and Russian: two cases of salvation by deletion

To illustrate the cases of salvation by deletion in Brazilian Portuguese we will use the defective verb demol-i-r ($\sqrt{\text{DEMOLISH}}$ -TV-INF) 1 'to demolish', which lacks first person singular present indicative and all forms of present subjunctive. These gaps arise precisely where non-defective verbs lose their thematic vowel in the verbal paradigm, as shown in the following table in which each verb form is split in three slots ROOT-TV-T/AGR: 2

We will compare the behavior of non-defective verbs with defective verbs.

¹TV= theme vowel; INF = infinitive.

²*V indicates a gap. The *V in the tables and examples we present do not represent the judgement itself, but rather that speakers are uncomfortable with potential forms that could arise for the gap.

	PRESENT INDICATIVE		PRESENT SUBJUNCTIVE	
1sg	vot-Ø-o	*V	vot-Ø-e	*V
2sg, 3sg, 1pl	vot-a-Ø	demol-e-Ø	vot-Ø-e	*V
2pl, 3pl	vot-a-m	demol-e-m	vot-Ø-em	*V
infinitive	vot-a-r	demol-i-r	vot-a-r	demol-i-r
	'to vote'	'to demolish'	'to vote'	'to demolish'

Table 1: Brazilian Portuguese: comparison between the non-defective verb *vot-a-r* ($\sqrt{\text{VOTE-TV-INF}}$) 'to vote' and the defective verb *demol-i-r* ($\sqrt{\text{DEMOLISH-TV-INF}}$)

Taking the absence of the theme vowel to be a result of v obliteration,³ we assume that the root of *demol-i-r* 'to demolish' can only be realized in the presence of v (see Arregi and Nevins 2014; Nevins, Damulakis, and Freitas 2014, and reference therein for further discussion):

(3)
$$\sqrt{\text{DEMOLISH}} \leftrightarrow /\text{demol}//v$$
 (no elsewhere item)

To illustrate the cases of salvation by deletion in Russian, we will use two defective verbs: pret-i-t' ($\sqrt{\text{REPULSE-TV-INF}}$) 'to repulse' and $o\check{s}\check{c}ut-i-t$ ' ($\sqrt{\text{SENSE-TV-INF}}$) 'to sense'.⁴ Typically, Russian defective verbs belong to the second conjugation (-i- theme vowel) in the non-past paradigm with a verb stem ending in a dental consonant. The gaps fall in the first person singular non-past cell of the paradigm, where other verbs of the same conjugation ending a dental consonant have alternations.⁵ This is shown in the following table by comparing their non-past paradigm with that of two non-defective verbs sokrat-i-t' ($\sqrt{\text{SHORTEN-TV-INF}}$) 'to shorten' and met-i-t' ($\sqrt{\text{AIM-TV-INF}}$) 'to aim', in which the verbal forms are divided into two slots, with the verb stem followed by the theme vowel plus inflectional morphology ($\check{s}\check{c} = /f$ / and $\check{c} = /tf$ /):

³For a phonological take on the missing theme vowel in the Spanish paradigm, see Camara Jr 1970 and Bermúdez-Otero 2012 for Spanish, among others.

⁴The reason for choosing these two particular verbs is twofold. First, the competition analysis we will developed is easily stated with verbs whose stems end in -t. Second, these verbs assign different cases to their complements, which makes it possible to demonstrate that the gaps can be syntactically active in the ellipsis site. The facts we report here for these two verbs hold for all Russian defective verbs we tested.

⁵See Halle 1973; Sims 2006; Pertsova 2016 and Gorman and Yang 2019 for discussion.

	NON-PAST				
1sg/ 1pl	*V/ pret-im	*V/ oščut-im	sokrašč-u/ sokrat-im	meč-u/ met-im	
2sg/ 2pl	pret-iš/ pret-ite	oščut-iš/ oščut-ite	sokrat-iš/ sokrat-it	met-iš/ met-it	
3sg/3pl	pret-it/ pret-iat	oščut-it/ oščut-iat	sokrat-it/ sokrat-iat	met-it/ met-iat	
infinitive	pret-it'	oščut-iť	sokrat-it'	met-it'	
	to repulse	'to sense'	'to shorten'	'to aim'	

Table 2: Russian second conjugation - comparison between defective and non-defective verbs

In the 1.SG, sokrat-it' 'to shorten' undergoes the $t/t/ \rightarrow \check{s}\check{c}/f/$ mutation (sokra $\check{s}\check{c}$ -u), inherited from Old Church Slavonic; whereas met-it' 'to aim' undergoes the $t/t/ \rightarrow \check{c}$ /tf/ mutation ($me\check{c}$ -u), inherited from Old Russian. We take these alternation to be morphophonological and the defectiveness of verbs like pret-i-t' 'to repulse' and $o\check{s}\check{c}ut$ -i-t' 'to sense' to arise through competition between the forms reflecting these two mutations (see Gorman and Yang, 2019, for a similar proposal), which we implement in terms of lethal competition between vocabulary items (Nevins 2014).

(4) a.
$$\sqrt{\text{REPULSE}} \leftrightarrow /\text{pref} / / _v + 1\text{SG.NPST}$$
 c. $\sqrt{\text{REPULSE}} \leftrightarrow /\text{pret} / / _v + 1\text{SG.NPST}$

(5) a.
$$\sqrt{\text{SENSE}} \leftrightarrow /\text{ofuf} / / _v + 1 \text{SG.NPST}$$
 c. $\sqrt{\text{SENSE}} \leftrightarrow /\text{ofut} /$
b. $\sqrt{\text{SENSE}} \leftrightarrow /\text{ofutf} / / _v + 1 \text{SG.NPST}$

The presence of two competitors equally fit for 1.SG non-past leads to ineffability, since the system cannot decide between the alternant and the non-alternant form in the context of first person singular non-past.⁶

In both cases above, defectiveness is lack of a proper allomorph: in Brazilian Portuguese due to the lack of an elsewhere item, and in Russian due to lethal competition between two forms. With this background, let's look at what happens in ellipsis sites.

Consider first gapping, which we take to involve ellipsis of some portion of structure

⁶In many cases one of the sounds better than the other. We leave this effect aside. See Halle 1973; Sims 2006; Pertsova 2016 for discussion.

that includes the verb.⁷

Brazilian Portuguese: gapping

- (6) a. Você votou *(n)o Pedro, e eu votei *(n)a Maria you voted on-the Peter and I voted on-the Mary 'You voted for Peter, and I for Mary.'
 - b. Você demole a casa, e eu *V o prédio.

 you demolish the house and I demolish the building

 'You demolish the house, and I demolish the building.'

(6-a) shows the remnant portion corresponding to the complement of the verb in the gapped clause preserves the selectional properties of the verb inside the ellipsis site. This selectional connectivity implies that the root in the ellipsis has to be isomorphic with the one in the antecedent. The fact that the gapped verb has to isomorphic with the one in the antecedent implies that in (6-b) the gap is syntactically active.

In Russian the evidence that the lexical gap is syntactic active is more direct, since the verbs under discussion assign different cases to their complements. We can thus see case-connectivity in the very examples where the lexical gaps are inside the ellipsis site. Consider now the following pair:

Russian: gapping

- (7) a. Na veršine étoj gory ty oščutiš radost', a ja *V strakh. on top this mountain you sense happiness.ACC but I sense fear.ACC 'At the top of this mountain, you will sense happiness, and I fear.'
 - b. Ty pretiš mne, a ja *V tebe.

 You repulse me.DAT and I repulse you.DAT

⁷See Ross 1967, Pesetsky 1982, Jayaseelan 1990, among others, though see Johnson 2009 for a different analysis.

'You repulse me, and I you.'

In both examples, the gapped verb corresponds to a gap in the paradigm. From the verbs we are using, *oščut-it* 'to sense' assigns accusative and *pret-it*' 'to repulse' assigns dative. The case of the verb complement in the gapped clause is dependent on the verb inside the ellipsis site, again implying that the verb inside the ellipsis site is isomorphic with the one in the antecedent.

The very same pattern arises for other types of ellipsis:⁸

Brazilian Portuguese - stripping:

- (8) A: Você vota *(n)a Maria então. B: Não, *(n)a Ana eu voto t.

 you vote on-the Mary then no on-the Ana I vote

 'Do you vote for Mary then?' 'No, I vote for Ana.'
- (9) A: Você demole a casa então? B: Não, o prédio eu *V ** ** *You demolish the house then no the building I demolish 'Do you demolish the house then?' 'No, the building.'

Russian - stripping:

'No, fear.'

(10) A: Ty oščutiš radost' na veršine étoj gory.
You sense happiness.ACC on top this mountain 'You will feel happiness at the top of this mountain.'
B: Net, strakh ja *V t na veršine étoj gory.
no fear.ACC I sense on top this mountain

⁸See Depiante 2000, Merchant 2004, Nakao 2009, among others on stripping and fragment answers, which we take to involve movement of the remnant to a focus projection followed by TP deletion; and Chomsky 1977, Kennedy 2002, Lechner 2018, among other on comparative deletion.

(11) A: Ty pretiš vsem svoim neprijatelam.

you repulse all self adversary-PL.DAT

'You repulse all your adversaries.'

B: Net, tol'ko Ivanu ja *V t.

no only Ivan.DAT I repulse

'No, only Ivan.'

Brazilian Portuguese - comparative deletion:

- (12) a. Você votou mais vezes *(n)a Maria do que eu votei *(n)a Ana.

 you voted more times on-the Mary of-the that I voted on-the Ana

 'You voted for Mary more times than I voted for Ana.'
 - b. Você demole mais casas com um trator do que eu *V casas

 you demolish more houses with a tractor of-the that I demolish houses

 com uma picareta.

with a pickaxe.

'You demolish more houses with a tractor than me with a pickaxe.'

Russian - comparative deletion:

(13) a. Na veršin-e étoj gory ty oščutiš radosť bystree, čem ja *V

On top this mountain you sense happiness.ACC faster than I sense strakh.

fear.ACC

'At the top of this mountain, you will sense happiness faster than I fear.'

b. Ty pret-i-š mne bolše, čem ja *V tebe.
 You repulse me.DAT more than I repulse you.DAT
 'You repulse me more than I you.'

Brazilian Portuguese - fragment answers:

'Who did you vote for?'

(14) A: Em quem você votou? B:*(N)o in who you voted on-the John I voted

(15) A: Quem demole B: Eu t *V a casa. a casa? who demolishes the house Ι demolish the house 'Who demolishes the house?" 'I demolish the house.'

João eu votei t

'I voter for John.'

Russian - fragment answers:

(16) A: Ty znaeš, čto ty oščutiš na veršine étoj gory? You know what you sense on top this mountain 'Do you know what you will feel at the top of that mountain?'

B: Strakh $\frac{1}{10} *V t$. fear.ACC I sense 'Fear.'

(17) A: Sredi tvoikh neprijatelej, komu ty pretiš bolše vsego? among your adversary who you repulse most of all 'Among your adversaries, who do you repulse the most?'

ja *V bolše vsego t. B: Ivanu Ivan.DAT I repulse most of.all 'Ivan.'

The patterns found in the examples above all suggest the lexical gaps we are dealing with can be syntactically active. That suggests that in these cases syntax can build the relevant structure that correspond to lexical gaps. If the source of defectiveness here is lack of a proper allomorph, and ellipsis bleeds lexical insertion (say, by the instruction of nonpronunciation of a constituent; Merchant 1999, Aelbrecht 2009, Kornfeld and Saab 2004, Sailor 2019), the prediction is that defective verbs like these can appear inside ellipsis sites.

3. English: two cases of non-salvation by deletion

We will now consider two cases of non-salvation by deletion in English in the realm of defective verbs. First, certain English modals can also be said to be defective as they lack non finite forms (*must can, *will can, *is can(ing), *have can(ed), *does can, ...):

- (18) a. *John must can swim. (intended: according to the evidence, John is able to swim)
 - b. *John will can swim. (intended: John will be able to swim.)
 - c. *John doesn't can swim. (intended: John isn't able to swim)

In principle, one possibility is to say that we are again facing morphophonogical defectiveness just like what we saw for Brazilian Portuguese and Russian, and that English *can* can only be realized in the presented of a [+finite] T:

(19)
$$\operatorname{can} \leftrightarrow /\operatorname{kæn} / \underline{T_{[+fin]}}$$
 (no elsewhere item)

This analysis however seems to make the wrong prediction, since ellipsis doesn't make the examples any better:

- (20) a. *Mary can swim, and John must can swim too.
 - b. *Mary can swim, and John will can swim too.
 - c. *Mary can swim, but John doesn't can swim.

The facts that these examples are bad can be predicted if the defectiveness of English modals like *can* is not lack of a proper allomorph, but actually lack of a proper morpheme. In the lexicon, English modals like *can* always come with [+fin] feature that needs to checked against a finite T, which limits its distribution without making reference to ex-

ponence.⁹ Defectiveness here is a deeper property of English grammar. Specifically, its lexicon of formatives doesn't include a version of modals like *can* without the [+fin] specification. This way, the ellipsis pattern above is straightforwardly understood as the syntax won't be able to build the relevant structure to begin with.¹⁰

The second case of non-salvation by deletion in English that we found is related to *beware*, which appears only in imperative sentences, embedded under modals and command verbs (e.g. *tell*, *ask*, ...) as seen in the examples below:¹¹

- (24) a. Beware of barking dogs!
 - b. You should/must beware of barking dogs.
 - c. I told them to beware of barking dogs.

(21) John might even be happy, but I'm sure Mary isn't.

Finally, it should be pointed out that more elaborate examples can be constructed in which paraphrases for the modal lead to reasonably good examples, i.e. (23-b) is fairly better than (22-b) (Lasnik 2019, building on the present work):

- (22) a. *Mary may access the records and Bill should may access the records by tomorrow
 - b. *Mary may access the records and Bill should may access the records by tomorrow
- (23) a. Mary has permission to access the records and Bill should have permission to access the records by tomorrow.
 - b. Mary has permission to access the records and Bill should have permission to access the records by tomorrow.

⁹It is orthogonal to this analysis whether modals like *can* project ModP or project a TP directly.

¹⁰Notice that replacing *can* with *be able to* in these examples also leads to unacceptability (e.g. *Mary is able to swim, and John must be able to swim too.), and that such examples with a copula main verb constitute part of a phenomenon known as Warner's effect, reported for both auxiliary be and have (Warner 1986). The source of Warner's effects is far from clear. Subsequent researchers have proposed that it arises either from (i) lack of parallelism between the position of the auxiliary in the antecedent, arguably on T, and the auxiliary inside the elided VP, e.g. Potsdam 1997 and Thoms 2015; or (ii) lack of isomorphism between the auxiliary originated in the antecedent, is, and the one inside the elided VP, be, e.g. Lasnik 1995. One might be tempted to combine one of this lines with the proposal just rejected in the body of the text. But neither of these lines can be correct for Warner's effect to begin with. First, a headless XP can be the antecedent for a headed XP ellipsis – a problem for Potsdam/Thoms's parallelism explanation for Warner's effect, as pointed out by Merchant 2018. Secondly, English lacks AP/small-clause ellipsis (e.g. *John seems happy and Mary seems happy too), which implies that examples like (21) are derived via verb stranding VP ellipsis, where crucially the auxiliary in the antecedent VP and originated in the elided VP are neither isomorphic nor in parallel positions but still acceptable — causing problems for the isomorphism explanation of the effect.

¹¹We thank Howard Lasnik for the observation that restrictions on *beware* are not rescued by ellipsis.

(25) a. *John bewares of barking dogs. (intended: John watches out for barking dogs)

b. *John bewared of barking dogs. (intended: John watched out for barking dogs)

c. *John didn't beware of barking dogs. (intended: John didn't watch out for barking

dogs)

d. *I won't beware of barking dogs. (intended: I will not watch out for barking dogs)

We must rule out first the possibility of *beware* being parsed as *be aware*, which could in

principle account for some of its restrictions. The restriction on tensed beware (*bewares,

*bewared) would thus follow because aware is an adjective and thus cannot host tense

morphology. Similarly, the restriction on John didn't beware of barking dogs would reflect

the restriction on John didn't be aware of barking dogs, which doesn't seem to be related

to defectiveness.

This analysis, however, faces several setbacks. It is not clear that beware is diachron-

ically derived from be aware; the Oxford English Dictionary reports some ancient uses

of beware (\approx 1300) where be is a verb prefix/particle by rather than a copula, and also

some inflected uses (bewares, bewared, ...) after the 17th century, which were eventually

discarded. Second, the fact that, for some speakers, beware can take a DP complement

directly is difficult to reconcile with a *be aware* parsing - as i.e. adjectives can't case-mark

their complements:12

(27) a.%You should beware barking dogs!

b.%Beware barking dogs!

Indeed, beware and be aware have different meanings. Lastly, this analysis it would

¹²Consider the following example of *beware* with a direct DP complement:

(26) 'Beware the Jabberwock, my son!

The jaws that bite, the claws that catch!

Beware the Jubiub bird, and shun

The frumious Bandersnatch!'

(Lewis Carroll, *Jabberwocky* [1871])

over-generate the following type of example (Max Guimarães, pers. comm.):

(28)*They should beware of barking dogs, but they aren't.

Notice now, that *beware* can in principle appear inside ellipsis sites:

- (29) a. They told me to beware of the dog, but I refused to beware of the dog
 - b. They didn't tell me to beware of barking dogs, but I should beware of barking dogs.

Crucially, the constraints on the distribution of *beware* inside ellipsis sites instantiate case of *non-salvation* by deletion:

- (30) Beware is **not** saved under ellipsis
 - a. *John should beware of barking dogs, but he doesn't beware of barking dogs.
 - b. *I told them to beware of barking dogs, but they don't beware of barking dogs.

It looks like we are indeed facing another case where ellipsis can't save a defective verb, similar to what we witnessed above with English modals.

We take *beware* to have in the lexicon a [+irrealis] feature that can be licensed by a $C_{[+imperative]}$, some modal verbs and verbs of command. The defectiveness of *beware* again comes from the lack of a morpheme compatible with a [-irrealis] environment. Nonsalvation by deletion again implies that the English lexicon can't provide the relevant pieces for syntax to build the structure inside the ellipsis site, and that ellipsis, as an instance of non-pronunciation, can only save those morphemes that are syntactically licensed but morphophonologically problematic. There are thus two types of defectiveness, and ellipsis operations can track this distinction, thereby constituting a reliable probe into lexical representations.

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