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Competing subjective resultative constructions in Yiddish and its co-territorial languages Polish and Russian

1. Introduction

Subjective resultative constructions are deemed to be typologically rare in the languages of the world, but Yiddish and its co-territorial languages Polish and Russian (more on the choice of Russian below in section 2) each feature two of them based on secondary predications, namely the adverbial participle and the attributive participle. The aim of this paper is to explore their constructional specificities based on corpus data from the Corpus of Modern Yiddish (CMY), the Polish National Corpus (PNC) and the Russian National Corpus (RNC).

The paper is organized as follows. Following the Introduction, the second section will give a survey on the state of the research on subjective resultative constructions in Yiddish, Polish and Russian. The third section describes methodological issues of retrieving the corpus data that will be analyzed in section 4.

The subjective resultative is a diathesis in which "the underlying subject of the state (which is expressed by the surface subject of the stative predicate) is co-referential with the underlying subject of the preceding action [resulting in the state described by the stative predicate – S. B.]" (Nedjalkov & Jaxontov 1988: 9).

So far, only one type of Yiddish subjective resultative constructions has been described comprehensively, namely those based on the adverbial participle (Birzer 2019; see examples (1-2)).

(1) YID *ongeboygn iber ir, iz geshtanen an alte froy …*
bend-AP.PST over her AUX.3SG stand-PTCP.PST an old-NOM woman-NOM
'Bending over her, stood an old woman…'
(Forverts 2007.03.23)

(2) YID *aropleygndik zayn kop iz aropgefaln*

put_down-AP.SIM his head-ACC be-AUX.3SG fall_down-PTCPII

dos dekl fun zayn tfilen-shel-yad …

the lid-NOM of his tefillin-DAT

'Putting down his head, the lid of his tefillin case fell down.'

(Katle Kanye, Der shirem)

The adverbial participle (henceforth AP) is a secondary predication with modifying function for the verb. The passive participle is a polyfunctional verb form; in its inflected variant it constitutes another verb form with modifying function, albeit for nouns, which also allows a subjective resultative reading. If we compare the AP in (2) with the past participle passive in (3), we can see that the two morphologically different verb forms denote the same resultative situation.

(3) YID *geyt der mekhaber tsurik aheym mit*

go-PRS.3SG the author-NOM back home with

an aropgelozenem kop.

a-DAT lower-PTCPII.DAT head-DAT

'The author goes home with his head lowered.'

(Khayat Moyshe Dovid, Fun "Oy, yidish, ikh hob dir lib")

Thus the question arises why Yiddish features two constructions for denoting one and the same subjective resultative situation.

Pursuing this issue seems rewarding for two reasons.

Firstly, despite Birzer (2019), the Yiddish resultative is still an understudied phenomenon.

Secondly, from a typological perspective, the subjective resultative per se is claimed to be undeveloped in many languages of the world (cf. Nedjalkov & Jaxontov 1988: 9), so it is the more noteworthy that Yiddish features two such constructions. If we then consider the micro-typological perspective, it turns out that both co-territorial languages Polish and Russian also employ the same two modifying subjective resultative construction as Yiddish (cf. ex. 4-7). Additionally, Russian features one more subjective resultative construction based on the active past participle (8).

(4) POL *Schyliwszy się nad nim stoi nieznajomy.*

bend-AP.PF REFL over him stand-PRS.3SG unknown-NOM

'An unknown man stands bending over him.'

(5) RUS *Mužčina stoit, spustiv golovu.*

man-NOM stand-PRS.3SG bow-AP.PF head-ACC

'The man stands bowing his head.'

(6) RUS *Mužčina stoit so spuščennoj golovoj.*

man-NOM stand-PRS.3SG with bow-PTCP.PASS.INSTR head-INSTR

'The man stands with head bowed.'

(7) RUS *Spustivšij golovu mužčina stoit.*

bow-PTCP.ACT.NOM head-ACC man-NOM stand-PRS.3SG

'The man stands having bowed his head.'

Since there seem to be restrictions on the formation of the predicative resultative construction with subjective resultative verbs in all three languages (8-13), our second research question

addresses the distribution of functions across the given constructions and the role of semantic and morphosyntactic factors therein.

(8) YID *Zayn kop iz geven fardekt*.

his head-NOM AUX.3SG AUX.PTCP.PASS cover-PTCP.PASS

'His head was covered.'

(*Tanakh: Shmuel Beyz*)

(9) YID ??? *Zayn kop iz aropgelozt.*

his head-NOM AUX.3SG lower-PTCP.PASS

'His head is lowered.'

(10) RUS *Ego golova naklonena*.

his head-NOM lower-PTCP.PASS.NOM

'His head is lowered.'

(11) RUS ???/* *Ego golova spuščena*.

his head-NOM lower-PTCP.PASS.NOM

'His head is lowered.

(12) POL *Jego twarz jest zwrócona w_górę*.

his face-NOM AUX.3SG tilt-PTCP.PASS.NOM upwards

'His face is tilted upwards.'

(13) POL ???/* *Jego twarz jest obrócona*.

his face-NOM AUX.3SG turn_away-PTCP.PASS.NOM

'His face is turned away.'

2. State of the art: Research on subjective resultative constructions in Yiddish, Polish and Russian

For reasons of space, our survey will be restricted on subjective resultative constructions. A more comprehensive description of Yiddish, Polish and Russian resultatives in general can be found in Birzer (2019).

As a type of diathesis, the resultative has received attention from many sides, among them language typologists. The Leningrad / St. Petersburg School of Linguistic Typology dedicated one volume edited by Nedjalkov (original publication in Russian 1983; cited in this paper in the English translation from 1988) to the resultative, which laid the ground for the exploration of resultative constructions in various individual languages, among them the languages co-territorial to Yiddish (most notably Wiemer & Giger 2005 on the North Slavonic and Baltic languages) and German (Litvinov & Nedjalkov 1988).

The subjective resultative is usually derived from intransitive verbs and the objective resultative from transitive ones. Since, speaking in the terms of semantic roles, the objective resultative focuses on the state of the patient, it is not too surprising that in many languages the prototypical resultative construction displays some structural parallels to the passive diathesis (cf. Nedjalkov & Jaxontov 1988: 17-22). Therefore, potential candidates for the objective resultative are transitive telic verbs denoting transformations. Due to the fact that with the subjective resultative the underlying subject of the state is co-referent with the subject of the preceding action, an animate subject has to be assumed; the most probable semantic roles for it are thus agent and experiencer.

However, there also exists a subvariety of the subjective resultative derived from transitive verbs:

> A resultative form may be derived from a transitive verb and have subjective diathesis if the underlying object of the previous action refers to a body part or possession of the underlying subject or to something in immediate

contact with the latter. In these cases the result of the action affects the underlying subject rather than the immediate patient of the action.

(Nedjalkov & Jaxontov 1988: 9)

The affectedness of body parts or possessions of the subject makes an agentive subject most probable, and we will come back to possible semantic verb classes after discussing the syntactic construal of resultatives in our three object languages.

For Standard Russian Wiemer and Giger (2005: 13) claim that both subjective and objective resultatives can be formed only with the help of the perfective participle passive (cf. also the examples given by Knjazev 1988: 344-345); the broad majority of the subjective resultatives may be considered bidiathetical, as they can be traced back both to an transitive (15) and an intransitive verb (16) with the same stem that is formed with the help of the reflexive marker *-sja* (14; cf. Wiemer & Giger 2005: 13).

(14) RUS *On* *vzvolnovan*. (cited after Wiemer & Giger 2005: 13)
he-NOM worry-PTCP.PERF.PASS.M.SG
'He is worried.'

(15) RUS *Plochie* *novosti* *vzvolnovali* *ego*.
bad-NOM.PL news-NOM worry-PST.PERF.PL him
'The bad news worried him.'

(16) RUS *On* *vzvolnovalsja*.
he-NOM worry-PST.PERF.SG.M
'He worried.'

The usage of the adverbial participle for the expression of the subjective resultative is mentioned only for the Russian substandard and for the North(West) Russian dialects. Yet Birzer (2010: 103) classifies constructions as (17-19) as sujective-resultative ones; the verbs therein can be divided into two semantic subgroups: the first subgroup denotes movements of body parts and the second one the arrangement of clothing. Furthermore, Russian also features a construction with the attributive past participle active (20). The subjective resultative meaning of this construction cannot be denied, but, to the best of our knowledge, it has not yet been considered in the research on Russian subjective resultatives.

(17) RUS *– Nu, da, – opustiv golovu, priznalsja on.*
Well yes droop-AP.ANT head-ACC admit-PST.3SG.M he-NOM
'"Well, yes," he admitted, drooping his head.'
(I. Grekova, V vagone. cited after Birzer 2010: 103)

(18) RUS *Potom ja ... stal chodit', sgorbivšis' i*
Then I-NOM start-PST.1SG.M walk-INF hump_back-AP.ANT and
opirajas' na ... palku.
prop-AP.SIM on walking_stick-ACC
'Then I started to move, humping my back and propping myself on a walking stick.'
(V. Kaverin. Pesočnye časy. cited after Birzer 2010: 103)

(19) RUS *Lžesvidetel' stojal odin na trotuare,*
false_witness-NOM stand-PST.3SG.M alone-NOM.SG.M on pavement-LOC
zapachnuv rubašku ….
make_overlap-AP.ANT shirt-ACC
'The false witness stood alone on the street, keeping the ends of his shirt overlapping.'

(V. Tokareva, Odin kubik nadeždy. cited after Birzer 2010: 103)

(20) RUS … *direktor prodral glaza i uvidel*
director-NOM rub-PST.3SG eye-ACC.PL and see-PST.3SG
naklonivšujusja nad nim ogromnuju tolstuju ženščinu.
bend-PTCP.PST.ACT.ACC over he-INS huge-ACC fat-ACC woman-ACC
'The director rubbed his eyes and discerned a huge fat woman bending over him.'
(Jurij Petkevič. *Javlenie angela* (2001))

Polish also features the same subjective resultative construction with an AP (21), whose existence has also been mentionend in passing by Wiemer & Giger (2005: 123).

(21) POL *Chwyciwszy się pod boki i ostro odrzuciwszy głowę,*
grasp-AP.ANT REFL under flank-ACC.PL and sharply throw-AP.ANT head-ACC
elfka zadrobiła nogami
elf-NOM stomp-PST.3SG.F foot-INSTR.PL
'Arms akimbo and having her head sharply turned aside, the elf started to stomp her feet.'
(A. Sapkowski. 2001. *Chrzest ognia*)

Regarding Yiddish resultative constructions, Birzer (2019) is the first study to adress the issue. Based on corpus data, Yiddish subjective resultative constructions based on the adverbial participle are compared to their correlates in Polish and Russian. It turns out that the semantic verb classes with subjective resultative meaning coincide for all three languages: Four of them concern the (human) body (cf. ex. 1 – 3), one the mental state, one class comprises states of non-human bodies, and the last class denotes missing results. Of these verb classes, the classes

concerning the (human) body and mental states evoke a subjective resultative reading on a very regular basis. Four the current study, the four verb classes concerned with the human body are most apt, because they denote both movements of the whole body – often conveyed by intransitive verbs – and the positioning of body parts, which are usually conveyed by transitive verbs. The transitivity dichotomy within one semantic verb class cluster allows to zoom in on the competition between the adverbial participle and the adverbial participle with all other factors being stable.

Finally, some words are in order on the choice of Russian as object language. In comparison to the language contact between Yiddish and Polish, the duration of contact with Russian is rather short, so one might question the inclusion of Russian into this study. Yet there are reasons to do so. Firstly, many of the persons involved in the discussion about and development of Yiddish as a polyfunctional standardized language had received (part of) their education in Russian; the works of Nokhem Shtif even form an extra subcorpus of the CMY. Sholem Aleykhem, one of the founding fathers of Yiddish literature, even published in Russian before switching to Yiddish. Additionally, the *Forverts* is one of the main sources for the subcorpus of contemporary newspaper texts, and several authors of the *Forverts* have a Russian language background. Thus, we can hardly exclude Russian influence on Yiddish (and probably it has even been underestimated) and only a comparison of these two languages will shed light on that issue. Secondly, in two other important contact languages of Yiddish, namely Lithuanian and Belarusian, the system of resultative diatheses functions quite differently from Yiddish, so influence from them is rather unlikely.

For Lithuanian Wiemer & Giger state that “das SubRes ausschliesslich mithilfe des Part. Prät. Ak t i v gebildet wird. […]Die Entsprechung zwischen Diathesetypen (ObRes vs. SubRes und PossRes) und morphologischer Bildungsart (Part. Prät. Passiv vs. Part. Prät. Aktiv) ist im Litauischen strikt, so dass es keine bidiathetischen Resultativa gibt [the subjective resultative is formed by the past participle active exclusively. In Lithuanian, the correlation between the

diathesis types (objective resultative vs. subjective and possessive resultative) and their morphological formation (past participle passive vs. past participle active) is strict, so there exist no bidiathetic resultatives. – translation S.B.]" (2005, 43-44) Belarusian features the same complementary distribution of morphological formants for the objective and subjective resultative as Lithuanian (cf. Wiemer & Giger 2005: 53-54).

Yet Ukrainian behaves differently: "Gegenüber dem Standardrussischen ist die lexikalische Basis für subjektorientierte *n/t*-Konstruktionen breiter; sie erfasst deutlich mehr Autokausativa und ähnlicher subjektorientierter Diathese-Typen [in contrast to Standard Russian the lexical basis for subject-oriented n/t-constructions [i.e. past participles passives – S.B.] is broader; it comprises significantly more autocausitevs and other subject-oriented diathesis types similar to them – translation S.B.]" (Wiemer & Giger 2005: 59). Thus, the Ukrainian system of resultatives is similar to the Polish one. Since the corpus resources available for Polish are much more substantial than the Ukrainian ones, we decided to focus on Polish for this study.

3. Data collection

As we have seen in section 2., the verb classes which generally allow for a subjective resultative reading vary with regard to the regularity in which this reading is evoked. At the same time, the corpora at our disposal also vary concerning their annotation and thus the possible queries. This lead us to restrict our search on those two verb classes where the subjective resultative reading is the default for the AP and the modifying PPP. These are the verbs denoting the positioning of the human body or of parts thereof.

The empirical data for Yiddish stems from the Corpus of Modern Yiddish (CMY), which consists of a newspaper corpus containing roughly 3.1 million tokens, a balanced corpus containing 268 texts (1.4 million tokens) mainly from the first half of the 20th century, and a collection of 64 texts (200,000 tokens) by Nokhem Shtif, amounting an overall sum of roughly 5 million tokens (for a more detailed description of the Corpus of Modern Yiddish cf. Birzer

2014). The CMY confronted us with two major issues for formulating queries. Firstly, it does not provide semantic annotation, so we could not restrict our query to the two aforementioned semantic verb classes. Secondly, the search engine does not allow to distinguish between inflected (attributive) and uninflected forms (the AP, among others) of the participle, so we decided to include syntactic information into the query. The AP occurs predominantly in sentence-initial or –final position; the AP is usually the first constituent of the AP clause and the AP is often detached by a comma. Therefore, in order to identify APs we searched for PPPs and PPAs positioned after punctuation marks. Since the attributive participle is part of an NP, we searched for PPPs to be followed at distance 1 by a noun. These queries significantly reduced the tremendous noise that would arise otherwise, albeit at the cost of missing out on some sporadic instances of the queried items.

For Polish and Russian the search was easier, as the adverbial participles and the attributive participles have dedicated forms in these two languages.

It was thus sufficient to search the Polish and the Russian National Corpus for the perfective and the imperfective adverbial participle.

The search in the Russian National Corpus was restricted to texts from the main corpus written after 1950. By the time of data retrieval in November 2017 this subcorpus amounted to roughly 156 million tokens. The Russian National Corpus has both morphological and semantic annotation. We conducted three searches: a) for APs of perfective verbs denoting either the position of the human body or changes in the position of the human body or its parts, b) for past participle passives of the same verbs to be followed at distance 1 by a noun in the same case, number and gender as the participle denoting a person or a body part, c) for past participles active of the same verbs to be followed at distance 1 by a noun in the same case, number and gender as the participle denoting a person or a body part.

For Polish we used the balanced subcorpus of the Polish National Corpus containing 30 million segments. Unfortunately, the Polish National Corpus does not provide a semantic annotation,

so we could not restrict our search to the classes of verbs and nouns mentioned above for Russian, but we used the list of Polish lexemes for body parts available from https://pl.wiktionary.org/wiki/Indeks:Polski_-_Cz%C4%99%C5%9Bci_cia%C5%82a for our queries. To identify relevant APs, we used the following three queries:[1] 1) [tag=.*pant:perf.*] [base=BODYPART & case!=nom] 2) [tag=.*pant:perf.*] [pos=prep] [base=BODYPART & case!=nom] 3) [tag=.*pant:perf.*] się. In order to search for relevant PPPs, we used the queries [tag=.*ppas.*.sg.*] [base=BODYPART & number=sg] and [tag=.*ppas.*.pl.*] [base=BODYPART & number=pl] respectively.

The matches from all three corpora were post-processed manually, i.e. among others, instances of non-agreement between attributive participle and noun, of the metaphorical usage of body parts (e.g. readings like 'head of state' or 'table leg') and of atelic verbs were deleted.

4. Data analysis

In order to understand which factors influence the choice between the two subjective resultative constructions, we decided to apply classification trees as diagnostic tool. This requires annotation of the corpus data retrieved for the assumed factors, which is described in the following section 4.1.

4.1. Annotation of the data

As we have seen in section 2., transitivity is an important factor, since in Polish and Russian only transitive verbs can form a PPP, whereas in Yiddish its formation is possible for practically any verb, independent of its transitivity status. Therefore, transitivity is the first annotation category.

[1] BODYPART is used here as a variable into whose place the body parts from the list were inserted.

The next category is reflexive marking, as we have seen that in all three languages exist lexemes with reflexive marking, which are usually intransitive and denote movements or positioning of the whole human body. Some of them form an opposition with their transitive, non-marked counterpart, which denotes movements of – among others – body parts, e.g. POL *obrócić się* 'to turn away one's body' vs. *obrócić* (*głowę*) 'to turn away (one's head)'. Both lexemes feature the same PPP, which makes it bidiathetical. In order to trace such bidiathetical PPPs back to their source lexeme in a given context, we also annotated the thematic roles of the given verb's first and second semantic argument with the subcategories 'agent', 'patient', 'theme' and 'unclear'. 'Unclear' applied in cases such as (22)

(22) YID *dos vort baleydigt do, azoy vi*
the word-NOMoffend-PRS.3SG here as how
antbloyzt leyb ….
nake-PTCP.PASS.NOM body-NOM
'The word is offending here, as would be a naked body.'
(Nokhem Shtif. *Humanizm in der elterer yidisher literatur: a kapitl literatur-geshikhte*)

where it remains unclear whether the bare body is the result of a deliberate action (of either the owner of the body or somebody else, which would imply different source lexemes) or of an anticausative situation.

In the next step, we annotated how the arguments of the subjective resultative verb are encoded syntactically. If no arguments were realized on the syntactic surface, we annotated NA, in all other cases we put down whether a NP or PP represented the argument and which case was assigned to the noun.

Finally, we annotated for agreement of the PPP or PPA with the first or second semantic argument of the subjective resultative verb; in the case of APs the annotation was NA. The agreement category provides additional information on the source lexeme especially in the case of bidiathetical participles.

4.2. Statistical analysis

In a first step, we used Pearson's Chi-squared test with Yates' continuity correction in order to understand whether the analysed verb lexemes of one language prefer different formants – namely the AP or PPP (and the PPA in case of Russian) – for conveying subjective resultativity. The differences in the distribution of the formants proved highly significant for all three languages with $p<0.0001$ (Table 1).

Pearson's Chi-squared test with Yates' continuity correction		
language	number of observations	result
Polish	≈ 2900	X-squared = 6288.9 df = 130 p-value < 2.2e-16
Russian	≈ 2700	X-squared = 6936.1 df = 105 p-value < 2.2e-16
Yiddish	≈ 100	X-squared = 191.44 df = 60 p-value = 1.219e-15

Table 1. Test for differences in the distribution of the subjective resultative formants (AP, PPP and PPA) across verb lexemes within each language.

Then we established correlations for the factors 'transitivity', 'reflexive marking' and 'thematic roles' for each formant in each language. Cramér's V (Table 2) measures the effect size of correlations on a scale from 0 to 1. The effect size of values >0.3 is usually considered medium and values >0.5 signal a large effect size.

		POL	**YID**	**RUS**
AP	transitivity	0.6114618	0.4413674	1
	reflexive marker	0.6114618	0.3380617	0.9621313
	thematic roles	0.5030214	0.128142	1
PPP	transitivity	1	0.5083042	1
	reflexive marker	1	0.3893314	0.3798847
	thematic roles	0.78324	0.2809757	0.1004024
PPA	transitivity	----	---	0.7828814
	reflexive marker	----	---	0.9176629
	thematic roles	----	---	0.9071475

Table 2. Results of Cramérs V for the effect size of correlations. Large effect sizes are shaded dark grey, medium ones are light grey.

For Yiddish, transitivity is the factor with the biggest effect size, whereas for both the AP and the PPP the correlation with thematic roles has only a small effect size. Reflexive marking displays a medium effect size for the correlations with both formants. Quite interestingly, the gradation of factors according to effect size is the same for both formants. We may deduce that the same factors exert similar influence on both subjective resultative constructions, but we

cannot tell whether the correlations have the same or opposed directions, since Cramér's V does not indicate the direction of correlations.

For Polish all correlations have large effect sizes, although the effect size for the factor 'thematic roles' is in both cases lower than that for the other factors, i.e. some – although rather distant – parallel between Yiddish and Polish is discernible. Again, we cannot tell whether the direction of the correlations is con- or divergent for the two formants.

Finally, all three factors display large effect sizes for the Russian AP and PPA, although the effect size of transitivity is comparatively lower for the PPA. For the Russian PPP, however, only transitivity has a large effect size and reflexive marking a medium one, whereas thematic roles seem to be rather irrelevant. Once again, we may only speculate on the directions of the observed correlations, but with respect to the AP and PPA as constructions with active diathesis, the effect sizes for transitivity and reflexive marking might be a clue that intransitive verbs with reflexive marking, such as *obernut'sja* 'to turn (one's body)', take either the AP or the PPA to form a subjective resultative, whereas transitive verbs, which are usually not marked for reflexivity, prefer the PPP.

In order to test these assumptions, we resorted to CART analysis, and acronym standing for the analysis of Classification And Regression Trees (cf. Baayen 2008, 160-167 for a description of the method). Since our dependent variable, namely the formant for the subjective resultative construction, is – at least in the case of Russian with AP, PPP and PPA – non-dichotomous, we decided not to use logistic regression (cf. also Eddington 2010 on the interchangeability of the two methods).

All trees to be discussed in the following have been pruned in the conservative way in order to avoid overfitting of data (cf. Baayen 2008, 163-164).

We will set out with the classification tree for Yiddish (Chart 1).

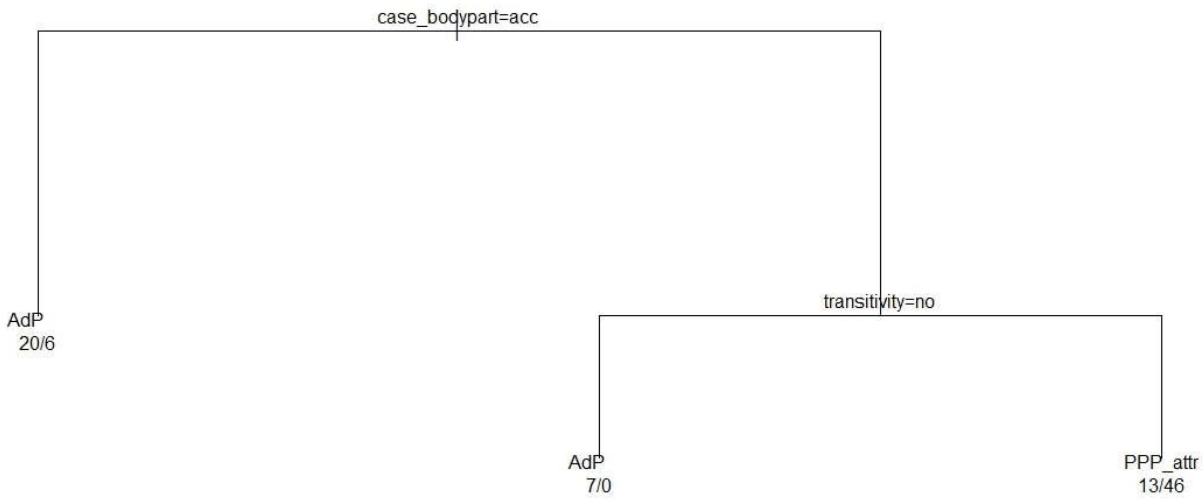

Chart 1. CART analysis of the dependent variable subjective resultative formant for Yiddish.

If body parts are encoded in the ACC (which we may interpret as evidence that we are dealing with transitive verbs accompanied by its direct object), the AP is most likely to be chosen as formant for the subjective resultative (23).

(23) YID *er iz shtil geblibn, opgeziftst un*
he AUX.3SG quiet remain-PTCP.PASS heave_a_sigh-AP.ANT and
niderik aropgelozt dem kop.
low-ADV bend-AP.ANT the head-ACC
'He remained quiet, heaving a sigh and with his head bent low.'
(Goldhar Pinkhes. *Dertseylungen fun Oystralye*)

This fits neatly with the fact that the AP is always the head of a clause and opens up syntactic slots for constituents. Let us now consider the right branch of the classification tree, which treats all instantiations of body parts in cases other than the accusative, as well as all instances without the syntactic encoding of a body part. One possible reason for this absence is the intransitivity of the given verb, so it is not too surprising that the factor transitivity constitutes the next node.

Not too surprising, intransitive verbs – possibly with reflexive marking as in (24) – opt for the AP as formant for the subjective resultative, whereas transitive verbs prefer the attributive PPP (25). All these observations are in line with the results from Cramèr's V, where transitivity had the biggest effect size, followed by reflexive marking.

(24) YID avekgeleygt zikh oyf der sofe un farleygt
lie_down-AP.ANT REFL on the sofa-DAT and fold-AP.ANT
di hent ahintern aksl, kukt an oreʹn
the arm-ACC.PL behind shoulder-DAT look-PRS.3SG at Ore-DAT
'Having laid down on the sofa and folded his arms behind the shoulders, he looks at Ore.'
(Kobrin Leon, *Dramatishe shriftn*)

(25) YID *geyt der mekhaber tsurik aheym mit an*
go-PRS.3SG the author-NOM back home with a-ACC
aropgelozenem kop.
bend-PTCP.PASS.ACC head-ACC
(Khayat Moyshe Dovid. *Oy, yidish, ikh hob dir lib*.)

Let us now turn to Polish (Chart 2).

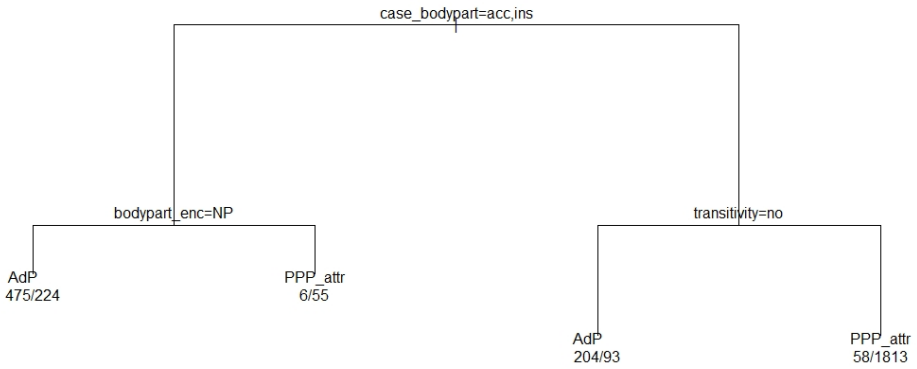

Chart 2. CART analysis of the dependent variable subjective resultative formant for Polish.

The Polish classification tree shows some parallels to the Yiddish one. Thus, the case assignment to body parts also constitutes the root node here, but the grouping is somewhat different, as body parts in the accusative and instrumental are grouped together. The next node is also concerned with body parts, yet with their syntactic encoding: if they are represented by a NP, the subjective resultative is most probably formed by an AP, i.e. the body part functions either as direct object of a transitive verb (26) – just like in Yiddish – or as argument with the thematic role instrument (27). A PP is the other possible syntactic encoding for body parts, going along with the attributive PPP as formant of the subjective resultative (28-29). Note that the PP itself functions as modifier (either for a NP (28) or the VP(29)), whereas with the AP the body part is an argument of the modifying AP clause. The right side of the Polish classification tree coincides in structure with the respective Yiddish branch: intransitive verbs take the AP as formant for the subjective resultative construction (30), and transitive verbs take the PPP (31). Bidiathetic PPPs such as *pochylony* in (32) also belong to the rightmost branch of the classification tree.

(26) POL *Cofał_się twarzą do oficera, a ten,*

recede-PST.3SG face-INS to officer-GEN and DEM.PRON.NOM

pochyliwszy głowę jak atakujący byk, następował

lower-AP.ANT head-ACC how attack-PTCP.ACT.NOM bull-NOM follow-PST.3SG

na niego z zaciśniętymi pięściami.

after him-ACC with clench-PTCP.PASS.INS.PL fist-INS.PL

'He receded with his face turned to the officer, and the officer, with his lowered like an attacking bull, followed him with clenched fists.

(Jan Józef Szczepański. 1995. *Polska jesień*.)

(27) POL *Romanow, oparłszy się przedramionami na relingu*,

Romanow-NOM prop-AP.ANT REFL forearm-INS.PL on gunwale-LOC

zawiesił wzrok na horyzoncie.

fix-PST.3SG gaze-ACC on horizon-LOC

'Romanow, supporting himself with his forearms on the gunwale, fixed his gaze on the horizon.'

(Małgorzata Kuźmińska & Michał Kuźmiński. 2009. *Sekret Kroke*.)

(28) POL *Na krześle siedziała jakaś babina*

on armchair-LOC sit-PST.3SG some-NOM miserable_old_woman-NOM

z odchyloną głową.

with tilt_backwards-PTCP.PASS.INS head-INS

'A miserable old woman was sitting in the armchair with her head tilted backwards.'

(Tadeusz Dołęga Mostowicz. 1990. *Profesor Wilczur*.)

(29) POL *Ula siedziała z pochyloną głową, nie odzywając_się*.

Ula-NOM sit-PST.3SG with bow-PTCP.PASS.INS head-INS NEG give_notic-AP.SIM

'Ula was sitting with her head bowed, not giving notice.'

(Irena Jurgielewiczowa. 1990. *Ten obcy*.)

(30) POL *Zalewski, pochyliwszy się ku towarzyszowi, szepnął*
Zalewski-NOM bend-AP.ANT REFL to comrade-DAT whisper-PST.3SG
mu do ucha kilka słów.
him-DAT to ear-GEN some-ACC word-GEN.PL
'Zalewski, bending to his comrade, whispered him some words into the ear.'
(Jerzy Andrzejewski. 2001. *Noc i inne opowiadania*.)

(31) POL *W migoczącym świetle świec jego pochylona głowa*
in glittering-LOC light-LOC candle-GEN.PL his bow-PTCP.PASS.NOM head-NOM
rzucała ogromny, nienaturalny cień na ścianę.
cast-PST.3SG enormous-ACC unnatural-ACC shadow-ACC onto wall-ACC
'In the glittering light of the candles his bent head cast an enormous, unnatural shadow onto the wall.'
(Krystyna Boglar. 1996. *Zobaczysz, że pewnego dnia...*)

(32) POL *Przy jednym ze stolików siedziała pani Regina, a*
at one-LOC of table-GEN.PL sit-PST.3SG Miss-NOM Regina-NOM and
pochylony mężczyzna całował właśnie jej dłoń.
bow-PTCP.PASS.NOM man-NOM kiss-PST.3SG just her hand-ACC
Miss Regina was seated at one of the tables, and a bowing man was just kissing her hand.'
(Andrzej Bart. 2008. *Fabryka Muchłapek*.)

Russian is different from Polish and Yiddish in the sense that it features a third subjective resultative construction based on the PPA, which is also reflected in the ramification of the classification tree (Chart 3).

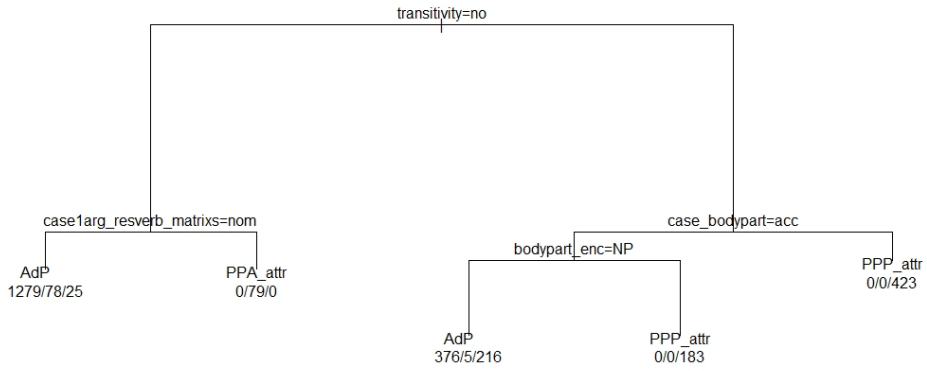

Chart 3. CART analysis of the dependent variable subjective resultative formant for Russian.

For Russian, transitivity forms the root node of the tree; intransitive verbs take the AP for forming the subjective resultative if the covert subject of the AP is co-referent with the first argument of the matrix sentence (33-34), and the PPA if that is not the case (35). We will now turn to the right branch of the tree, which treats transitive verbs. If a body part, encoded as accusative NP, forms the direct object of the subjective resultative, the AP is chosen as formant (36), in all other cases, including PPs with accusative government and NPs and PPs with all other oblique cases (37), the attributive PPP is chosen as formant.

(33) RUS *Ob-em legko sozdat', esli ty budeš' sušit' ich,*
volume-ACC easy-ADV create-INF if you AUX.FUT.2SG dry-INF them
nakloniv golovu vniz.
bend-AP.ANT head-ACC downwards
'You can easily add volume to your hair if you will use the dryer with your head bent over.'
(*Ukladki dlja vesennich dnej: da zdravstvujut peremeny!* // «Daša», 2004)

(34) RUS *Sognuvšis' pod tjažest'ju rjukzaka, ona bezropotno*

hunch-AP.ANT under burden-INS backpack-GEN she without_demur-ADV

šagala kilometr za kilometrom, ...

stride-PST.3SG kilometer-ACC after kilometer-INS

‚Hunched under the burden of her backpack, she strode kilometre after kilometre without demur.'

(Il'ja Ogandžanov. *Mesto sily* // «Sibirskie ogni», 2013)

(35) RUS *… direktor prodral glaza i uvidel*

director-NOM rub-PST.3SG eye-ACC.PL and see-PST.3SG

naklonivšujusja nad nim ogromnuju tolstuju ženščinu.

bend-PTCP.PST.ACT.ACC over he-INS huge-ACC fat-ACC woman-ACC

'The director rubbed his eyes and discerned a huge fat woman bending over him.'

(Jurij Petkevič. *Javlenie angela* (2001))

(36) RUS *... vse svobodnoe vremja, nakloniv golovu, čto-to*

all-ACC free-ACC time-ACC bow-AP.ANT head-ACC something-ACC

vjazala_krjučkom ....

crochet-PST.3SG

'In her leisure time, she would always crochet something, with her head bowed.'

(Viktor Astaf'ev. Proletnyj gus' (2000))

(37) RUS *... udaril Žoludeva butylkoj po naklonennoj golove…*

hit-PST.3SG Žoludev-ACC bottle-INS on bow-PTCP.PASS.DAT head-DAT

'He hit Žoludev on his bowed head.'

(Leonid Zorin. *Glas naroda* (2007-2008) // «Znamja», 2008)

To summarize, the different ramification of the Yiddish and Polish classification tree vs. the Russian tree is indicative of structural differences between these languages. For Russian, transitivity is the decisive factor for choosing one of the subjective resultative constructions:

intransitive verbs prefer the AP or PPA, i.e. a verbform in active voice, as formant, whereas the Yiddish and Polish PPP seems to be more versatile both functionally and syntactically, with the bidiathetic PPP as the most prominent evidence. Bidiatheticity may be considered a case of ambiguity, as it remains unclear whether the subjective resultative was preceded by an intransitive agentive change of state or by a transitive one, i.e. a preceding passive diathesis. By using a resultative formant in active voice for intransitive agentive contexts (i.e. for situations without a preceding passive diathesis) and the PPP only for transitive verbs (and thus a preceding passive diathesis), Russian has developed a strategy for resolving this ambiguity. Therefore it seems worth having a second look at the allegedly bidiathetic PPPs in Polish and Yiddish.

For Polish we will take *pochylony* as example; it can be traced to two verb lexemes denoting processes of positioning, namely transitive *pochylić* (*głowę*-ACC) 'to bow (one's head)' and intransitive *pochylić się* 'to bow; to bend one's body'. Wiemer & Giger (2005, 69) do not make clear whether PPPs of this verb class are also bidiathetic. In their general consideration on what makes a bidiathetic resultative, they argue that "russ. *Dver' otkryta* ‚Die Tür ist geöffnet' [lässt] sich entweder auf *otkryt'* ‚öffnen' oder auf *otkryt'sja* ‚sich öffnen' beziehen [Russian " *Dver' otkryta* ‚the door is open' can relate either to *otkryt'* 'open' or to *otkryt'sja* 'open (by itself)' – translation S.B.] (Wiemer & Giger 2005, 7). Note first of all that *otkryt'sja* 'open (by itself)' is an anticausative (cf. Zumstein 2010 on anticausative and passive in Russian), which is the reason that *dver'* is in both cases the subject of the resultative construction. The situation is different with *pochylony*, since intransitive *mężczyzna się pochylił* 'the man bent down' produces *pochylony mężczyzna* 'the bowing man' (as instantiated in (26)), i.e. the first argument of the verb with agentive role is also head of the NP containing the PPP, whereas *mężczyzna pochylił głowę* 'the man bowed his head' gives the resultative *pochylona głowa* 'the bent head' (as instantiated in 15)), i.e. the second argument with the role patient becomes head of the NP. Thus, there is good reason to assume that we are in fact dealing with two subjective

constructions, namely the construction type *pochylona głowa* 'the bent head' resulting from a passive diathesis, and the construction type *pochylony mężczyzna* 'the bowing man', for which ergative is probably the most informative label (cf. Abraham 2013 on diagnostic tools for ergative constructions). Unfortunately, there is not enough corpus data available for Yiddish to yield proof, but the parallels between the Yiddish and the Polish classification tree gives reason to assume that Yiddish features a similar differentiation of constructions.

Finally, we would like to address the question whether there is any functional explanation for the fact that in all three languages two subjective resultative constructions, namely the AP and the PPP, are available to describe the result of a preceding transitive action (38-39 for Yiddish; 27 and 32 for Polish and 37-38 for Russian).

(38) YID *gezesn un geshlofn iz men oyfn dil*,
sit-PTCP.PST and sleep-PTCP.PST AUX-3SG one on floor
oystsiendik di fis.
stretch-AP.PRS the feet-ACC
'They sat and slept on the floor, stretching out their feet.'
(Forverts 2007.03.16)

(39) YID *der oylem iz gevorn oyfgelebt un nenter*
the crowd-NOM AUX.3SG become-PTCP.PASS lively-NOM and closer-ADV
zikh genumen tsu sharn tsum tish mit
REFL begin-PTCP.PASS to gather-INF to table-DAT with
oysgetsoygene hent.
stretch_out-PTCP.PASS.DAT hand-DAT.PL
'The crowd became lively and began to gather closer to the table with their hands stretched out.'
(Goldhar Pinkhes. *Dertseylungen fun Oystralye*)

(40) RUS *Razmetav ...* *volosy* *vokrug* *neestestvenno*

spread-AP.ANThair-ACC around unnaturally

naklonennoj *golovy,* *ležala* *devuška*

bow-PTCP.PASS.GEN head-GEN lie-PST.3SG girl-NOM

'The girl was lying with her hair spread around her unnaturally bowed head.'

Perspectivization is one possible explanation: The AP focuses on the first argument of both the subjective resultative verb and the matrix verb and thus highlights the agentivity of the first argument (which may be understood as control over the resulting state). The PPP highlights the second argument of the subjective resultative verb, while the first argument is demoted in this construction. Thus, the PPP may also be used to describe states with unclear coming about (40).

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