SENTENTIONAL ARGUMENTS AND EVENT STRUCTURE¹

Zimmerling A. V. (fagraey64@hotmail.com)

Sholokhov Moscow State University for the Humanities, Moscow, Russia; Institute of Linguistics of the Russian Academy of Sciences, Moscow, Russia

This paper is addressed the interaction of subject marking and event structure in languages, which allow sententional arguments in the subject position. In Russian and other Slavic languages sententional subjects share a number of formal and semantic properties with zero subjects with roleand-reference features and with so called oblique subjects, i.e. subject-like arguments marked with an oblique case. I argue that sententional subjects represented by bare that-clauses (Rus. čto-clauses) cannot have the roles of Agent/Causer, while zero subjects can. I also argue that the capacity of taking to, čto P-clauses, i.e. that-clauses headed by a correlative pronoun to serves as diagnostics for a number of verbal classes. Causative predicates like vynudit', zastavit', sklonitj k čemu-l. only take to, čto P- clauses, but not bare *čto P*-clauses as surface subjects. Factive predicates like *znat*'. razdražat' etc. take to, čto P-clauses, but not bare čto P-clauses as surface subjects while non-factive predicates like dumat', mereščit'sa only take bare čto P-clauses. Nominal predicatives forming Dative-Predicative-Structures (DPS) with an oblique subject marked with dative case and specified as {+ animate; + referential} split into two groups. Russian DPS predicatives from the stydno, dosadno, protivno, vse ravno group only take bare čto P-clauses and invariably behave as non-factive verbs in all contexts with an overt oblique subject. Russian DPS predicatives from the *izvestno*. neizvestno, stranno, bezrazlično group both take bare čto P-clauses and headed to, čto P-clauses, i.e. can be used in factive contexts as well. That means that their sententional argument can both get the status of a fact i.e. verified proposition P, logical truth, and an intentional situation, e.g. subjective evaluation of P, inner vision of P etc. Russian has two expletive elements—eto and to, but their syntax is different. Eto behaves as surface subject of the matrix clause and alternates with oblique subjects and sententional arguments in the subject position while to cannot be separated from the complement clause and reaches the subject position only in combination with the CP.

Key words: grammatical subject, sententional subjects, expletive subjects, zero categories, case marking, semantic roles, factivity, facts, situations, event structure

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Что сентенциальные подлежащие существуют, всем известно.

0. Introduction

This paper is addressed syntax and semantics of sententional subjects in a number of European languages with the nominative-accusative sentence pattern. I argue that sententional subject arguments are typical for sentences without an Agent NP/DP. Sententional subjects can express semantic roles as Causer or Stimulus with predicates subcategorizing for an animate Patient or Experiencer argument marked with accusative or oblique case. Such predicates denote uncontrolled events, which do not imply any human Agent or volitional Causer. The same languages, notably, Modern Icelandic, Ukrainian and Russian, also make use of zero subjects with similar role-and-reference properties. Both sententional subjects and zero subjects can have the value of External Force. I argue that Ukrainian and Russian sententional subjects with a value of External Force project event structure without a human Causer while some types of zero subjects in these languages project event structure with a human Causer. This contrast is partly due to different parameter settings and partly due to lexical semantics, since sententional and zero subjects are licensed by different groups of predicates.

The paper is organized as follows: in section 1, I render the notion of sententional subjects, in section 2 I discuss subjecthood tests for several Germanic and Slavic languages. In section 3, I analyze event structure projected by predicates licensing sententional subjects and by predicates licensing zero subjects. In section 4, I offer syntactic diagnostics for Russian predicates with a propositional argument.

1. The Hypothesis of Sententional Subjects

The notion of sententional subject is deeply rooted in the European linguistic tradition and, with some stipulations, in the Russian linguistic tradition as well. Many descriptive grammars from the Young Grammarian time took for granted that if a language has grammatical subjects in the nominative case and a nominative NP/DP or a pro-form is lacking, then the subject position must be filled by other expressions, e.g. by an infinite phrase, subordinate clause or a dummy. For instance, Nygaard (1906: 220) promptly says in his Old Norse syntax that 'infinitive is used as subject' in examples like OIce. **hørmulikt** er [$_{\rm IP}$ slíkt <u>at vita</u>] 'it is **sad** to know this', lit. '**sad** is [$_{\rm IP}$ such <u>to know</u>]'. The same is later said about 'subordinate clauses in the subject position' [Nygaard 1906: 252]. Nygaard does not prove either claim, since he believes that if a nominative argument is absent, the subject position must be filled by some placeholder—an idea which was later capitalized in the classical version of the Raising Theory [Perlmutter, Postal 1983]². A related approach to Burzio's Generalization

In fact, many Nygaard's examples are questionable, since with Old Icelandic verbs like *bykkja* 'to seem' sententional arguments do not raise to the subject position, as shown in [Zimmerling 2002: 637] while this language licenses nominative objects with an impersonal verb [ibid., 770].

and nominative case marking in the Minimalist Framework has been aptly dubbed 'nominative-first-syntax' by Lavine (2014)3. Peškovskij (1938) mentions sentences like Rus. [p_Vozbuzhdat' lyubopytstvo] sil'no l'stilo ego samolybiu '[p to provoke curiosity] flattered his self-esteem strongly', where the infinitive 'fills in the place of subject' (1938: 203). He calls such sentences 'very rare'. On the contrary, an academic grammar of Russian [Švedova et alii 1982: 94] openly declares that grammatical subject is an obligatory component that is regularly expressed either by a noun in the nominative case, or with 'an infinitive having the value of semantic subject4. Neither Peškovski nor Švedova acknowledge finite clauses as subjects, except for the case where such clauses serve as titles of quotations [Peškovskij 1938: 202; Švedova et alii 1982: 122]. Though the latter source mentions in passim that subordinate clauses occur with putative and affective verbs and lists examples like Rus. Emu mereščilos', [cp čto travit on lisu] 'he fancied/dreamed that he was hunting a fox' [Švedova et alii 1982: 494], no attempt to analyze their status is made—probably because Švedova et alii treat the absence of a nominative subject with verbs like mereščit'sa 'to fancy' / 'to dream' as an idiosyncratic, i.e. lexical feature of impersonal verbs. There are, however, numerous counterexamples, where predicates licensing a sententional argument are not specified as impersonal in the lexicon and a nominative argument is lacking, cf. structures with a predicative nexorošo (1) and structures with affective transitive verbs like razdražat' 'to annoy' (2a), which also take nominative subjects (2b-c).

- (1) Rus. [_{CP} čto deti ostalisj golodnye]—nexorošo_{Pred}. 'It is bad [_{CP} that children remained hungry].'
- (2) Rus. a. Vas'u_{Acc} razdražaet_{3Sg} [_{CP} čto Katia postojanno opazdyvaet].

 'it gets on Vasja's nerves [_{CP} that Kate always comes late].'

 Lit. 'to-Vasja annoys [_{CP} that Kate constantly comes late].'

 b. [_{NP} Postojannye_{Nom.Pl} Katiny opazdanija_{Nom.Pl}] razdražajut_{3Pl} Vas'u_{Acc}.

 '[_{NP} Kate's constant late arrivals_{Nom.Pl}] annoy_{3Pl} Vasju_{Acc}.'

 c. Katia_{NomSg} /Devuška_{NomSg} razdražaet_{3Sg} Vas'u_{Acc} svoimi_{Instr.Pl}. opazdanijami_{Instr.Pl}.'

 'Katia_{NomSg} /The girl_{NomSg} annoys_{3Sg} Vasia_{Acc} by her late arrivals_{Instr.Pl}.'

Testelets (2001: 318) identifies sententional arguments in structures like (1), (2a) as subjects or expressions behaving as grammatical subjects, which seems to be a consequent solution. A further problem is whether sententional arguments express semantic roles or just behave as placeholders in the subject position. The intuition for (1) and (2a) is different. While CP [$_{CP}$ čto deti ostalisj golodnye] filling a valency slot

It is not clear whether sententional arguments and other non-standard subject-like expressions filling the subject position get nominative case, but this is merely a framework-internal issue.

The notion of semantic subject in this definition is vague. It is difficult to assign infinite phrases in sentences like Rus. [_{IP} <u>Zanimat'sa</u> <u>sportom</u>]—<u>vredno</u> 'It is unhealthy to go in for sports', lit. [_{IP} <u>to go in for</u> sports] is <u>unhealthy</u>' any semantic role except for 'ability to conduct the process designated by the verb'.

of a predicative nexorošo 'bad that P' can hardly be specified more detailed than 'Situation P', the CP $[_{CP}\check{c}to\ Kat'a\ postojanno\ opazdyvaet]$ 'that Kate constantly comes late' filling a valency slot of the transitive verb razdražat' 'annoy' in (2a) seems to express the same semantic role of Stimulus as the nominalization $[_{NP}\ Postojannye\ Katiny\ opazdanija]$ 'Kate's constant late arrivals' in (2b) or standard NPs like $Kate/the\ girl$ in (2c). The second argument in (2a–c) is marked with accusative and likely has the same role (likely—the role of Experiencer) with all subjects⁵. Hence, it seems that if a verb taking a non-sententional argument with a given semantic role also takes a sententional argument, the latter can inherit the same role value. Belletti & Rizzi (1988) argue that sententional arguments are always internal, since they occur with so-called psych verbs, i.e. predicates without an Agent subject; that means that if CPs/IPs take the position of surface subject, they are nevertheless derived subjects raised to subject position in the absence of categories standing higher in subject hierarchy—Agent subjects in the direct case or semantic subjects in an oblique case etc. This issue will be addressed in this paper later.

2. Subjecthood Tests and Expletive Subjects in Germanic Languages

The theory of sententional subjects is supported by the observation that predicates taking sententional arguments also take non-sententional ones, cf. (2a) vs (2b–c) above. Germanic languages add a special issue—some predicates taking sententional subjects can and in certain configurations must take expletive subjects like Eng. it, Da., Sv, det, Ger. es^6 . In English and in Mainland Scandinavian languages expletive subjects occur in structures like (3a), where they anticipate a postponed that-clause, but are absent if that-clauses are preposed, The ill-formedness of structures like Eng. (3b) indicates that preposed CPs take subject position while examples like Eng. (3c) show that anticipatory it has subject properties too, since it is preserved with inversion and other syntactic transformations.

- (3) Eng. a. It is suprising, $[_{CP}$ that John knows about you].
 - b. [cp that John knows about you] is *(it) suprising.
 - c. Eng. a. Is *it* suprising, [cp that John knows about you]?

Semantic roles associated with Russian čto-clauses are analyzed in Kniazev (2012).

Gross-linguistically, expletive elements also occur in personal clauses, where they anticipate sententional arguments. This is possible for Sw., Da., Norw. expletive det and Ger. expletive es, and not typical of Eng. it—except for examples like Eng. The Foreign Secretary \underline{made} it_i clear $[_{CP}$ that the President is not prepared to make any decision regarding this problem]i. In German linguistics this function of expletive words is called 'Korrelat' (correlate). In this paper, I concentrate on subject uses of expletive elements. If the same lexical element, as Da. det or Ger. es is used both as subject and as correlate, I analyze subject and non-subject uses as separate syntactic categories.

If the expletive it is in subject position in (3a) and (3c), then the CP $[_{CP}$ that John knows about you] is an adjunct in (3a) and (3c), though it apparently behaves as subject in (3b), where the insertion of expletive it is impossible. Partee (1979: 17–22) assumes that (3b) has sententional subject, but challenges the idea earlier proposed by O. Jespersen and G. Curme that (3a) has sententional subject too. She argues that if surface subject is defined by substitution (i.e. structure preservation criterion), 'anticipatory it will necessarily be treated as subject whether it is considered as a part of the underlying subject or transformationally introduced to its place' (ibid., 21). An alternative approach when surface subject is defined on the basis of person-and-number agreement rule⁷ does not work. Jespersen's claim that the sententional argument is invariably selected as surface subject irrespective of the fact whether it is postponed or preposed can be saved only under the assumption that it in (3a) is not inserted until postposing of the CP takes place. This is unlikely both on empiric reasons, since the postposition of that-clauses is their normal position in right-branching languages like English, and on theoretical reasons, since there is no evidence that postposition of that-clauses takes place at all. It is easier to analyze preposed that-clauses as fronted, i.e. moved from postposition to the preverbal position, and conclude that insertion (in recent terminology, merger) of expletive elements like it is only possible if the CP is not fronted.

Mainland Scandinavian languages display the same complementary distribution of expletive and sententional subjects in structures like (3a–c). The expletive *det* is obligatory in (4a) and (4c) and ruled out in (4b), where the CP is preposed. This prompts that a) *det* and CP alternate in the surface subject position, b) the same predicates take expletive or sententional subjects with different word order and configuration.

The agreement criterion is less telling in Danish, Swedish or Norwegian, since the impoverished verbal morphology of these languages does not show whether sententional subjects agree with the verb in the 3rd person, which is not marked overtly. The linear position criterion gives mixed results. Unlike English, Danish, Swedish and Norwegian are standard verb-second languages, where the preverbal position (XP) is not reserved for subject NPs while the unique position specific of subject NPs and pro-forms is located after the finite verb⁸, but before the general negation; object NPs

For languages like English, German, Icelandic or Russian where verbs taking sententional subjects are morphologically marked as standing in 3rd person singular. For Danish, Swedish and Norwegian which have impoverished verbal morphology, the default agreement value is just 3rd person (defined in syntax since morphological person markers are missing as well).

This parameter differs the Mainland Scandinavian type from other verb-second languages, like Kashmiri or German, where subject NPs do not get a canonic position after the verb and are

are placed after infinite verbs. This gives the main clause order XP– $V_{\rm fin}$ – $NP_{\rm Sub}$ –Neg/AdvSent– $V_{\rm inf}$ – $NP_{\rm Obj}$, cf. Zimmerling (2002: 279). Expletive elements like det in diagnostic contexts with general negation, cf. (4c), came up in the position specific of subject NPs [Ekerot 1995] while sententional subjects, cf. (4b), are possible only in XP, where both fronted subjects and fronted objects/adjuncts occur. To complete the picture, one must mention that Danish, Swedish and Norwegian, unlike English, but like Russian or Icelandic have a parameter licensing XP-fronting of the nominal predicative in sentences like (it) is good that P In this case the expletive does not show up in main clauses, cf. Sw. Det är Det at han kommer] 'It is good that he comes', but Sw. # Det are Det in the comes', cf. [Zimmerling 2002: 738]9.

The substitution criterion gives conclusive proof that expletives like Da. *det* in (4) act as surface subjects, since their position is preserved in embedded structures: (5c) with a preserved expletive is well-formed, while (5d) without the expletive is bad.

(5) Sw.

| Basic structure | Derived structure with embedding | | | |
|---|---|--|--|--|
| (5a) <i>Det</i> är bra [$_{CP}$ at han kommer] \sim | (5c) [_{CP} Om <i>det</i> är bra [_{CP} at han kommer]] | | | |
| bra , är t, [c, at han kommer]. | är jag Karl XII. | | | |
| 'It is good that he is coming.' | '[CP If it is good [CP that he is coming]], | | | |
| | I am Charles XII.' | | | |
| (5b) [_{CP} at han kommer] är *(<i>det</i>) bra. | (5d) $*[_{CP}$ Om $[_{CP}$ at han kommer] är bra] | | | |
| '[CP That he is coming] is good' | är jag Karl XII. | | | |

This distribution proves that neither expletive nor sententional subjects can be eliminated from the description of Mainland Scandinavian languages, since there are both structures where the expletives are obligatory—main clauses without fronted CPs, cf. (5a), or IPs¹⁰, structures with embedding (5c), and structures with fronted CPs, cf. (5b), or IPs¹¹, where expletives are ruled out. In the latter case fronted CPs / IPs act as surface subjects, in the first case they must be analyzed as non-arguments, i.e. adjuncts.

Some theorists have tried to get rid of sententional subjects in Universal Grammar and claimed that the subject position in the process of derivation is actually filled not by IPs/CPs but by some zero categories coindexed with them: these zero categories are allegedly made visible in some languages as overt expletive elements like Eng. *it* in (3) or Da., Sw. *det* in (4)–(5). The idea that expletives have zero counterparts in the same or other languages is not new, but until recently it has not been combined with the denial of sententional subjects. The elimination of sententional subjects and other

placed in the so called middle field, i.e. scrambling area between the finite and infinite verbs: $XP - V_{in} \{_{Scrambline}S + O + Adv\}V_{inf}$. Cf. [Bhatt 1999], [Zimmerling 2013a: 188–189] for details.

⁹ However, XP-fronting of nominal predicatives gives stylistically marked sentences and is blocked with most predicatives in Danish.

¹⁰ Cf. Da. *Det* er godt [$_{1p}$ at drikke øl] 'It is good [$_{1p}$ to drink beer]' \sim *godt er [$_{1p}$ at drikke øl]

¹¹ Cf. Da. [,, at drikke øl] er *(det) godt. '[,, To drink beer] is good'.

subject-like expressions alternating with one and the same predicate is desirable, but ascribing subject properties to zero categories coindexed with IPs/CPs rather creates problems than solves them. The constraints on merging zero forms into subject positions, as Germanic languages show, are linked with overt expletives acting as surface subjects, not with silent categories allegedly coindexed with IPs/CPs. This contradicts the initial assumption that overt and silent expletives are just two sides of the same category. If, on the contrary, overt expletives in clauses with postponed IPs/CPs and zero forms coindexed with IPs/CPs are categories of a different sort, we are left back with a version of traditional analysis in terms of sententional subjects.

3. Sententional, Expletive and Oblique Subjects in Russian

Descriptive grammars of Russian and most other Slavic languages state that they lack expletive elements¹², so the alternation of expletive vs sententional subjects should not be a problem of Russian syntax. This view has been challenged in [Zimmerling 2009; 2012], where the syntax of Rus. non-referential non-agreeing element *eto* 'it' is discussed. The non-referential non-agreeing prosodically weak *eto* (dubbed 'semi-expletive eto' in [Zimmerling 2009]) freely combines with that-clauses, cf. (6a), but in one special case where the matrix predicate belongs to the class of the so called 'category-of-state forms', i.e. non-agreeing nominal predicatives selecting a dative subject, cf. *mne grustno* 'I am sad', *mne protivno* 'it makes me sick', *mne stranno*, *udivitel'no* 'It seems strange/ suprising to me', *mne jasno*, *očevidno* 'It is clear/evident (to me)' etc., the combination of semi-expletive eto + CP is blocked in the presence of a dative subject (6b), though neither a combination dative subject + semi-expletive eto, cf. (6c) nor a combination dative subject + CP, cf. (6f) are ruled out. If there are no other candidates for the subject position, CP acts as surface subject—both when it is preposed (6d) and postposed (6e).

- (6) Rus. a. *Eto* udiviteljno $_{Pred}$, [$_{CP}$ čto pogoda ne isportilas'].
 - 'It is suprising [cp that the weather did not worsen].'
 - b. *Mne eto udiviteljno $_{\rm pred}$, [$_{\rm CP}$ čto pogoda ne isportilas'].
 - c. Mne eto udiviteljno_{Pred}.
 - d. [_{CP} čto pogoda ne isportilas'], udivitel'no_{Pred}.
 - e. Udivitel'no $_{\rm Pred},~[_{\rm CP}$ čto pogoda ne isportilas'].
 - f. **Mne** udivitel'no_{pred}, [CP čto pogoda ne isportilas'].

This distribution is straightforwardly explained if all three sorts of expressions in (6)—dative subjects, semi-expletive *eto* and sententional arguments are <u>derived subjects</u>, i.e. internal arguments of Russian predicatives promoted to the vacant subject position according to some hierarchy of arguments. This analysis has been outlined by Zimmerling (2009; 2012) who postulates the following hierarchy for Russian Dative-Predicative-Structures (DPS):

Overt expletive subjects are attested in Upper Sorbian, arguably due to German influence, cf. Zimmerling (2002: 541; 750).

(i) Dative subject >> sententional subject >> semi-expletive eto.

If (i) holds for Russian DPS, dative DPS subjects with the role of Experiencer have a priority over sententional arguments: the latter are chosen as subjects only if dative subjects are absent. If neither dative nor sentential subjects are present, semi-expletive *eto* is selected as subject. Letuchiy (2014) accepts the hypothesis that dative DPS arguments and sentential arguments alternate in the surface subject position, but argues that sententional arguments have a priority over dative subjects, so the hierarchy according to him is (ii)¹³;

(ii) <u>Sententional subject</u> >> <u>dative subject</u> >> <u>eto</u>.

In the perspective of this paper, the choice of subject hierarchy (i) vs (ii) is not relevant, but this issue is important for the description of Russian DPS. Russian has ca. 300 non-agreeing nominal predicates capable of forming DPS, all of them select dative subjects specified as $\{+\text{animate'} + \text{referential}\}$. Roughly one third of them (cf. *udivitel'no, izvestno, stranno, stydno, žal', protivno*) select that-clauses. If sententional arguments have a priority over dative subjects, one has to prove that dative arguments of DPS predicatives take object positions when CPs are present, cf. (6f). It is unclear whether this can be done, since dative subjects are thematic, regularly fronted elements which do not behave like other arguments of DPS predicatives. The absence of an overt dative argument in the presence of a CP in (6e) and (6d) is satisfactory explained by a shift from a overt referential Experiencer (*Mne udivitel'no, čto P*—'situation P seems strange to **some referential X**') to a silent non-referential Experiencer (\varnothing *udivitel'no, čto P*—'situation P will seem strange **to every X**'). Hence, the hierarchy (i) seems to give a more economic description of Russian DPS sentences than the hierarchy (ii).

Apresian (1985: 304) lists sententional complements, *eto* and pronominal correlative $to_{3Sg,Nom-Acc.N}$ 'that' as categories that can fill the subject position of DPS predicatives. However, *eto* and *to* hardly have the same syntax, since expletive *eto* can take distant position, cf. (6a) above, stands before or after CP, while unstressed¹⁴ expletive *to* cannot be separated from the subordinate clause it heads: *mne udivitel'no* $to_i \mid_{CP}$ *čto on eš'o ne sdals'a*], 'It_i seems strange to me \mid_{CP} that he still did not give up] _i', * to_i *mne udivitel'no* \mid_{CP} *čto on eš'o ne sdals'a*], Meanwhile, expletive *eto* has a strong propensity for fronting (like Eng. *it* or Da. *det*) which is not relevant for expletive *to*, since the latter always immediately precedes its CP. Finally, *to*, unlike *eto*, does not alternate with sententional arguments and oblique dative subjects. Therefore, it is not part of subject

The view that those Russian DPS predicatives which have sententional arguments are not impersonal and take sentential arguments and pronominal elements *eto* and *to* as surface subjects has earlier been defended by Apresian (1985: 304).

¹⁴ A syntactic homonym, stressed *TO*, can be separated from CPs if it has contrastive stress, though such sentences do not look natural: Rus. *'TO mne udivitel'no* [$_{CP}$ *ĕto on eš'o ne sdals'a*] 'It seems strange to me [$_{CP}$ that he still did not give up].' Stressed pronoun *TO*, unlike unstressed to, can be enhanced by the enclitic to2 'emphatic theme', in combination with emphatic proclitic i: $TO=to_2$ mne i udivitel'no [$_{CP}$ eto on es'o ne sdals'a].

hierarchies like (i)-(ii) and likely not part of the main clause structure—this issue is to be discussed below in section 4.

4. Zero Subjects and Event Structure

Many languages with sententional subjects including Russian, Ukrainian, Modern and Old Icelandic also have zero subjects with the role-and-reference properties. Russian, Ukrainian and Icelandic zero subjects are non-referential Agents/Causers, which can be specified both as {+ animate} and {- animate} in constructions of a different type, cf. Lavine (2014), Zimmerling (2013). Many predicates license both constructions with {+ animate} and {- animate} zero subjects in the same language, cf. (7a–b) and (8a–b). In both cases zero subjects exhibit some kind of agreement with the predicate which has been shown for Russian impersonals by Mel'čuque (1979).

- (7) Rus. a. \emptyset^{3Sg} {- animate} $Lodku_{AccSg}$ oprokinu-l-o_{3Sg.N.Pst} (vetrom_{Instr.Sg}). 'The boat <u>turned over</u> (due to a puff).' b. \emptyset^{3Pl} {+ animate} $Lodku_{AccSg}$ oprokinu-l-i_{3Pl.Pst} (by a puff_{Adv}).
- (8) Icel. a. Ø^{3Sg} {- animate} Bátunum_{DatPl} hvolf-d-i_{3Sg,Pst} (*viljandi).
 'The boat turned over (*by purpose).'
 b. Ø^{3Sg} {+ animate} Bátunum_{DatPl} var_{3Sg} hvolf-t_{Prt,Pst,N,Sg}, viljandi.
 'The boat has been turned over by purpose <by some people>).'

Zero subjects specified as {— animate} typically occur in transitive impersonals like (7a), (8a) in sentences denoting processes not controlled by any human Agent. Their role can be defined as non-human Agent or as Causer, if non-human Agents are not accepted in semantic description, cf. Lavine (2014). The silent Agent/Causer argument is paired in transitive impersonals with an overt argument having the role of Patient: the case-marking of the latter depends on the verbal government—in the Russian example (7a) the verb *oprokinut*' selects accusative, in the Icelandic example (8a) the verb *hvelfa* selects dative.

Zero subjects specified as {+ animate} occur in active or passive structures, cf. (7b), (8b) in sentences denoting controlled processes. Their role can be straightforwardly identified as 'non-referential human Agent'. Ukrainian shows an across-thevoice synonymy of active and passive constructions with a zero {+ animate} Agent, cf. (9a–b).

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    (9) Ukr. a. Ø<sup>3Pl</sup> {+ animate} Oficeriv<sub>Acc.Pl.</sub> <u>zal'aka-l-y</u><sub>3Pl</sub>.
    'The officers were bullied,'
    b. Ø<sup>3Sg</sup> {+ animate} Oficeriv<sub>Acc.Pl.</sub> <u>bul-o</u>3<sup>Sg.N.Pst</sup> <u>zal'aka-n-o</u><sub>Prt.Pst.3Sg.N.</sub>
    'The officers were bullied', lit. '<it> was bullied to the officers.'
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Semantic restrictions on the class of verbs licensing transitive impersonals with a {– animate} zero subject argument are language-specific. Russian does not allow

transitive impersonals by those causative predicates which require a {+animate} Causer, cf. zapugat' 'to intimidate', 'to bully', *ego_3ACC.Sg} zapugalo_3Sg.N.Pst. ¹⁵. Somewhere transitive impersonals are licensed not by the lexical semantics of the verb alone, but by the event structure of the sentence. E.g., with napugat' 'to frighten smb', which is a semantic causative from napugat'sa¹6, a sentence like 'mal'čikaACC.Sg napuga-l-O3Sg.N.Pst vspyškamiInstr.Pl molnii 'the boy was frightened by the lightning' is much better than the *mal'čikaACC.Sg napuga-l-O3Sg.N.Pst igruškoj Instr.Sg 'the boy was frightened by a toy': the reason is that a sub-event 'impact of a lighting' more easily contributes to the resulting event 'situation P had a frightening effect over a boy' than a sub-event 'impact of a toy'. There are cases where lexical semantics of a verb is in conflict with general restrictions imposed by a zero subject construction. For instance, Russ. zadolbat' 'to cow smb.', 'to get at smb.' selects overt {+ animate} subjects while transitive impersonals in the 3Sg form denote processes not controlled by any human Agent. The judgements of native speakers whether they accept example (10) are split.

(10) Colloq. Rus. [?]Ø^{3Sg} {− animate} Nas_{Acc.Pl} <u>zadolba-l-o</u>_{3Sg.N.Pst}. (a protest motto). 'We've got at', lit. 'to-us was.cowed.'

Note that the anomaly in (10) again arises because the contribution of the dedicated sub-event 'Activity of some human Agents' to the resulting event 'Uncontrolled situation P that has an impact on the Patient' is semantically non-standard. At the same time, <u>causatives from psych verbs</u> which select a Patient {+ animate} argument are unproblematic regards their event structure since they just fix an impact of some factor X on Y's state of mind and do not specify whether the impact of X upon Y is caused by any intentional activity of human Agent. Let us examine *razdražat*' 'annoy', 'drive mad', 'get on one's nerves', which can be analyzed as semantic causative from an intransitive psych verb *razdražat'sa* 'to be annoyed', 'to be irritated'. Verbs from the *razdražat'* group do not license transitive impersonals in Russian, but they do license sententional subjects, cf. (2a) above which confirms that their subject argument is not specified as {+ animate}. Let us repeat the example (2a) below as (11).

- (11) (11) Rus. Vas'u_{Acc} <u>razdražaet</u>_{3Sg} [$_{CP}$ čto Katia postojanno opazdyvaet]. 'it gets on Vasja's nerves [$_{CP}$ that Kate always comes late].'
- (11') Sub-event 'Kate's late arrivals' is part of the situation P 'factor X annoys Y.'

Rus. Zapugat' 'to bully', unlike napugat' 'to frighten smb' seems to select only {+ animate} subjects, a restrictive condition that does not coincide with the ban on sententional subjects, since non-sententional {- animate} subjects are equally bad: *sokraščenie zarplaty <u>zapugalo</u> Vasju "Salary cuts <u>bullied</u> Vasja' is ill-formed, while sokraščenie zarplaty <u>napugalo</u> Vasju 'Salary cuts <u>frightened</u> Vasja' is OK.

As for word formation, the vector is different, since the intransitive *napugat'sa* is derived from the causative *napugat'*.

Assume that K. is intentionally driving V. mad with her late arrivals. Still, from the viewpoint of Russian grammar and lexicon, V.'s irritation as an independent event not triggered directly by K.'s malicious attempts to irritate him. Standard causatives from non-psych verbs like vynudit' 'to force sm. to do smth', zastavit' 'make smb do smth', sklonit' k 'to dispose smb to smth' license an {+animate} zero subject controlling the 3Pl form which seems a more or less general feature of all Russian verbs, cf. (12a) and a silent argument with an approximate meaning 'situation P', cf. example (12b), with a lexicalized past participle vynužden 'forced'17. They also license overt sentential subjects as non-human Causers, as illustrated by (12c). In this case the CP filling in the subject position must be headed by a correlative pronoun $to_{38\sigma N}$ controlling the agreement form of the verb. Note that merging of bare that-clauses into subject position with causatives from the group *vynudit*' is impossible, cf. (12d).

- (12) Rus. a. \mathcal{O}^{3Pl} {+ animate} **Ego**_{3M.Acc.Sg} <u>vynudi-l-i</u>_{3Pl.Pst} [$_{\text{IP}}$ uvolit'sa $_{\text{Inf}}$ s raboty]. '**He** was forced to quit his position <due to activities of some human Agents>'

 - b. On $_{_{\rm 3M.Nom.Sg}}$. byl $_{_{\rm 3Sg.M.}}$ vynužden [$_{\rm IP}$ uvolit'sa $_{\rm Inf}$ s raboty].
 - 'he was forced to quit his position <due to some external circumstances or personal problems>'
 - c. $[To_{3\text{Sg.N.}}, [_{\text{CP}}$ čto boss srezal emu zarplatu]] $\underline{\text{vynudi-l-o}}_{3\text{Sg.N.Pst}}$ $\mathbf{ego}_{3\text{M.Acc.Sg}}$ [uvolit'sa raboty].
 - '[CP that the boss cut down his salary] forced **him** to quit his position'.
 - d. *[cp čto boss srezal emu zarplatu]] vynudi-l-
 - $\underline{o}_{3Sg,N,Pst}$ **ego**_{3M,Acc,Sg} [_{IP} uvolit'sa_{Inf} s raboty].

We have shown that Russian causatives verbs license sententional arguments and select overt subjects which are not specified as {+ animate}. This is explained by the event structure of causatives: {C} causes Y make P, where Y is specified as {+ animate} and factor C (Causer) may but not necessarily arises due to intentional activity of some {+ animate} X. Hence, Y may be forced to make P (say, quit one's position) both if some X aims at forcing him to do that and if factor C arises due to some other process (say, the communists came to power in Y-s country or Y suffers from severe depression). The presence of an {+ animate} Causer is only a sub-event of the causative situation C. At the same time, causative verbs are selective in taking zero subjects with the role of Agent—they license {+ animate;—referential} zero Agents, cf. (12a), but not {+ animate;—referential} zero Agents -*Ø^{3Sg} {- animate} mal'čika sil'no napugalo, *Ø^{3Sg} {- animate} Vasju vynudilo opazdat', *Ø35g {- animate} Vasju razdražalo opazdanijami etc. These restrictions are likely explained by the fact that transitive impersonals normally describe uncontrolled situations as a whole and do not specify sub-events linked to their active participants. Deviations from this principle, as we have shown, lead to non-standard event structures and generate sentences not generally accepted by all speakers, cf. Rus. ²Ø^{3Sg}

Rus. vynužden is morphologically a past participle and projects an event structure with an Agent argument, but the construction X byl vynužden does not classify with actional passives and an overt deagentive NP is strictly impossible: *X byl vynužden Y-m sdelat' Z, intended 'X has been forced by Y to do Z'.

In the last section of this paper I prove that the test on *to, čto P*-clauses is diagnostic in Russian for a wider class of propositional predicates and that the ability / inability of taking *to, čto P*-clauses and vs bare *čto P*-clauses hangs on the factive vs nonfactive opposition and event structure.

| | Causatives from non-psych verbs: vynudit', sklonit' k | Causatives from psych verbs: razdražat', napugat' |
|------------------------------------|---|---|
| headed to, čto P-clause as subject | + | + |
| bare čto P-clause as subject | - | + |
| {+ animate} Causee | + | + |
| {+ animate} Causer | ± | ± |
| dedicated sub-event linked with | + | -/? |
| an active participant | | |
| transitive impersonals | _ | -/? |
| zero {+ animate} subject | + | + |

Fig. 1. Two groups of Russian causative verbs

5. Semantic Classes of Propositional Verbs and Syntactic Diagnostics

The notion of factive verbs was introduced in [Kiparsky 1970] and developed by Vendler (1980), Karttunen (1977), Arutyunova (1988), Padučeva (1986; 2004: 259), Bulygina & Šmelev (1988), Anna Zalizniak (2006) and others. The original idea was that verbs with a propositional argument split into two non-intersecting classes: verbs of knowledge and emotion from the first group (*know/ regret/ be glad that P)* bring about a presupposition that P is true and has a value of fact, while verbs of belief and speech from another class (*believe*, *tell*, *say that P*) do not bring about a factive

presupposition. Later research proved that non-factive verbs are heterogeneous and many verbs are used both in factive and non-factive contexts (cf. Eng. *tell*), so one must look for diagnostic contexts for all semantic classes, even though such tests as ability to lead indirect wh-questions (*X knows how Y did it* vs **X believes how Y did it*) do not cover all factive predicates, cf. [Bulygina & Šmelev 1988: 57–60] and one may need many tests for every language. An exact definition of non-factive verbs is a matter of discussion. Following Arutynova (1988), Padučeva (1986) and Zalizniak (2006: 449), I assume that the notion of 'situation' fits best to the propositional argument of non-factive verbs. Situations, i.e. arguments of such propositional attitudes as opinion, belief, evaluation etc. are intentional objects, inner states of mind, pictures, Gestalts, they are opposed to facts, i.e. propositions with the status of logical truth.

I argue that the syntax of to, čto P-clauses and bare čto P gives a clue for the description of Russian propositional predicates. The predictions are that a) if a predicate only licenses to, čto P-clauses, but not bare čto P-clauses as syntactic subjects it is factive, b) if a predicate only licensed čto P-clauses but not headed to, čto P-clauses, it is non-factive, c) if a predicate licenses both headed and bare čto P -clauses, it is ambivalent and its argument can be arranged both as fact and as situation. The to, čto test has been discussed earlier, but not in the version proposed in this paper where it is combined with analysis of sentence structure. Arutyunova (1988: 153) discusses to, čto—paraphrases like Ivan uexal 'Ivan left' \rightarrow to, čto Ivan uexal, rasstroilo menja 'That Ivan left disturbed me' in the same context as full nominalizations like Ivan uexal → tot fakt, čto Ivan uexal, rasstroil menja 'The fact that Ivan left disturbed me'. Padučeva (1986: 27) lists non-factive contexts where to, čto-clauses introduce a proposition with the status of 'situation', not fact, but concentrates on oblique forms of the correlative pronoun to where it is lexically governed by a preposition or a verb: proizojti iz-za togo, čto P 'to happen because of P', načinat'sa s togo, čto P 'to begin with P', svodit'sa k tomu, čto P 'to amount to P'. On the contrary, I focus on the uses of to, čtoclauses in the surface subject (structural Nominative case) or direct object (structural Accusative case) positions where to is <u>not</u> lexically governed by the matrix verb.

The form to is morphologically ambiguous between Nom.Sg. and Acc.Sg. The to, čto-clauses are syntactic nominalizations. Filling in the surface subject position, they impose a default agreement pattern in 3Sg. (in the past tense—3Sg.N. with nominal predicates and a past tense auxiliary), just as bare čto-clauses do, cf. (11) and (12c). It is however not clear beforehand whether to, čto-clauses agree with nominal predicatives. For the first, there is no evidence that CP-arguments of DPS predicatives (mne stydno/ protivno/dosadno, čto P) are raised to the surface subject position if overt dative subjects are present: this is possible if hierarchy (ii) holds for Russian, but impossible if hierarchy (i) is true. For the second, some DPS predicatives, cf. stydno 'it is a shame', žal' 'it is a pity', vse ravno 'it is all the same', tak i nado 'way to go' lack any agreeing counterparts in Modern Russian. Exactly these forms and a large group of other DPS predicatives, cf. protivno 'it is disgusting', dosadno 'it is vexing', obidno 'it is annoying' which retain counterparts in agreeing adjectives (protivnyj, dosadnyj, obidnyj) do not license to, čto-clauses. Meanwhile, predicatives from another group, cf. izvestno 'it is known', stranno 'it is strange', bezrazlično 'it does not matter' license both to, čto-clauses and bare čto-clauses. The analysis has shown that even if a predicative does not licence a to, čto-clause in DPS, the corresponding agreeing adjective still may license a Dative-Nominative-Structure will full-fledged number-and-gender agreement with an NP *tot fakt* 'that fact', cf. (14b) and (14c).

- (13) Rus. a. $Mne_{1Dat,Sg}$ bylo_{3Sg,N,Pst} **stydno**_{Pred}, [_{CP} čto tak vyšlo].
 - 'I was ashamed [cp that it happened so].', lit. 'to-me was **shameful** that...'
 - b. $*Mne_{1Dat,Sg}$ bylo $_{3Sg,N,Pst}$ **stydno** $_{Pred}$, [to [$_{CP}$ čto tak vyšlo]].
 - c. *Mne $_{1\text{Dat.Sg}}$ byl $_{3\text{Sg.N.Pst}}$ **stydno_{\text{Pred}}, /*styden** $_{\text{Adj,Nom.Sg.M}}$ tot $_{\text{Dem.Nom.Sg.M}}$ fakt $_{\text{Nom.Sg.M}}$ [$_{\text{CP}}$ čto tak vyšlo]]
 - int. 'I found the fact that it happened so shameful'.
- (14) Rus. a. $\mathrm{Mne}_{\mathrm{1Dat.Sg}}$ by $\mathrm{lo}_{\mathrm{3Sg.N.Pst}}$ **protivno** $_{\mathrm{Pred}}$, [$_{\mathrm{CP}}$ čto tak vyšlo].
 - 'I was disgusted [cp that it happened so].', lit. 'to-me was **disgusting** that...'
 - b. $^{??}$ Mne $_{_{1Dat.Sg}}$ bylo $_{_{3Sg.N.Pst}}$ **protivno** $_{_{Pred}}$, [to [$_{_{CP}}$ čto tak vyšlo]].
 - c. $\operatorname{Mne}_{\operatorname{1Dat.Sg}} \operatorname{byl}_{\operatorname{3Sg.M.Pst}} \operatorname{protiven}_{\operatorname{Adj,Nom.Sg.M}} \left[_{\operatorname{NP}} \operatorname{tot}_{\operatorname{Dem.Nom.Sg.M}} \operatorname{fakt}_{\operatorname{Nom.Sg.M}} \left[_{\operatorname{CP}} \operatorname{\check{c}to} \operatorname{tak} \operatorname{vy\check{s}lo} \right] \right].$
 - 'I found the fact that it happened so disgusting'.
- (15) Rus. a. $Mne_{1Dat,Sg}$ bylo $_{3Sg,N,Pst}$ **bezrazlično**_{Pred}, [_{CP} čto vse tak vyšlo].
 - 'it was all the same to me that it happened so', lit. 'to-me was indifferent that...'
 - b. $Mne_{1Dat.Sg}$ by $lo_{3Sg.N.Pst}$ **bezrazlično**_{Pred}, [to [$_{CP}$ čto tak vyšlo]]. 'the same.'
 - c. $\mathrm{Mne}_{\mathrm{1Dat,Sg}}$ by $\mathrm{l}_{\mathrm{3Sg,M.Pst}}$ bezrazličen $_{\mathrm{Adj,Nom,Sg,M}}$ [$_{\mathrm{NP}}$ tot $_{\mathrm{Dem,Nom,Sg,M}}$ fakt $_{\mathrm{Nom.Sg,M}}$ [$_{\mathrm{CP}}$ čto tak vyšlo]].
 - 'I was indifferent to the fact that it happened so'.

I conclude that a) that-clauses headed by *tot fakt*, *čto P* and *to*, *čto P* have different syntax, the correlative pronoun *to* does not stand in the same position as NP *tot fakt* and can only have default agreement with the predicate, b) DPS predicatives should not be mingled with agreeing adjectives, CP arguments of DPS predicatives only have default agreement.

Let us see the results of the *to*, *čto* P / bare *čto* P test in Russian. The predicates are classified in four groups—<u>factive verbs of knowledge</u> (class 1), <u>causatives</u> (classes 2 and 3), <u>DPS predicatives with a CP-argument</u> (classes 4 and 5) and <u>non-factive verbs of believe/inner vision</u> (classes 6 and 7). Propositional verbs taking nominative and non-nominative subjects are placed in different slots: CP-arguments (*to*, *čto* P / bare *čto* P) appear either in the direct object or in the subject position. For the sake of simplicity, I assume that with DPS predicatives the CP-argument is always in object position, if an overt DPS {+ animate} dative subject is present¹⁸. Russian factive verbs of knowledge always place CP-arguments in the object position (1), while non-factive verbs split into a 'personal' (6) and impersonal groups (7). Causative verbs only take CP-arguments as subjects (6, 7), while DPS predicatives, given the assumption above take them as objects (4,5).

This stipulation is not essential for the analysis, since both subject CPs and direct object CPs stand in positions which are not lexically governed by the matrix predicate / preposition.

| | Factive verbs | Causatives | | DPS predicatives with a CP argument | | Non-factive verbs | |
|--|---|--|--|--|---|--|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | + Nom. subject: Xznaet, čto P/ to čto P | From non-psych verbs: To, čto P, vynuždaet X-a delatj Z | From psych- verbs: čto P/To,čto, P razdražaet X-a. | 'Factive group': X-u izvestno/ važno, bezrazlično to, čto P/čto P | 'Non-factive group': X-u stydno/ protivno, dosadno, čto P | + Nom. subject: X dumaet, sčitaet, čto P | – Nom. subject: X-u mereščitsa, čto P |
| to, čto P-clauses as subject/ direct object | + | + | + | + | - | - | - |
| bare čto P-clauses as subject/ direct object | + | _ | + | + | + | + | + |

Fig. 2. Predicate classes and the to, čto-clauses in Russian

The results can be interpreted in the following way. Factivity and capacity of taking to, čto-clauses as subject / direct object are related but independent values. To, čto-clauses are licensed by predicates projecting an event structure with a dedicated sub-event. This feature naturally combines with factivity. If a proposition has the status of fact, parts of it can easily be singled-out and highlighted: if p and q are sub-events of a fact P, then contrastive utterances that X knows p

 but not necessarily knows q> and the corresponding prosodic cues for marking logical contrast [Yanko 1997: 209] are appropriate. If, on the contrary, proposition p has the status of an intentional object, situation, parts of it usually cannot be singled out, and there is no dedicated sub-event. Therefore non-factive predicates normally do not license to, čto-clauses. The ban on bare čto P-clauses with causatives from non-psych verbs (class 2) indicates that though causatives of this type license sententional subjects, the propositional argument has the status of fact and cannot be 'intensionalized'. This condition does not hold for causatives from psych-verbs (class 3): they subcategorize for {+ animate} Causees and neither ban nor require bare čto P-clauses. DPS predicatives split into a strictly non-factive class (5) that requires bare čto P-clauses and rules out to, čto-clauses, just as non-factive verbs (classes 6, 7) do, and ambivalent class (4), the members of which—cf. izvestno/važno, bezrazlično verbs behave exactly as causatives from non-psych verbs and license both bare čto P-clauses and to, čto-clauses: mne važno, čto $P \sim mne važno$, čto P 'it is important to me that P'.

Our interpretation could be undermined by non-factive verbs licensing *to*, *čto*-clauses. Such verbs exist in Russian, cf. the personal construction $ja_{1\text{Nom.Sg}}$ $verju_{1\text{Sg}}$ v_{Prep} to_{Acc} , *čto* P, lit. 'I believe in that $[_{\text{CP}}$ that P]' $\sim ja_{\text{Nom}}$ $verju_{1\text{Sg}}$, *čto* P and the impersonal construction $mne_{1\text{Dat.Sg.}}$ $veritsa_{3\text{Sg}}$ v_{Prep} to_{Acc} , *čto* P, lit. 'me believes in that $[_{\text{CP}}$ that P]' $\sim ja_{\text{Nom}}$ $verju_{1\text{Sg}}$, *čto* P. Yet neither the personal verb veritj nor the impersonal verb veritja allow to, *čto*-clauses as subjects / direct objects, cf. (16a–b), so the test remains valid.

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(16) Rus. a. \mathrm{Mne_{1DatSg}} \mathrm{ne_{Neg}} veritsa_{3Sg} *to_{\mathrm{Nom.Sg}}, [_{\mathrm{CP}} čto dannaja problema rešena]^{19}.  
'I hardly believe [_{\mathrm{CP}} that this problem is solved].'

b. \mathrm{Ja_{1Nom.Sg}} \mathrm{ne_{Neg}} verju_{1Sg} *to_{\mathrm{Acc.Sg}}, [_{\mathrm{CP}} čto dannaja problema rešena]. 
'I do not believe [_{\mathrm{CP}} that this problem is solved].'
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A final point to be made is that expletive *eto*, unlike expletive *to*, is not selective to the semantic type of proposition and combines with some DPS predicatives from the *stydno*, *dosadno class* (5) which do not licence headed *to*-clauses.

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(17) Rus. a. Eto_{Expl} i dosadno_{Pred}, [_{CP} čto dannaja problema ne rešena]. 
'It is but vexing [_{CP} that this problem is not solved].' 
b. [_{CP} čto dannaja problema ne rešena], eto_{Expl} i dosadno_{Pred}, 
'the same,' 
c.*dosadno to_{Expl} [_{CP} čto dannaja problema ne rešena].
```

6. Conclusions

Sententional complements in Russian and other languages with a nominativeaccusative sentence patterns in most cases are internal arguments that can be raised to surface subject position where they alternate with oblique or expletive subjects, if a language has these kinds of sentence categories. Meanwhile, Russian causatives from non-psych verbs project an event structure where the sententional subject can be analyzed as Causer or even as Agent. The uses of correlative to, čto P-clauses in the positions of surface subject and direct object serve as diagnostics for factive predicates in Russian. Licensing of to, čto P-clauses hangs on a feature closely related to factivity—capacity of projecting an event structure with a dedicated sub-event. Inability of licensing to, čto P-clauses proves that a propositional predicate is non-factive. Russian has expletive elements eto and to which have different syntax. Expletive eto belongs to the matrix clause and does not form a constituent with the CP it antecedes. It alternates with oblique dative subjects in the surface subject position, can be separated from the correlative complement clause, has a propensity for fronting in its clause and is not sensitive to the semantics of DPS predicatives. Expletive to forms a constituent with its CP, cannot be separated from it and does not combine with nonfactive DPS predicatives. These features of Russian expletive elements resemble the syntax of Germanic expletives like Eng. it, Da, Sw., Norw. det, Ger. es, but there are no one-to-one correspondences between the languages.

¹⁹ The insertion of overt dative subjects in structures with eto and CP is impossible as shown in section 3.

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