Zero Lexemes and Derived Sentence Patterns
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Abstract

The paper is devoted to Igor Mel’čuk’s theory of zero lexemes and its applications in typology. The author accepts Mel’čuk's analysis of Modern Russian where postulating zero lexemes in the subject position is the best solution, but argues that some claims have to be modified if one turns to broader typological data. The notion of zero lexemes can be introduced into other formal theories.

Keywords
Zero pronouns, subject-predicate analysis, syntactic derivation, non-configurationality.

1 Zero signs and subject positions

1.1 Data from Modern Russian

Mel’čuk’s approach to zero lexemes is based on general considerations concerning the mapping of different levels of linguistic representation (Mel’čuk, 1979), (Мельчук, 1995, 169-205). The notion of zero lexemes is an extension of the general notion of zero signs. A zero wordform (= zero lex) has an empty string of phonemes as its signifier but a signified of its own which cannot be expressed by non-zero lexemes. A zero lexeme is a one-element set of lexes that contains only a zero lex (ibid, 178). This apparatus is applied to Modern Russian. There are at least two productive sentence patterns where no overt subject wordform is present, cf. example (1) classified with the so called “indefinite-personal sentence pattern” in Russian academic tradition and example (2) classified with impersonal sentence patterns.

<table>
<thead>
<tr>
<th>Øpeople</th>
<th>Øelements</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Улицу засыпал-и песк-ом</td>
<td>(2) Улицу засыпал-о песк-ом</td>
</tr>
<tr>
<td>street.SG.ACC strewed.PL sand. SG.INSTR</td>
<td>street.Sg.ACC strewed.SG.NEUT sand. SG.INSTR</td>
</tr>
<tr>
<td>“[People] strewed the street with sand”</td>
<td>“The street got strewed with sand”, lit. “[It] strewed the street with sand”</td>
</tr>
</tbody>
</table>
Mel’čuk argues that such and the like sentences in Russian are bipartite and assigns subject properties to zero lexemes $\emptyset_{\text{people}}$ and $\emptyset_{\text{elements}}$. The first of them (zero lexeme of 3Pl) is found in sentences describing intentional actions fulfilled by some animated Agent: $\emptyset_{\text{people}}$ улицу засыпали песком. The second one (zero lexeme of 3Sg) is possible only in sentences describing actions which cannot be done by any animated Agent: $\emptyset_{\text{elements}}$ улицу засыпало песком. Mel’čuk claims that both zero lexemes are not logical complements. He claims further that the above mentioned sentences with zero lexemes in 3Sg and 3Pl are well-formed and refuses to postulate zero subjects in other cases, where the hypothesis about ellipsis is probable. We will discuss the basic assumptions of Mel’čuk’s theory: our goal is to decide which claims made in this theory must be preserved and what is to be modified if one turns to broader typological data. In spite of the fact that the notion of zero lexemes is elsewhere illustrated by marginal examples, it is not a marginal problem that can be put aside by those who reject other postulates of MTT. Mel’čuk provides us with two arguments, one of them called “ad syntaxem”, the other one “ad semanticam”. Although Mel’čuk starts with the last one, his syntactic argument is stronger: $\emptyset_{\text{people}}$ and $\emptyset_{\text{elements}}$ have control properties and determine at least three features — verbal agreement in number and gender (3Sg Neut for $\emptyset_{\text{elements}}$ and 3Pl for $\emptyset_{\text{people}}$), reflexivization, and adjunction of gerundival complements, cf. examples (3) and (4).

<table>
<thead>
<tr>
<th>Control of reflexivization</th>
<th>Control of gerundival complements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(3)</strong> В своем доме $\emptyset_{\text{people}}$ обычно не гадят. In <strong>REFL</strong> house.LOC usually not make.dirty.3PL.</td>
<td><strong>(4)</strong> Пиратскими дисками $\emptyset_{\text{people}}$ торгуют в Лужниках, обеспечивая всех москвичей. Illegal.PL.INSTR cd.PL.INSTR sell.3PL in Luzhniki <strong>provide</strong>.GER all Moscovites.PL.ACC.</td>
</tr>
<tr>
<td>“One usually doesn’t make [it] dirty in one’s [own] house”.</td>
<td>“[They] sell illegal CDs in Luzhniki providing all Moscovites [with them]”.</td>
</tr>
</tbody>
</table>

Standard syntactic theories advance a postulate that agreement features and related properties of the predicate are controlled by the grammatical subject. Russian sentences (1-4) have no overt controller. Therefore, if tests for subjecthood are applied in order to establish which sentence category is the controller, then $\emptyset_{\text{people}}$ and $\emptyset_{\text{elements}}$ are legal grammatical subjects in Russian. This argument is sufficient by itself, and we accept two further conclusions drawn by Mel’čuk: that a) sentences (1-4) are bipartite, not impersonal, b) $\emptyset_{\text{people}}$ and $\emptyset_{\text{elements}}$ are case-marked and stand in the nominative case in Russian. The ‘semantic argument’ provided by Mel’čuk is weaker, since it reflects specific features of Russian grammar, namely the opposition of impersonal (impersonalia pura) and personal/ambivalent predicates in the lexicon. Mel’čuk argues that unless zero subjects are postulated, we arrive at a very strange description where the verb is “the sole source of the different meanings ‘people’ and ‘elements’”. That would lead to a confusion, since “then we would have to admit that almost every Russian verb taken by itself in a single well-specified lexical sense is always two-way

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Further, it is possible to classify $\emptyset_{\text{people}}$ and $\emptyset_{\text{elements}}$ as zero pronouns, not zero nouns: a clear statement concerning the class of words represented by zero subjects is lacking in (Мельчук, 1995).
ambiguous in the 3d person plural and the 3d person singular. For instance, the form тащат “they drag” would mean either simply “drag” with an open slot for any grammatical subject in 3Pl, or “people drag” (Мельчук, 1995, 180-181). True enough, a description like this is inconvenient for Russian where the class of verbs specified in impersonal sentence patterns is small (cf. Rus. светать, вечереть, знойть, прослабить, развезти, скрючить, взгрустнуться, икаться) and can be listed in the lexicon. The ‘subjectless’ uses of verbs like тащить which are not specified in impersonal patterns (cf. Rus. Его Acc ∅ elements протащило по камням) can be interpreted as function of the context. The classification into ‘pure’ and ‘secondary’ impersonal predicates goes back to Al. Peshkovsky (Пешковский, 1938, 324). There exist languages which fit Peshkovsky’s model more or less neatly — a small group of predicates as, e.g., “RAIN”, “SNOW” doesn’t take overt subjects, and a large group of verbs can be occasionally used without any overt subject. At the same time, B. Havránek assumed that numerous Indo-European languages had no sharp distinction between ‘personal’ and ‘impersonal’ predicates, whereas the subject position could be deleted practically with every predicate (Havránek, 1962). I have demonstrated in my book (Циммерлинг, 2002, cf. also Zimmerling, 1992) that Old Scandinavian languages belonged to the type, where all verbs could be used both in sentence patterns with the subject position and in sentence patterns without this position. Similar situation may be reconstructed for Old Slavonic languages. E.g., Old Russian sentence (5a) from “Slovo o polku Igoreve” was no longer acceptable for a later scribe who emended it: he added the reflexive particle ся and came up with a bipartite structure with глазъ “voice” taking the position of the nominative subject in (5b).

<table>
<thead>
<tr>
<th>No overt grammatical subject</th>
<th>Overt grammatical subject in Nom</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5a) ORus. На Дунаеви Ярославнынъ глазъ=ACC.SG слышить At Danube Yaroslavna’s voice hear-s =3SG.ACT</td>
<td>(5b) На Дунаеви Ярославнынъ глазъ=NOM.SG слышить ся. At Danube Yaroslavna’s voice hear-s =3SG.ACT.REFL</td>
</tr>
<tr>
<td>“[One can hear] Yaroslavna’s voice at Danube”</td>
<td>“Yaroslavna’s voice can be heard at Danube”</td>
</tr>
</tbody>
</table>

### 1.2 Non-configurality and derivation

In languages without any lexical contrast of impersonal/personal predicates every verbal form in the 3d person singular is ambiguous: ORus. слышить 3Sg = either a) “(someone) hears”, or b) “they hear”, “one can hear”. This begs for the alternative banned by Mel’čuk’ for Modern Russian — to admit that every verb “taken by itself in a single well-specified lexical sense” is “always two-way ambiguous in the 3d person”. Besides, the basic contrast of ∅ elements vs ∅ people gets obscured if we dip into language history. The deleted subject of Old Russian слышить is animated, but it is a lexical feature of this verb and not a syntactic parameter. We have to postulate for Old Russian one zero lexeme ∅3Sg with the interpretation “DELETED SEMANTIC SUBJECT”. There are different ways to account for the situation where 3d person singular is ambiguous. Vinogradov, Havránek and recently Sigurdsson argued that this form is homonymous and consists of an agreeing personal and non-agreeing impersonal homonyms (Виноградов, 1947, 456), (Sigurdsson, 1991, 333). A more radical approach was developed by Antoine Meillet who assumed that in Early Indo-European the
slot for grammatical/semantic subject, unlike object dependencies, didn’t belong to the predicate frame (Meillet, 1938, 367). In modern terms, this is as a postulate on regular subject/subjectless lability. During many years Meillet’s conception was perceived merely as an idealization. The same idea was later advanced into typological linguistics by students of non-Indo-European languages, cf. (Jelinek, 1984). In the last decades it was reintroduced into Indo-European studies under the name of “hypothesis on non-configurationality” cf. (Faarlund 1990). Although the adepts of the non-configurationality don’t refer to Meillet or Heusler, they advance the same arguments. Therefore, we will use the terms “Meillet’s approach” and “non-configurational approach” as synonyms. The main claims made in this conception are: 1) Completed structures without bipartite articulation are possible; 2) There is a class of non-configurational languages where wordforms act as immediate daughters of the node S (=Sentence); 3) In non-configurational languages inflectional features determine positions of wordforms, not vice versa; 4) Under given conditions, completed sentences consisting of a single element are possible; 5) Grammatical subject is not a universal; 6) In non-configurational languages a large group of predicates is characterized by a shifting set of dependencies. It is a big question whether all the features listed above are mutually dependent. Nevertheless, it is fairly clear that grammatical mechanisms the non-configurational model refers to exist and are attested in many languages. We have shown above that MTT choice in favor of zero subject lexemes is motivated by derivation of ‘impersonal’ predicates linked with sentence patterns without overt grammatical subjects in languages withholding subject-verb agreement in a group of sentence patterns called ‘personal’ or ‘bipartite’:

\[(i) \text{S} \rightarrow \text{NP, VP} \lor \text{S} \rightarrow \varnothing, \text{VP}.\]

The notion of ‘impersonality’ was from the very beginning criticized by proponents of Universal Grammar. Hermann Paul claimed that impersonal sentences are bipartite and postulated for them a zero subject. Roman Jakobson later exploited the same idea, and Mel’čuk’s theory is in the same class. The famous discussion on impersonality displayed a wide variety of approaches. Some of the polemists postulated an “implicit formal subject” or “zero it” to sentences as Rus. cezmaem “It is dawning”, while their opponents branded such devices as illegal. The main result of this discussion was, however, the recognition of the derivational problem:

(ii) Irrespective of program declarations on subject-predicate bipartition, any syntactic theory must account for the fact that complete sentences with or without overt grammatical subject coexist and remain productive in one and the same language. They must also explain the transitions from one type to another.

This problem cannot be avoided by claiming that bipartite and impersonal patterns represent different relations, one of them being more “archaic” than the other. Even if a linguist describes bipartite and impersonal patterns as different stages or layers of syntactic relations, s/he has to decide on problem (iii):

(iii) On the synchronic level, either the presence of grammatical subject and subject-verb agreement or its absence must be set as the default option.

MTT treats the deletion of the grammatical subject as a transition from overt subject to zero. The pattern remains bipartite, but the filling of the subject position is changed. MTT
formalism is based on dependency trees which are used in Surface-Syntactic Representations but the same mechanism can be shown on constituent trees as well. I am using simplified constituent trees as a type of shared interface in order to formalize different approaches to zero categories in MTT and the non-configurational theory though I am not claiming that Fig. 1-3 below represent the original formalism in any of these theories.

Fig. 1. Derivation of Zero subjects: an adaptation from MTT

In MTT account of Russian grammar, subject-verb agreement and the presence of non-zero subject is set as a default option: in more formal terms, the transition from overt subject to zero is triggered by context-sensitive rules, whereas structures with overt subjects are generated by a context-free grammar. This fragment implies that MTT has at least one feature in common with the late versions of Chomsky’s grammar: both theories assume that transformations (= context-sensitive operations on tree structures) change only the lexical filling of syntactic position but not their number. This postulate is violated in the non-configurational approach. Meillet’s hypothesis implies that structures of the type [∅ — V] — [Nobl + Adv...] generated by Subject Deletion are well-formed but lack the node for overt Subject NPs. This amounts to claiming that in sentences like гласъ ∅ — слышать-3Sg “One can hear a voice” the dominating element is the verb: the category ∅ (if it is interpreted not as a bare symbol of Subject Deletion but as a lexeme) takes a different position than overt subjects in bipartite structures. A plausible formalization of these ideas would be a rule that dropping the nominative subject (NP→ ∅) automatically involves rearrangement of the predicate form in 3Sg as a complete impersonal structure (VP→VP’’).

Fig 2. Derivation of impersonal sentences: an adaptation from Meillet-Havránek

The main difference between the MTT approach to zero subjects and Meillet’s hypothesis is that in MTT zero subjects are introduced by context-sensitive rules, and each predicate is assumed to have an obligatory slot for its grammatical subject. On the contrary, in Meillet’s approach the deletion of nominative subjects is a context-free operation and the valency for

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2 This point of Meillet’s program was adopted by his pupil Emile Benveniste who claimed that 3d person is not a personal form by itself, contrary to 1st and 2nd persons (Benveniste, 1946).
grammatical subject is assumed to be optional for some/all predicates. Meillet’s hypothesis can be formalized in a different way: it is possible to add the node $\emptyset$ (=“deleted subject”) and put it into the VP”. A description like this aims at demonstrating that ‘autonomous’ predicates (VP → VP”) result both from a deletion of overt grammatical subject in the Nominative Case and from a diathesis shift, i.e., a deletion of referential Agent/Non-agentive semantic subject on the level of argument structure. An advantage of this analysis is that the category $\emptyset^{3Sg}$ gets a signified: “NON-REFERENTIAL/GENERIC SUBJECT”. It makes, in turn, possible to distinguish impersonal sentences from homonymous elliptical ones, cf. ORus. Слышать-3Sg, пишать-3Sg — either “X hears, writes”, or “One can hear”, “it is written”; Olcel. bar-3SgAct út knöttin-AccSgDef — either “X threw out the ball”, or the “the ball has been thrown out”. This is impossible not only in the original version of Meillet’s hypothesis but also in the late versions of Chomsky’s grammar: the latter postulates zero pronominal subjects (pro) in both cases.

For linguistic interpretation of Meillet’s hypothesis it is crucial that overt subject and zero subject take different positions: the first one dominates the VP, the second one is a part of VP”. Consequently, overt grammatical subject will always appear in tree structures higher than grammatical objects (unless syntactic theory gives up the idea of subject-object asymmetry), while locating the node $\emptyset$ higher, lower or on the same level as object dependencies of an impersonal verb is less important, since $\emptyset$ is, by definition, a category of different type than semantic arguments expressed by overt NPs. We arrive at the following conclusions:

- Meillet’s approach (=the nonconfigurational theory) proceeds from the basic assumptions incompatible with MTT. Nevertheless, the notion of zero lexemes is compatible both with MTT and with the non-configurational theory.
- For MTT the analysis in terms of zero lexemes is a necessity. In Meillet’s approach, interpreting the category ‘$\emptyset$’ as a lexeme with its own signified is not obligatory. It is, however, useful, since it allows to distinguish elliptical sentences with vacant subject position from well-formed impersonal sentences with zero subjects.
- In both approaches, zero subjects result from mapping of the two levels of linguistic representation — the level of argument structure and the level of surface syntactic relations. Zero subjects have predictable role-and-reference properties: typically, they have features {- REFERENTIAL} or {+ GENERIC}. Zero subjects in Modern Russian may be described as {- REFERENTIAL, + AGENT} with further sub-classification into {- REFERENTIAL, + HUMAN AGENT}, or {- REFERENTIAL, –HUMAN AGENT}. 

![Fig. 3. Modified version of Meillet's hypothesis](image-url)
There are, however, languages which allow for non-agentive non-referential zero subjects with verbs in the 3d person singular, cf. ORus. глась ∅ слышать-3Sg.

- As far as the MTT account of Russian syntax is concerned, Mel’čuk’s argumentation can be partly challenged. The ‘syntactic’ argument that zero subjects ∅ people and ∅ elements act as predicate controllers is consistent and sufficient by itself, while other considerations provided in (Мельчук 1995) reflect language-specific features of Modern Russian syntax — lexical contrast of ‘impersonal’ and ‘personal’ predicates. Theoretical considerations leave the question open whether analysis in terms of zero lexemes gives a better chance to describe particular languages, or not. The final section of my paper provides more illustrations and discusses several issues in syntax.

2 Sentence patterns without overt subjects

2.1 Ellipsis vs zeros

Zero subjects and ellipsis may coexist, but it is unclear whether hypotheses on zero lexemes must precede hypotheses on ellipsis, or vice versa. This issue is touched upon in the polemics between Mel’čuk (Мельчук, 1995, 211) and Weiss. The latter argues that hypothesis on ellipsis is appropriate where the deleted material is unambiguously recoverable from the context (Weiss, 1995, 207). Mel’čuk’s argumentation implies that he first proves hypotheses on zero lexemes and then treats the remaining examples as ellipsis, if the deletion of wordforms or phrases signals no specific meaning. Weiss probably applies to the reversed procedure: he begins with standard cases of recoverable ellipsis and arrives at examples where the deleted material cannot be recovered at all without changing the meaning. Both polemists concentrate on Modern Russian usage where it is possible to check test examples with informants. For extinct or remote languages Mel’čuk’s position is preferable. It can be reformulated as follows:

(iv) Hypotheses of incompleteness (=ellipsis) can only be applied, when all sentence patterns characteristic of this language are established, and the hypothesis of zero lexemes has already been introduced and verified/falsified.

Unless postulate (iv) is taken, we arrive at arbitrary statements on incompleteness which have little, if any, explanatory force. Actually, if hidden Experiencer is referential and recoverable from the context, sentences X слышать-3Sg гласъ-Асс and гласъ-Асс слышать-3Sg would be synonymous. In this case, and only in this case, one can speak of ellipsis. Otherwise, if hidden Experiencer is not referential and not recoverable, examples like гласъ-Асс слышать-3Sg are complete impersonal structures: in MTT and other formal theories they would be analyzed as structures with zero subjects. The first scholar who ventured at this idea was probably J. Zubáty (Zubáty, 1954, 450-465). Usually, it is quite difficult to decide whether the ‘hidden subject’ is recoverable or not, if a linguist has nothing more than texts in a dead language. Nevertheless, one can come across diagnostic contexts which exclude the possibility of ellipsis:

(6) Ocel. ok ∅ 3Sg sá=3SG hvárigan stafn=ACC.SG frá öðrum=DAT.PREP.PL (Fr. VI, 4) “One could see neither of the stems [on a ship] from the other end”, lit. “and ∅ 3Sg saw neither stem from the other one”.
The ‘hidden Experiencer’, even if a linguist is inclined to assign to it subject properties, cannot be present in two different places at one moment of time (Циммерлинг, 2002, 501).

2.2 Zero subjects and agreement

Mel’čuk mentions in passim that no zero subject may be postulated if the verbal form ‘does not exhibit agreement’ (Мельчук, 1995, 197). This claim is controversial. The elimination of Agent is characterized by similar features in patterns with zero subjects and expletive subjects:

(7) Da. Der blev skiftet ud livligt på begge sider i den 2. halvleg “Both sides [i.e., teams] made a lot of substitutions in the second time of the game”, lit. “There was substituted vividly from both parts in the second time”.

It is not clear whether the absence of verbal agreement is relevant for Danish example (7) where the verb blev has one and the same form with subject NPs both in singular and plural.

2.3 Zero subjects and expletive subjects

In a number of languages sentence patterns with zero subjects were remodeled through the insertion of expletive words (cf. Eng. It, there, Fr. Il, Ge. es, Da. det, der etc.), whereby the expletive words inherited the syntactics of zero subjects (Циммерлинг, 2002, 571-600; 634-664). It is tempting to treat expletives as a kind of ‘materialized zeros’. This assumption is possible for patterns with finite verbal forms in 3Sg, active voice, but examples with infinite verbal forms are dubious: patterns with expletive subjects frequently ban ‘passivization’ of intransitive verbs denoting activity (cf. “COME”, “GO”, “DANCE”) but allow ‘passivization’ of statal verbs (cf. “SEE”). The origin of this constraint is a puzzle, since the same verbal lexemes could earlier passivize with zero subjects within the same diathesis type.

Fig. 4. Zero subjects and expletives in the ‘subjective impersonal’

<table>
<thead>
<tr>
<th>Statal verbs: &quot;Inactivity&quot;/ &quot;Unergativity&quot;</th>
<th>Old Icelandic, {+ Zero Subject, - Expletive Subject}</th>
<th>Danish, Swedish, Norwegian {- Zero Subject, + Expletive Subject}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Var=3SG sofít=SUP lengi. They slept a lot&quot;, lit. &quot;[it] was slept&quot;</td>
<td>No. Det=EXPL blev=3SG sovet=SUP lenge hver morgon. lit.&quot;It was slept a lot every morning&quot;</td>
<td></td>
</tr>
<tr>
<td>Verbs of motion: &quot;Activity&quot;/ &quot;Ergativity&quot;</td>
<td>Var=3SG til dura gengít=SUP. Lit.&quot;[it] was gone to the doors&quot;; Var=3SG komit=SUP snemma lit.&quot;[It] was come early&quot;</td>
<td>No. *Det=EXPL blev=3SG kommet=SUP. lit.&quot;It was come&quot;; *Det=EXPL blev=3SG fart=SUP lit.&quot;It was driven&quot;</td>
</tr>
</tbody>
</table>

3 In (9), the expletive der takes the vacant position of grammatical subject. The sentence pattern Der — Vfin — Sup in Danish describes actions and implies that the deleted Agent has a feature {- GENERIC}, cf. (Циммерлинг, 2002, 646).
This distribution indicates that zero subjects and expletives may have different syntactic properties.

### 2.4 Zero subjects in non-nominative sentence patterns

A problem arises whether zero wordforms/lexemes are case-marked or not. This issue can be checked only in languages, where grammatical subject may take different cases in different sentence patterns and/or different groups of predicates. E.g., in Old Icelandic we find three minor sentences patterns in addition to the standard nominative pattern with the agreeing verb: a) **affective** sentence pattern with an impersonal verb and an oblique subject, b) **stative** sentence pattern with a dative subject and a nominal predicative, c) **pseudo-possessive** sentence pattern with an oblique subject and a nominative object. Old Icelandic has no lexical contrast of ‘personal’ and ‘impersonal’ verbs and conforms to predictions made in the non-configurational approach. The analysis shows that overt subject can be deleted in three sentence patterns with verbs in the active voice. In the derived structures the lexical meaning of the predicate remains unchanged but the deletion of the overt subject signals a reference shift from “+REFERENTIAL” to “-REFERENTIAL” feature: cf. Ocel. Mik=Acc grunar=3Sg “I suspect”, lit. ‘in-me suspect-s’ ⇒ ∅-grunar =3Sg ‘There is a suspicion’, lit. ‘∅-suspect-s’. These facts make the hypothesis of zero subjects appropriate.

We can postulate different zero lexemes, one of them standing in the nominative, the rest in the oblique cases. This step is, however, not necessary, since all the three sentence patterns behave identically with respect to Subject Deletion. A single zero lexeme ∅3m with the interpretation “Non-referential subject” proposed in (Циммерлинг, 2002, 573) seems to be sufficient. On the contrary, Modern Icelandic begs for two zero subjects with different argument properties in two related dative-impersonal sentence patterns:

![Fig. 5. Dative subjects in sentence patterns with finite verbs vs supine](image)

<table>
<thead>
<tr>
<th>&quot;Ergative&quot;: Unintentional Agent, {-CONTROL}</th>
<th>&quot;Dative passive&quot;: {± CONTROL}</th>
</tr>
</thead>
<tbody>
<tr>
<td>** Bátnum**=DAT.SG ∅1-hvolfdi=3SG.PRET &quot;the boat turned over&quot;, lit. &quot;to-the-boat overturned&quot;</td>
<td>** Bátnum**=DAT.SG ∅2-var=3SG.PRET hvolfi=SUP lit. &quot;to-the-boat was overturned&quot;</td>
</tr>
<tr>
<td>* ** Bátnum**=DAT.SG ∅1-hvolfdi=3SG.PRET viljandi *&quot;the boat was overturned by purpose&quot;</td>
<td>* ** Bátnum**=DAT.SG ∅2-var hvolfi=SUP viljandi, lit. &quot;the boat was overturned by purpose&quot;</td>
</tr>
</tbody>
</table>

We may conclude by stating that the MTT account of zero lexemes proves productive for typological studies though some claims made in the initial variant of this theory have to be modified. Zero pronouns occur in the positions, which are considered to be obligatory for some or all syntactic structures. Zero pronominal subjects are usually case-marked but do not

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4 In Russian, the semantic difference, which Modern Icelandic expresses by opposing verbal and participial patterns, is expressed by two verbal patterns with different zero subjects, cf. the ill-formed Rus. лодку-Асс ∅elements–опрокинуло (*умышленно) with the well-formed лодку-Асс ∅people–опрокинули умышленно.
necessarily copy the inflectional features of their overt counterparts. Finally, zero subjects may have role-and-reference properties, different from Modern Russian $∅$ people and $∅$ elements which are non-referential Agents.

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