In this paper, two constructions which have been described in the literature as involving missing/null objects denoting indeterminate humans will be compared with respect to their morphosyntactic and interpretational properties. The discussion will focus on Polish and will show that the relevant similarities and differences between the two constructions can be derived on the assumption that the interpretation of the internal theta role is partially achieved by different means in the two contexts and that there are differences between the constructions as far as the composition of the extended verbal projection is considered.

1. The theoretical and empirical problem

In constructions with missing or null objects, the objects are present in the semantic structure of the construction but absent from its phonological realisation. This is illustrated in (1) and (2), where the missing objects of the verbs *bites* and *leads* are understood as referring to people in general (cf. Levin 1993 and Rizzi 1986, respectively). In (3), the understood object of *ate* refers to any kind of food, the object of *drank* denotes alcoholic drinks, and the object of *smoked* refers to tobacco (cf. Rice 1988):

(1) That dog bites.

(2) This leads to the following conclusion.

(3) Hemingway ate, drank, and smoked too much.

Given the absence of the argument at the level of the sound system and its presence in the semantics, questions arise as to whether such an argument is present in the syntactic component, and if so, how it is best represented. Investigations into these issues rely on applying various types of tests which are taken to diagnose whether an argument is syntactically active or not (e.g., checking for the ability of the argument to participate in anaphoric binding). In theoretical research, looking into the behaviour of missing objects has a bearing on assumptions made with respect to the nature of the lexicon-syntax interface. In particular, to the extent that a missing argument is syntactically inactive, it may be taken to be
saturated in the lexicon and not to be projected syntactically (cf., a.o., Bhatt & Pancheva 2006; Landau 2010; Marelj 2004; Rizzi 1986 for discussion).

The goal of the present paper is to look into two distinct constructions with missing internal arguments denoting indeterminate humans with arbitrary interpretation. The data used in this paper are taken from Polish and English. One of the constructions to be discussed (cf. (4)) involves an active verb (cf. also (1)), while the other (cf. (5)) involves a SE-marked predicate.\(^1\)

(4) Tamten pies gryzie/ atakuje bez ostrzeżenia.

that.NOM dog.NOM bite.3SG.PRES/ attack.3SG.PRES without warning.GEN

‘That dog bites/attacks without warning.’

(5) Ta dziewczynka się przezywa.

this.NOM little.girl.NOM SE call.names.3SG.PRES

‘This little girl calls/is calling people/me/us names.’

The empirical picture of the missing [HUMAN] object constructions is presented further in section 2. The differences between the two constructions suggest differences in derivation. Accordingly, section 3 discusses the analysis of missing objects found with active morphology. I suggest there that this construction is syntactically intransitive and involves the saturation of the internal theta role in the lexicon. Section 4 presents the analysis of missing objects in the context of SE morphology, for which I assume that SE is the realisation of a head in the extended verbal projection which generates an antipassive structure and restricts the interpretation of the lexically-saturated internal theta role of a verb to human individuals. Section 5 concludes the paper.

2. Missing [HUMAN] object constructions in Polish

The two constructions discussed here are: the ‘characteristic property of agent alternation’ (henceforth CPAA; cf. Levin 1993), illustrated in (1) and (4) above and the [HUMAN] object SE construction (henceforth OSEC), illustrated in (5). The properties of the constructions are presented in section 2.1 and 2.2, respectively.

2.1. CPAA

CPAA is usually found with verbs such as bite, butt, itch, kick, pinch, prick, scratch and sting in English (cf. Levin 1993) and, similarly, with verbs such as gryźć ‘bite’, kopać ‘kick’, kąsać ‘bite/sting’ and drapać ‘scratch’ in Polish. Generally speaking, the construction predicates a characteristic property of the subject, whereby the referent of the subject (agent) shows a propensity for the action named by the verb. The object is frequently understood as ‘people’, as illustrated in (1) and (4) above and in the examples in (6)-(9), gathered in a corpus search (NKJP [National Corpus of Polish], Przepiórkowski et al. 2012):

(6) [Context: description of a breed of dogs]

Ten pies nie gryzie, ale jest niezwykle skuteczny przy wykrywaniu narkotyków.
‘This dog doesn’t bite but it is extremely effective in detecting drugs.’ (NKJP)

(7) Także młode koty potrafią drapać.
‘Young cats can scratch as well.’ (NKJP)

(8) [Context: advice for people who want to take up horse riding]

Po trzecie – nie mieć lęku przed zwierzętami, gdyż koń nie kopie i nie gryzie, jeżeli nie robi się mu krzywdy.
‘Thirdly, not to be afraid of animals, as the horse does not kick and does not bite if you do not harm it.’ (NKJP)

(9) [Context: description of a village]

And the rooster pecks (people) as it used to, it’s better to get out of its way.’ (NKJP)

Even though Levin (1993) describes CPAA as involving exclusively [HUMAN] themes, the object in fact need not be human, as shown in (10):

(10) [Context: a documentary about a bear cub with the narrator describing the cub’s encounter with a snake]

Jeśli podejdzie do węża bliżej, to się dowie, że wąż kąsa.
‘If it comes closer to the snake, it will learn that the snake bites.’

In (10), the property of being a biter is predicated of the snake but the theme is not necessarily interpreted as human. Hence, (10) shows that even though CPAA is usually used with [HUMAN] theme arguments, it is not restricted to them. What is more, the missing object in CPAA does not introduce a discourse referent, as illustrated in (11b): 2

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2 Even though, as shown in (11), the missing object cannot be an antecedent to a pronoun, it can be an antecedent to a deadjectival nominal:
(11) a. Tamten pies gryzie ludzi. Po fakcie zwykle
that.NOM dog.NOM bite.3SG.PRES people.ACC after fact usually
wniąć oni właściciela za to, że nie wyszkolił go
blame.3PL.PRES they.NOM owner.GEN for it that not train.Ł.3SG him
dobrze. well
‘That dog bites people. Later on they usually blame the owner for not training it well.’

b. Tamten pies gryzie. # Po fakcie zwykle wniąć
that.NOM dog.NOM bite.3SG.PRES after fact usually blame.3PL.PRES
oni właściciela za to, że nie wyszkolił go dobrze.
they.NOM owner.GEN for it that not train.Ł.3SG him well

Furthermore, the construction is non-eventive and does not allow episodic readings, as shown
in (12):

(12) A: What is happening?
   B: * Ten szczeniak właśnie gryzie!
      this.NOM puppy.NOM just.now bite.3SG.PRES
   Intended: ‘This puppy is biting people just now.’

Sentences instantiating CPAA can be used in the present tense (cf. (4)-(8)), past tense (cf. (9))
as well as in the future tense (cf. (13) below):³

(13) Jeżeli fretka jest dobrze wychowana to nie będzie gryźć aż
if ferret.NOM is well bred then not be.3SG.FUT bite.INF so
tak mocno.
very hard
‘If a ferret is well bred, it will not bite so hard.’ (NKJP)

By contrast, there are restrictions on grammatical aspect in CPAA: while CPAA is compatible
with the imperfective, the perfective aspect is unavailable in CPAA, as illustrated in (14):

(i) a. Tamten pies gryzie ludzi. Zaatakowani zwykle wniąć
that.NOM dog.NOM bite.3SG.PRES people.ACC attacked.3PL usually blame.3PL.PRES
wnąć właściciela za to, że nie wyszkolił go dobrze.
owner.GEN for it that not train.Ł.3SG him well
‘That dog bites people. The attacked usually blame the owner for not training it well.’

b. Tamten pies gryzie. Zaatakowani zwykle wniąć właściciela za to,
that.NOM dog.NOM bite.3SG.PRES attacked.3PL usually blame.3PL.PRES owner.GEN for it
że nie wyszkolił go dobrze.
that not train.Ł.3SG him well

I assume that the nominal in (ib) facilitates a bridging reference.
³ That CPAA is available with future tense verb forms not only in conditionals but also in simple
characterising sentences with future temporal reference is shown in (i):

(i) Ten szczeniak będzie gryzł jak dorośnie.
this.NOM puppy.NOM be.3SG.FUT bite.Ł.3SG.M when grow.up.3SG.PERF
‘This puppy will bite when it grows up.’
The situation is different when the verb is accompanied by a modal, as shown in (15):

(15) Uważaj! Ten pies może ugryźć.
be.careful.2SG this.NOM dog.NOM can.3SG.PRES bite.PERF.INF
‘Be careful! This dog sometimes bites.’

This shows that CPAA is not formally incompatible with perfective verbs and it seems that it is the semantic contribution of the modal which licenses the use of the construction in (15). I assume that the incompatibility of CPAA with perfective verbs in the absence of a modal follows from the clash between the characterising, property reading of CPAA and the semantics of the perfective aspect with verbs such as bite, which quantifies over a particular instance/particular instances of the event denoted by the predicate.

2.2. OSEC

OSEC is found in Polish with a restricted set of verbs, which are characteristic of colloquial/child language (cf. also Rivero & Milojević Sheppard 2003) or language used with reference to activities done by children, as illustrated by the examples in (16)-(18):

(16) [Context: comparing a situation to children’s behaviour in kindergarten]

[...] to już tylko dziecińcza na poziomie przedszkola: ja ci this already just childishness on level kindergarten I you.DAT pokażę, nie, to ja ci pokażę, proszę pani, a on się bije. show.1SG no it I you.DAT show.1SG please lady and he SE hit.3SG
‘[...] this is just some kindergarten childishness now: I will show you, no, I will show YOU, Miss, he is hitting me/us/others.’ (NKJP)

(17) [Context: humorous text; dialogue between Leon XIII and prelate Augustino about excommunicating a hamster; the hamster is personified]

Leon XIII: Ocipiałeś, Augustino, ekskomunikowalesz chomika?!
go.bonkers.2SG Augustino.VOC excomminicated.2SG hamster.ACC
‘Have you gone bonkers, Augustino, you’ve excommunicated a hamster, have you?!’

Prałat Augustino: [...] No bo się przezywał. well because SE called.names.L.3SG
‘It’s because he called me/others names.’ (NKJP)
(18) [Context: rules of behaviour in classroom]

Mówimy do siebie po imieniu; Nie przezywamy się.
'talk.1PL.PRES to self by name not call.names.1PL.PRES SE
‘We call each other by name; we don’t call each other/others names.’ (NKJP)

Both the subject and the object are interpreted as [HUMAN] (or personified). The object is existentially closed with the possibility of the switch to the speaker oriented-perspective by virtue of which it can also be understood as ‘me/us’, even though it is not required that the speaker using OSEC be the undergoer of the action denoted by the verb. Similarly to the object in the CPAA construction, the object in OSEC does not introduce a discourse referent, as shown in (19):

(19) a. Ten mały tyran ciągle kopie inne dzieci.
this.NOM little.NOM bully.NOM always kick.3SG.PRES other.ACC children.ACC
Zwykle potem wracają z siniakami do domu.
Usually later return.3PL.PRES with bruises.INSTR to home_GEN
‘This little bully is always kicking other children. They usually go back home with bruises.’

b. Ten mały tyran się ciągle kopie.
this.NOM little.NOM bully.NOM SE always kick.3SG.PRES
#Zwykle potem wracają z siniakami do domu.
usually later return.3PL.PRES with bruises.INSTR to home_GEN

Regarding other interpretational properties, OSEC is eventive and episodic readings are possible, as illustrated in (16) above and (20):

(20) A: What is happening?
B: Ten chłopak się znów przezywa/ kopie/
this.NOM boy.NOM SE again call.names.3SG.PRES/ kick.3SG.PRES/ push.3SG.PRES
popycha!

‘This boy is calling people/me/us names/kicks/pushes people/me/us again.’

OSEC can be used with the past (cf. (17)), present (cf. (16) and (18)-(20)), and future tense (cf. (21)) but it cannot be used with the perfective aspect (cf. also Rivero 2000), as illustrated in (22), where the only interpretation possible is the reflexive one, reflexives in Polish also being rendered with the morpheme SE:

(21) Ten chłopak na pewno się znów będzie przezywał!
this.NOM boy.NOM on sure SE again be.3SG.FUT call.names.L.3SG
‘This boy will call me/us/others names again for sure.’

(22) Ten chłopak się znów przezwala!
this.NOM boy.NOM SE again call.names.L.PERF.3SG
‘This boy called himself another name again.’

NOT: ‘This boy called people/me/us names again.’
In contrast to CPAA, introducing a modal verb into the structure does not make the (non-reflexive) human object interpretation possible, as shown in (23):

(23) Uważaj! Ten chłopak może się ugrzyźć/ kopnąć!

‘Be careful! This boy can bite/kick himself.’  

NOT: ‘Be careful! This boy bites/kicks others sometimes.’

In sum, the two constructions discussed here differ in that (a) the internal argument in OSEC is interpreted as human, whereas it need not be human in CPAA; (b) CPAA is a characterising construction predicking a property of the subject, whereas OSEC is eventive and can refer to particular instances of the action denoted by the predicate; (c) whereas OSEC can be used only with imperfective verb forms, in CPAA the verb can be perfective on condition that it is used with a modal.4

2.3. The problem of the syntactic projection of the object

The purpose of this section is to determine whether the internal arguments in CPAA and OSEC are projected syntactically. Importantly, the internal argument in OSEC has been assumed to be projected in the syntax in some analyses proposed in the literature but not in others (cf. Marelj 2004; Marelj & Reuland 2012; Rivero 2000; Rivero & Milojević Sheppard 2003; cf. also the discussion in section 4).

For example, Rivero (2000) aims at providing a uniform treatment for the impersonal subject and object SE construction in Polish, analysing the impersonal arguments in both constructions as a SE-anaphor. She shows that there is a syntactically active subject in the former context (a.o., by applying the anaphoric binding test; cf. (24)) and assumes that the same holds of the object in the SE construction:

(24) Teraz się myślę tylko o sobie.

‘Now people think only of themselves.’

On the assumption that anaphoric binding requires the binder to be projected syntactically, (24) provides evidence that the subject in the subject SE construction is indeed represented in the syntax. Similarly to Rivero (2000), Rivero & Milojević Sheppard (2003) analyse OSEC to

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4 Unless the verb is inherently telic, denoting a definite change of state or location (e.g., break, die, arrive), perfective aspect enforces bounded interpretation of its arguments in Polish, e.g.:

(i) a. Sekretarki napisały listy.
   ‘The secretaries wrote some letters/the letters.’
   b. Sekretarki pisaly listy.
   ‘The secretaries wrote letters.’

In (ia), where the verb is perfective, context determines the exact number of the letters written but it is presupposed that there is a specific number of the letters. As revealed by the English translations, the imperfective aspect differs in this respect (cf. (ib)). This interaction between OSEC and aspect seems to support the conclusion reached in the paper that the object in OSEC is not a syntactically-projected NP, even though determining the exact nature of the interaction will be left for future research.
involve a null object argument marked for the accusative case, which implies that the Accusative Indefinite (OSEC here) parallels the Nominative Indefinite in structures like (25) and (26) on their account:

(25) Tutaj się pracuje sporo.
    ‘Here people work a lot.’

(26) Marek się bие.
    ‘Marek fights/hits other people.’

Rivero & Milojević Sheppard (2003) suggest that the human external argument in (25) is represented syntactically as a null pronominal bearing nominative case, whereas the missing human internal argument in (26) is a pronominal bearing the accusative case. However, no evidence is provided for the assumption that the null arguments in the subject (cf. (25)) and the object (cf. (26)) SE construction are indeed the same syntactic object with the only difference being the value of the case feature. Since SE in Polish is found in a range of other constructions, the sole argument from the morphological similarity between the object and subject impersonal SE construction seems insufficient. This is especially important in light of the evidence suggesting that some of the SE constructions in Polish most plausibly do not involve a syntactically active missing argument. One such structure is the anticausative construction, which is incompatible with instrumental phrases and intentional adverbs, as illustrated in (27), suggesting that no agent is present in the syntactic representation of the construction:

    ‘The door opened (*with a key/*intentionally).’

Thus, the similarity of the two constructions discussed in Rivero & Milojević Sheppard (2003) in their use of SE is not a reliable diagnostic for the presence of an argument in the syntax, which presents a challenge as far as their analysis of OSEC is considered.

Generally speaking, evidence for the presence of an object in the syntax in Polish is hard to find due to some independent features of the Polish grammar, including strict subject-orientatedness of anaphors in Polish. However, one diagnostic which can be employed to determine whether an object is present in the syntactic structure is the object comparison test for transitivity from Zec (1985). This test relies on the assumption that for object comparison to be grammatical, a (syntactically) transitive verb is required. The logic behind this diagnostic can be illustrated with its application to the reflexive constructions in English, exemplified in (28)-(30) after Dimitriadis & Que (2009:85):

(28) John hates Bill more than George.
    a. Subject comparison (irrelevant to transitivity)
       John hates Bill more than George hates Bill.
    b. Object comparison
       John hates Bill more than John hates George.
John washes himself more than George.

a. **Subject comparison, strict or sloppy**
   John washes himself more than George washes John/himself.

b. **Object comparison: Shows that** washes himself **is transitive.**
   John washes himself more than he washes George.

John washes more than George.

a. **Subject comparison**
   John washes himself more than George washes himself.

b. **Object comparison: Impossible, showing that** washes **is intransitive.**
   *John washes himself more than he (John) washes George.

Whereas in (28) and (29), where the objects are overtly expressed, the structures are ambiguous between subject and object comparison, in (30), where the object is understood but is absent from the phonological string, the object comparison interpretation is unavailable, which implies that the verb is syntactically intransitive. With this background in mind, the object comparison test can be applied to the two constructions which are the focus of the present paper:

- **(31) a. Ten szczeniak gryzie ludzi mocniej niż this.NOM puppy.NOM bite.3SG.PRES people.ACC more.strongly than meble. furniture.ACC
   ‘This puppy bites people more strongly than it bites furniture.’

   b. *Ten szczeniak gryzie mocniej niż meble.
   this.NOM puppy.NOM bite.3SG.PRES more.strongly than furniture.ACC

- **(32) a. Ten dzieciak kopie wszystkich/ nas częściej niż this.NOM kid.NOM kick.3SG.PRES everyone.ACC/us.ACC more.often than swoje zabawki.
   self’s toys.ACC
   ‘This kid kicks everyone/us more often than he kicks his toys.’

   b. *Ten dzieciak się kopie częściej niż swoje zabawki.
   this.NOM kid.NOM SE kick.3SG.PRES more.often than self’s toys.ACC
   **Intended:** ‘This kid kicks people more often than he kicks his toys.’

The ungrammaticality of (31b) and (32b) shows that the verb in the CPAA construction and in OSEC does not merge with a fully-fledged internal argument and that the structure of the constructions is not parallel to the transitive construction with lexical NP objects.

The diagnostic used above relies on the difference between structures with an overtly realised object on the one hand and structures in which the object is not realised at all. This is why a note on the object comparison test and the phonological status of the object seems to be required; especially as Marelj & Reuland (2012) suggest that object comparison with clitics is ruled out by the need to focus the clitic, this being incompatible with the nature of clitics.\(^5\)

This line of reasoning could potentially constitute an argument against treating the object comparison facts as a reliable diagnostic for the presence of the object in the syntax, as (31b)
and (32b) would be ungrammatical for independent reasons. However, if Marelj & Reuland’s (2012) explanation of the unavailability of object comparison with the reflexive SE construction should be understood as implying that focalisation is incompatible with clitics being phonologically weak and unable to receive stress, it seems that the phonological properties of the clitic could be expected to result in a structure being judged as degraded pragmatically rather than strictly ungrammatical. (33) illustrates that the mismatch between the information carried by the prosodic structure of a sentence and the information structural requirements does not render a sentence ungrammatical but rather that the pronominal clitic is pragmatically inappropriate when the information structure dictates that it be focused:

(33) A: Komu kupiłaś zegarek pod choinkę?
   who.DAT buy.L.3SG.F watch.ACC under christmas.tree.ACC
   ‘For whom did you buy a watch for Christmas?’
B: Zegarek # mu/ bratu/ jemu kupiłam.
   watch.ACC him.CL.DAT/ brother.DAT/ him.PRN.DAT buy.L.3SG.F
   ‘A watch, I bought for him/my brother.’

Example (33) can be compared with (34), which involves the same syntactic structure but a different pragmatic context:

(34) A: Co kupiłaś bratu?
   what.ACC buy.L.3SG.F brother.DAT
   ‘What did you buy for your brother?’
B: Zegarek mu kupiłam.
   watch.ACC him.CL.DAT buy.L.3SG.F
   ‘I bought him a watch.’

Additionally, (35) shows that given appropriate information structural conditions, the phonetically reduced form of a pronoun can be appropriate in the object comparison context:

(35) A: Co myślisz o naszym premierze?
   what think.2SG.PRES about our prime.minister.INSTR
   ‘What do you think about our Prime Minister?’
B: Do wczorajszego skandalu ufalałam mu bardziej niż
   to yesterday.ADJ skandal.GEN trust.L.3SG.F him.CL.DAT more than
   prezydentowi. president.DAT
   ‘Until yesterday’s scandal, I trusted him more than I trusted the president.

The object clitic mu ‘him.CL.DAT’ in (35) does not render the sentence ungrammatical or even pragmatically inappropriate. This shows that Marelj & Reuland’s (2012) suggestion that for the purpose of object comparison the object must be focused is not borne out by the data and hence does not constitute a convincing argument against employing the test in analysing CPAA and OSEC. Given this, I conclude that the contrast between (31a) and (31b) and

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6 Additionally, the following data from the reflexive SE construction in Polish suggest further that SE is not inherently incompatible with object comparison:
between (32a) and (32b) suggests that the verbs in CPAA and OSEC are not syntactically parallel with regular transitive structures.

3. Missing objects and active morphology

The focus of the present section will be on CPAA. The analysis will try to capture both the interpretational properties of the construction (specifically, the interpretive constraint making only the non-eventive reading possible in CPAA and the meaning assigned to the object; cf. section 2.1) and the conclusion drawn in the previous section, namely that the verb is syntactically intransitive in this context.

3.1. The proposal

As far as the extended verbal projection is considered, I will assume here that the $v$ head is the categorising verbal head (cf., e.g., Acquaviva 2009; Embick & Marantz 2006; Embick & Noyer 2007; Panagiotidis 2011 for discussion of categorisers), whereas the Voice head is a transitiviser valuing the accusative case feature in the active variant. The interpretation of the CPAA construction (i.e., the characterising, property reading) follows on the assumption that the extended verbal projection does not introduce event implications. In particular, I propose here that the categorising $v$ head does not contain the event argument in CPAA. That the CPAA construction lacks event implications is indicated further by the incompatibility of the construction with manner adverbs such as *furiously*, as shown in (36), where the grammaticality judgment is provided only for the relevant reading:

(36) *Ten koń wściekle kopie.

Intended: ‘This horse kicks people furiously.’

However, as (37) shows, CPAA is not incompatible with all manner adverbs:

(37) Z czasem kotek zaczął mocno gryźć i

boleśnie drapać.

‘Eventually, the kitten started to bite (people/us/me) hard and scratch (people/us/me) painfully.’

(i) a. Anna myje siebie częściej niż swoją córeczkę.

Anna washes.self more.often than self’s little.daughter.

‘Anna washes herself more often than she washes her little daughter.’

b. ?Anna myje się częściej niż swoją córeczkę.

Anna washes.self more.often than self’s little.daughter.

‘Anna washes herself more often than she washes her little daughter.’

(i) contains the reflexive anaphoric NP *siebie ‘self,ACC’, whereas in (ib) only the SE clitic is present. Even though slightly awkward, (ib) is not ungrammatical, which shows that the object comparison test is appropriate for the SE constructions as well (in (i), in addition to interpretation, the accusative case marking on the NP object shows that the structure involves object and not subject comparison).
This observation can be derived following Katz’s (2008) analysis of manner modification of state verbs, also limited to certain types of modifiers and interpretations. In short, I assume after Katz (2008) that manner modification of state verbs is predicate modification rather than event modification and that it can involve the modification of the degree argument (structurally parallel to the event argument) or is constructed post-syntactically, with event implications arising at a conceptual level of representation. The same holds of CPAA. Postulating that the verbal projection in CPAA lacks a head responsible for event implications makes it possible to derive the interpretation in which the subject is attributed the property of being a biter, scratcher, etc. Thus, CPAA sentences do not denote specific instances of events of biting, scratching, etc.

As far as the morphosyntactic properties of CPAA are concerned, I propose that active morphology on the verb is a reflex of the verbal root entering the syntactic computation in the intransitive frame. In general, I will assume that the distinction in the representation of intransitive and transitive predicates in the computational system can be made employing Chomsky’s (2013) approach to the labelling of syntactic structures, where the labelling algorithm operates guided by minimal search. Hence, the label of a syntactic object composed of a head and a phrase is the head, the label of a structure built with merge of a categorising head and a root is the categorising head, roots being opaque to the labelling algorithm, and instances of structures formed by two phrase-level projections cannot be labelled by the labelling algorithm based on minimal search unless the set can be labelled as $\phi$ (or possibly another feature set shared by XP and YP), which is possible if Agree (Y-XP) has valued the uninterpretable $\phi$-features of Y by features of XP. These assumptions are summarised in (38):

\[(38)\] The labelling procedure (Chomsky 2013)
\begin{enumerate}
\item The label of \{H, XP\} is H.
\item The label of \{categorising head, ROOT\} is categorising head.
\item \{XP, YP\} cannot be labelled by the labelling algorithm based on minimal search.
\end{enumerate}

I propose an extension of Chomsky’s (2013) mechanism to derive one of the differences between intransitive and transitive verbs. In particular, I propose allowing the merger of a categorising head and a root to yield either a head-level or a phrase-level projection. Whether the \{categorising head, ROOT\} complex is treated as a complex head or a phrase in the system depends on the properties encoded in the root. More specifically, if the root is associated with an internal/theme theta role, the complex is treated as a head, whereas if only the external theta role is projected, the complex is a phrasal category. This is why, in the projection of unergative verbs, the \{v, ROOT\} complex is phrasal (no internal theta role is encoded in the root), whereas in the case of transitive verbs, the \{v, ROOT\} complex is a (complex) head (internal theta role is encoded in the root). These assumptions are illustrated in (39), which presents the derivation of the CPAA example:

\[\]
(39) This horse kicks.

In (39), the \{v, \sqrt{\text{KICK}}\} complex projects as a phrase. As the Voice head is absent from the Numeration, the external argument is merged in Spec, v. The problem of accusative case assignment and the issue of the potential violation of the Inverse Case Filter do not arise (cf. Marelj & Reuland 2012 for a discussion of the ICF in the context of SE constructions and further discussion in section 4). While the verb is associated with two arguments as far as interpretation is considered, the patient/theme theta role may be taken to have been saturated in the lexicon along the lines proposed in Marelj (2004) and Rizzi (1986). A lexically saturated argument is assumed to be interpreted as [HUMAN] (cf., e.g., Marelj 2004; Marelj & Reuland 2012; Rizzi 1986). For instance, Rizzi (1986:509) suggests the following lexical rule, where \textit{arb} is taken to be associated with properties such as [+human], [+generic], etc.:

(40) Assign \textit{arb} to the direct \(\Theta\)-role.

Marelj’s (2004) proposal of creating the ARB-role (a theta role (cluster) for which there are no merging instructions within Reinhart’s Theta System (cf., e.g., Reinhart 2002)) by a lexical operation of applying ARB-saturation (variable binding) at LF is the same in effect as Rizzi’s rule in (40). Importantly, on these accounts, the feature [+human] is treated as inherently related to arbitrary interpretation. However, as has been shown above (cf. (10)), CPAA does not necessarily enforce such a reading. Rizzi (1986) discusses the relation between lexical saturation and the interpretation of an argument as [+human] with respect to examples other than CPAA, as illustrated in (41):

(41) This sign cautions (people) against avalanches.

\footnote{The arbitrary PRO is taken to be a standard example of the link between the arbitrary and human interpretation; cf., e.g., (i):
(i) To bark at strangers is good fun. (must be [+human]; (cf. Roberts 2012))
However, Moltmann (2006) shows that arbitrary reading enforces the [CONSCIOUS/SENTIENT] interpretation of the argument rather than exclusively [HUMAN] interpretation; cf. (ii):
(ii) a. PRO\(\text{arb}\), to be a Martian means that one is not susceptible to human disease.
   b. PRO\(\text{arb}\), to be an angel means PRO\(\text{arb}\), to be neither human nor divine.}

(40) Assign \textit{arb} to the direct \(\Theta\)-role.
Yet, it seems that this type of the missing object construction does not enforce the human reading either, as indicated by the data from Polish presented in (43), which employ the same construction as (41) and its Polish equivalent in (42):

(42) Ten znak ostrzega przed lawinami.
    this.NOM sign.NOM caution.3SG.PRES against avalanches.INSTR
    ‘This sign cautions (people) against avalanches.’

(43) [Context: description of the typical patterns of communication of the Alpine Marmot]

Ostry świst ostrzega przed niebezpieczeństwem.
    sharp whistle.NOM caution.3SG.PRES against danger
    ‘A sharp whistle cautions (the other animals) against danger.’

Given the data in (10) and (43), I assume that the human interpretation usually observed with CPAA (and related constructions) is an effect arising at the C-I interface rather than being a direct result of lexical saturation.

4. Missing objects and SE morphology

SE is sometimes referred to as a reflexive clitic (cf., a.o., Medová 2009; Rivero 2000; Rivero & Milojević Sheppard 2003), but it appears in a wide range of contexts, including, apart from the reflexive construction (cf. (44)), also anticausatives (cf. (45)), middles (cf. (46)), and the Involuntary State SE construction (cf. (47)):

(44) Dziewczyna się czesze.
    girl.NOM SE comb.3SG.PRES
    ‘The/a girl combs.’

(45) Waza się zbila.
    vase.NOM SE broke.1SG.F
    ‘The/a vase broke.’

(46) Młode ziemniaki się szybko gotują.
    young potatoes.NOM SE fast boil.3PL.PRES
    ‘New potatoes boil fast.’

(47) Ten chleb ciężko mi się kroiło.
    this.ACC bread.ACC hard me.DAT SE cut.1L.3SG.N
    ‘It was hard for me to cut this bread.’

Comparable facts have been observed in other Slavic languages and in Romance (cf., a.o., Fehrmann et al. 2010; Marelj 2004; Medová 2009). Needless to say, a uniform analysis of the SE contexts would be desirable on parsimony grounds and numerous reductionist proposals have been offered in the literature. For instance, in a recent paper discussing the passives of reflexive and reciprocal verbs in German and Icelandic, Schäfer (2012) argues that the SE reflexives always contain anaphors subject to Binding Principle A, even in the case of
inherently reflexive verbs (i.e., verbs with which SE does not alternate with referential object NPs). The analysis relies on the following assumption, which is taken to account for the grammaticality of the SE reflexives in passive constructions, in which the reflexive lacks an antecedent, there being no external argument in the structure (cf. Schäfer 2012:237):

(48) ‘Some languages can formally repair a violation of Principle A. However, the formally repaired structure is acceptable (i.e., easily interpretable) only if the underlying predicate/event is conceptualized as inherently or naturally reflexive.’

The variable introduced by SE appearing with inherently reflexive verbs is taken to be interpretable at the C-I interface by appeal to conceptual knowledge on the assumption that ‘with inherently reflexive verbs, it is conceptually clear that the anaphor has to depend semantically on the referent acting as external argument’ (Schäfer 2012:244). Given the existence of inherently reflexive verbs such as modlić się ‘pray’, awanturować się ‘(kick up a) row’, and even inherently reflexive ‘weather’ verbs such as wypogadzać się ‘to be clearing up’ in Polish, for which it is difficult to see how the postulated variable taken to be introduced by the morpheme SE could be dependent for its interpretation on the external argument, the account proposed in Schäfer (2012) seems inadequate to capture the SE-related facts of Polish.

Some other existing proposals suggest different treatments of SE:

- SE realises the content of the Voice head (cf., e.g., Labelle’s 2008 analysis of reflexives)
- SE is merged in the position of an argument as an argument expletive (cf. Wood submitted, for an analysis of the morpheme -st in the so-called figure reflexives and anticausatives in Icelandic)
- SE absorbs the offending case feature and can be merged either in an argumental or in a non-argumental position (cf. Marelj 2004; Marelj & Reuland 2012)
- SE is a clitic, which forms a SE-anaphoric chain with a null pronoun in the subject or object position (cf. Rivero & Milojčević Sheppard 2003 for the subject SE construction, OSEC, and the Involuntary State SE construction).

Reviewing all these proposals here is beyond the intended focus. In what follows, I concentrate on OSEC, hoping that the analysis proposed can be extended to capture other uses of SE, if providing a uniform analysis of SE will prove justified not only on theoretical but also on empirical grounds.10

As far as analysing OSEC is concerned, Rivero and Milojčević Sheppard (2003) suggest that this construction involves a null pronominal parallel to the one found with the subject SE impersonals to the exclusion of the value of the case feature. However, as has already been noted in section 2.3, even though the external argument in the impersonal subject SE construction is syntactically active (cf. (24)), there does not seem to be sufficient evidence for postulating a null object pronominal (cf. (32b)). Additionally, there are some suggestive interpretive differences between the arguments in the two constructions. Firstly, the internal argument in OSEC is strictly interpreted as [HUMAN], whereas the external argument in the

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10 For further proposals and discussions of SE-related issues, cf., a.o., Fehrmann et al. (2010); Medová (2009); Svenonius (2006).
subject SE construction comes with the [CONSCIOUS/SENTIENT] restriction rather than with the [HUMAN] restriction, as shown in (49) from Kibort (2004:292):

(49) Gdy się jest bocianem, gniazdo buduje się wysoko.
    when SE is stork.INSTR nest.SG.ACC build.3SG.PRES SE high
    ‘When one is a stork, one builds the nest high up.’

A further difference relates to the quantificational variability of the object and the subject in the two SE constructions under quantificational adverbs. Rivero (2000) and Rivero & Milojević Sheppard (2003) suggest that the arguments in the SE constructions which they discuss bear resemblance to indefinite NPs as far as their semantics is concerned, as their quantificational force can vary depending on the semantics of a quantificational adverb present in the structure (cf. Chierchia 1995b). Rivero & Milojević Sheppard (2003:124) illustrate this point with the subject SE construction in (50), where, depending on the quantificational force of the adverb, the respective sentences with the impersonal subject have similar truth conditions to the sentences whose subjects are the quantified nominal expressions everybody, many people, and few people shown in (51):

(50) a. Jeśli się gra źle, zawsze się przegrywa.
    if SE plays badly always SE loses
    ‘If one plays poorly, one always loses.’

b. Jeśli się gra źle, zazwyczaj się przegrywa.
    if SE plays badly usually SE loses
    ‘If one plays poorly, one usually loses.’

c. Jeśli się gra źle, rzadko się przegrywa.
    if SE plays badly seldom SE loses
    ‘If one plays poorly, one seldom loses.’

(51) a. Everybody who plays poorly loses.
    b. Many people who play poorly lose.
    c. Few people who play poorly lose.

Rivero & Milojević Sheppard (2003) conclude that the quantificational force of the impersonal pronominal in the SE constructions can be supplied by adverbs. They adopt Chierchia’s (1995a) analysis of indefinites, according to which indefinites are composed of bound variables and an existential quantifier. The variability in meaning under quantificational adverbs is derived with the operation of existential disclosure deleting the existential quantifier at LF, thereby making it possible for the indefinite to inherit the force of the adverb. Importantly from the point of view of the present study, the unrealised argument in OSEC does not behave in a parallel manner. Firstly, (52), for which the truth-conditionally equivalent paraphrases are presented in (53), shows that an indefinite in the object position is also sensitive to the force of quantificational adverbs:
(52) a. *Jak ten wykładowca kogoś nie lubi, zawsze go oblewa.*
   ‘If this lecturer doesn’t like someone, he always fails him.’

b. *Jak ten wykładowca kogoś nie lubi, zazwyczaj go oblewa.*
   ‘If this lecturer doesn’t like someone, he usually fails him.’

c. *Jak ten wykładowca kogoś nie lubi, rzadko go oblewa.*
   ‘If this lecturer doesn’t like someone, he seldom fails him.’

(53) a. *This lecturer fails every person whom he doesn’t like.*

b. *This lecturer fails many people whom he doesn’t like.*

c. *This lecturer fails few people whom he doesn’t like.*

On the other hand, the interpretation of the object in OSEC is constant: the object is interpreted as ‘other children’ in all sentences in (54) regardless of the force of the quantificational adverb:¹¹

(54) a. *Jak moja młodsza siostra się kopie, to zawsze się też przezywa.*
   ‘If my younger sister kicks other children, she also always calls them names.’

b. *Jak moja młodsza siostra się kopie, to zazwyczaj się też przezywa.*
   ‘If my younger sister kicks other children, she also usually calls them names.’

c. *Jak moja młodsza siostra się kopie, to rzadko się też przezywa.*
   ‘If my younger sister kicks other children, she seldom calls them names.’

As the internal argument in both clauses in the sentences in (54) is interpreted as existentially closed, these sentences do not have the same truth conditions as the sentences in (55), which should be the case if the impersonal object could be interpreted similarly to the impersonal subject in the subject SE construction, with the quantificational force of the adverb determining the interpretation of the unrealised object:

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¹¹ Judgments are delicate, OSEC being restricted in use.
(55) a. My younger sister calls names all other children whom she kicks.
    b. My younger sister calls names many other children whom she kicks.
    c. My younger sister calls names few other children whom she kicks.

The adverbs in (54) quantify over people-name-calling events but do not bind the internal argument variables. The difference in sensitivity to the presence of a quantificational adverb between the impersonal arguments in the subject and object SE constructions is illustrated further with the sentences in (56), whose truth conditions are similar to the truth conditions of the sentences in (57) and (58), which are not equivalent in their truth conditions to the sentences in (59) and in which the adverbs quantify only over the event variables:

(56) a. Tu się zawsze przezywa swoich przeciwników.
    'People always call their opponents names here.'
    b. Tu się zwykle przezywa swoich przeciwników.
    'People usually call their opponents names here.'
    c. Tu się rzadko przezywa swoich przeciwników.
    'People seldom call their opponents names here.'

(57) a. All people call their opponents names here.
    b. Most people call their opponents names here.
    c. Few people call their opponents names here.

(58) a. Mój mały brat zawsze się przezywa w przedszkolu.
    'My little brother always calls other children names in kindergarten.'
    b. Mój mały brat zazwyczaj się przezywa w przedszkolu.
    'My little brother usually calls other children names in kindergarten.'
    c. Mój mały brat rzadko się przezywa w przedszkolu.
    'My little brother seldom calls other children names in kindergarten.'

(59) a. My little brother calls all other children names in kindergarten.
    b. My little brother calls most other children names in kindergarten.
    c. My little brother calls few other children names in kindergarten.

This difference in the interpretational properties of the two SE constructions provides further evidence that the missing argument in the subject SE construction and in OSEC is not constituted by the same feature set, contra Rivero (2000) and Rivero & Milojević Sheppard (2003).

Importantly, the data in (50)-(59) show that the internal argument in OSEC does not pattern with indefinites. However, this argument does not seem to pattern with definites, either. Quantificational variability similar to the one found with indefinites under quantificational adverbs is triggered with plural (non-kind) definites with operators such as ‘for the most part’, as discusses in Malamud (2013), who suggests that, as far as semantics is
concerned, heterogeneous analysis of arbitrary pronouns is required, as some of them pattern
with (plural non-kind) definites and others with indefinites. As shown in (60) and (62),
respectively, the plural definite as well as the arbitrary third person plural pronoun in one of
the impersonal subject constructions available in Polish are influenced by the presence of the
operator ‘for the most part’ (cf. (61) and (63), which are possible interpretations of (60) and
(62)). However, (64), which is ungrammatical and does not have the same truth conditions as
(65), shows that the same does not hold of the impersonal object in OSEC:

(60) Mój mały brat w przeważającej części nie lubi tych klaunów.
‘My little brother doesn’t like these clowns for the most part.’

(61) My little brother doesn’t like most of these clowns.

(62) W tym przedszkolu w przeważającej części nie znoszą klaunów.
‘In this kindergarten kids for the most part can’t bear clowns.’

(63) Most kids in this kindergarten can’t bear clowns.

(64)*W tym przedszkolu mój mały brat w przeważającej części się przezywa.
‘My little brother calls kids names in this kindergarten for the most part.’

(65) My little brother calls most kids names in this kindergarten.

The lack of parallelism between (60) and (62) on the one hand and (64) on the other reveals
that quantifiers over parts do not yield the same effect with the impersonal object in OSEC as
they do with the plural definite and the impersonal third person plural subject. Hence, the
argument under discussion here cannot be grouped together with ordinary definites or
indefinites. This suggests that the object cannot be represented in the syntax with a category
which could be translated into or could contain a variable able to be bound by the
quantificational elements of either one or the other type, in parallel to the impersonal SE
subject or the impersonal third person subject.

An analysis which could potentially capture these facts of the object SE construction is
offered in Marellj (2004) (cf. also Marellj & Reuland 2012). Details aside, Marellj takes the
construction to be derived by applying the lexical operation of arbitrarisation, i.e., saturation
of the internal theta role in the lexicon in some languages and at LF in others, which is taken
to result in the [HUMAN] interpretation of the object. For the Slavic languages, which
employ SE, it is suggested that arity operations apply in the syntax, which means that the
operation of arbitrarisation applies to a variable at LF. In Marellj & Reuland’s (2012)
development of the analysis, which aims at providing a cross-linguistically more uniform
mechanism, lexical saturation always applies pre-syntactically but in languages employing SE
it has no effect on the ability of the verb to assign accusative case. Under the assumption that
the Inverse Case Filter, which requires that the case feature of a head be assigned/checked, is operative, SE is analysed as case-absorbing/checking morphology, whose role is to absorb/check the residue case feature, which would otherwise lead to the crash of the derivation (cf. also Reinhart & Siloni 2005). The derivation of OSEC is taken in Marelj (2004) to be parallel to the derivation of null objects in English discussed in Rizzi (1986). Yet, examples from Polish, which are modelled after Rizzi’s English examples, involve active verbal morphology and the interpretation of the object is not necessarily restricted to humans (cf. (42) and (43)). Assuming parallel derivation of both types of missing object constructions makes it difficult to explain the interpretational difference (the object in OSEC is necessarily [HUMAN]) and the difference at the level of morphology, which would make it necessary to stipulate that saturation in Polish ‘deletes’ the case feature in some cases but not in others.

Another fact of Polish which seems to pose problems for Marelj’s (2004) and Marelj & Reuland’s (2012) proposal relates to the assumption that the function of SE is to absorb the case feature. The relevant data involve nominalisations with the prefix samo- ‘self-’. Marelj & Reuland (2012) show that the languages which have prefixed verbs with morphemes such as samo- or auto- (e.g., Serbo-Croatian, French, and Italian) use SE even though, as they argue, the predicate is reflexivised by the prefix. This supports the analysis of SE as a case absorber rather than a reflexiviser. However, a samo-prefix nominalised verb appears with its internal argument in the genitive still accompanied by SE, as illustrated in (66):

(66) a. samo-wyniszczanie się organizmu/ ludzi/ przedsiębiorstw
    self-destruction SE organism.GEN/ people.GEN/ businesses.GEN
    ‘the self-destruction of an/the organism/people/businesses’

b. samo-odnawianie się komórek macierzystych/ przyrody
    self-renewal SE stem cells.GEN/ nature.GEN
    ‘the self-renewal of stem cells/nature’

Importantly, in the nominal projection in Polish, only one argument can receive structural genitive case-marking (cf. Willim 2000) and no other structural case is available even in nominals derived from verbs:

(67) wyniszczać organizm → wyniszczanie * organizm/ organizmu
    destroy.INF organism.ACC destruction organism.ACC/ organism.GEN

Example (67) shows that it cannot be assumed that SE absorbs structural case in (66). As samo-prefix nominalisations take genitive arguments in the presence of SE, it is difficult to explain the presence of SE in (66) in terms of case absorption, SE being compatible with a structural case-marked argument.

4.2. The proposal

As discussed above, while CPAA is non-eventive and involves an internal argument which need not denote humans, OSEC is eventive and its internal argument is human. To capture the difference between CPAA and OSEC in terms of event implications present in the latter but not the former construction, I propose that the eventive nature of OSEC follows from the presence of the event argument on the categorising v head, as opposed to what has been assumed for CPAA.
As suggested by the object comparison test, OSEC is structurally intransitive. Following Marel (2004), I assume that SE flags arity reduction but I suggest that, rather than serving the purpose of case absorption, the marker SE can be considered a realisation of one type of the Voice head or a functional head similar to the Voice head, marked in what follows as $V_F$ (i.e. a functional head in the extended verbal projection). The $V_F$ head affects the realisation of the internal argument, which is not linked to a syntactic position in OSEC, hence generating an antipassive structure. In OSEC, the verbal root is intransitivised and the action denoted by the verb is focused. In contrast to CPAA structures, in which the interpretation of the internal argument is determined exclusively at the C-I interface, SE restricts the range of possible interpretations of the patient/theme in OSEC. In particular, the $V_F$ head realised as SE comes with the [HUMAN] restriction in OSEC, which limits the possible denotation of the internal argument to human individuals.\footnote{I assume that SE comes with the [HUMAN] restriction optionally, as not all constructions marked with SE require the unrealised argument to be interpreted as [HUMAN]. When SE bears this feature and when the internal argument is suppressed, OSEC is generated.}

These assumptions are illustrated in (68):

(68) Ten smarkacz się kopię.
    this.NOM brat.NOM SE kick.3SG.PRES
    ‘This brat kicks others.’

On the analysis suggested here, the missing object in OSEC is taken to be represented only semantically, yet the derivation differs from what has been proposed for CPAA, as supported by morphological and interpretational differences between the constructions. In OSEC, SE generates an antipassive structure and the feature [HUMAN] contributes the condition \textit{human}(x) on the interpretation of the internal argument. The exact interpretation is specified further on in discourse, with the denotation of the human internal argument limited, for instance, to ‘me/us’ or ‘other children’, as guided by the context of a specific utterance.

5. Conclusions

The goal of this contribution has been to propose an account of certain cases of missing objects. Two constructions which have previously been taken in the literature to involve null
objects with human interpretation have been considered. In the analysis developed here, I have suggested that CPAA arises in the absence of the event argument, whereas in OSEC this argument is present. For the CPAA construction I have proposed that the internal theta role is saturated in the lexicon (and appropriately interpreted at C-I) and that, contra suggestions made in the literature, the interpretation of such objects is not inherently related to the feature [HUMAN]. OSEC likewise involves lexical saturation of the internal theta role, but the feature [HUMAN] on SE introduces an additional condition on the interpretation of the internal argument. I have suggested that the morpheme SE is the realisation of a head within the extended verbal projection which generates an antipassive structure. As indicated by the Polish data, SE is not intrinsically linked to structural case absorption (contra Marell 2004, Marell & Reuland 2012). Importantly, both CPAA and OSEC are structures that involve an arity reduction, but in the former context it is not flagged with SE in Polish, a language in which SE is taken to flag arity operations.

**Acknowledgements**

I am grateful to the audience of ConSOLE XXI (Potsdam, January 9-11, 2013) for helpful comments and discussion.

This research was supported by Narodowe Centrum Nauki [Polish National Science Centre], grant 2011/03/N/HS2/01004.

Marta Ruda  
Jagiellonian University in Krakow  
marta.ruda@uj.edu.pl

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