Object encoding in spoken language data and antipassives

SILVIA BALLARÈ[1], CATERINA MAURI[1], ANDREA SANSÒ[2]

[1]ALMA MATER STUDIORUM - UNIVERSITY OF BOLOGNA

[2]UNIVERSITY OF SALERNO

Abstract

This paper investigates object deletion in spoken Italian as a strategy for backgrounding the patient argument, drawing a parallel with antipassive (AP) constructions in a cross-linguistic perspective. Although Italian lacks a dedicated morphological AP, we examine whether the semantic and discourse-related factors known to condition AP derivation, such as agent affectedness, telicity, and contextual accessibility, also shape patterns of object realization in spontaneous discourse. Based on a corpus-driven analysis of 1.500 occurrences of 15 transitive verbs from the KIParla corpus, we combine a conditional inference tree and a random forest with a mixed-effects logistic regression model to assess the relative contribution of semantic, syntactic, and discourse-pragmatic predictors, while controlling for lexical variability. The results show that object deletion in Italian is primarily governed by contextual accessibility, which emerges as the strongest and most robust predictor across modelling techniques. Agent affectedness further modulates realization preferences, facilitating object deletion in event types that foreground changes in or consequences for the agent. By contrast, the other predictors do not exert independent effects once accessibility and lexical differences are taken into account. Overall, the findings highlight the importance of spoken data for a discourse-sensitive typology of argument realization.

Keywords: antipassive; object deletion; spoken data; Italian; contextual accessibility.

1. Introduction: definition, research questions and objectives

Antipassives (APs)[1] are a type of grammatical construction found in many languages, characterized by the demotion or omission of the patient of a transitive clause. There are two primary definitions of APs, one narrow and one broad. Under a narrow definition (e.g. Dixon & Aikhenvald 2000: 9), in APs the patient is either omitted or marked as a non-core argument, using a different case or an adpositional phrase, and explicit morphological marking on the verb is required. This results in a derived intransitive clause where the verb remains linked to the original transitive meaning but with reduced or no emphasis on the patient. Consider (1):

(1)   Chukchi (ckt; Chukotko-Kamchatkan, Chukotian; Dunn 1999: 200)

a.   *ʔaatcek-a   piri-nin   roolqəl*
      youth-ERG   take-3SG.A > 3SG.OBJ food.3SG.ABS
      'The youth took the food.' (transitive)
b.   *ʔaatcek   **ine**-piri-ɣʔi*
      youth.3SG.ABS   AP-take-TH.3SG.SBJ
      'The youth took (something) / the youth won the prize. (idiomatic interpretation)' (AP)

In (1a), the patient appears in the absolutive form, which is used in Chukchi to mark objects in transitive constructions, while the agent takes the ergative suffix *-a*. In (1b), the patient is omitted, and the sole remaining argument, the agent, is in the absolutive case, as is typical for intransitive subjects. Moreover, the verb is marked with the AP prefix *ine-*.

Broader definitions (e.g., Polinsky 2013) also encompass constructions in which the patient is demoted to a non-core argument or a non-argument position, regardless of whether the verb carries any morphological marking. In Kalkatungu transitive constructions, the agent and the patient appear in the ergative and absolutive case, respectively, as exemplified in (2a). Another possibility is that the agent appears in the absolutive case, while the patient is either demoted to the dative case or deleted,

---

[1] The paper is the result of a continuous collaboration between the authors. Andrea Sansò is responsible for Section 1, Silvia Ballarè is responsible for Section 2 and Caterina Mauri is responsible for section 3, while the three authors are jointly responsible for Section 4.

with the verb remaining unmarked, as shown in (2b). The construction in (2b) can be considered as an AP construction under a broader definition of AP:

(2) Kalkatungu (ktg; Pama-Nyungan, Kalkatungic; Blake 1982: 86)

a. *ṭuka-yu*   *tuar*   *ityayi*
   dog-ERG   snake.ABS bite
   'The dog bites/bit the snake.'
b. *ṭuku*   *tuar-ku*   *ityayi*
   dog.ABS   snake-DAT bite
   'The dog is biting the snake.'

Another controversial issue concerns the existence of APs in non-ergative languages. In accusative languages, constructions that superficially resemble those in (2) can indeed be found; however, in such languages the demotion or omission of the patient does not result in a change in the flagging of the sole remaining argument, namely the agent (Janic 2021: 261).

(3) Italian (ita; Indo-European, Romance; personal knowledge)

a. *Marco*   *ha*   *mangiato*   *gli*   *spaghetti*
   Marco   AUX eat:PST.PTCP DEF.PL   spaghetti:PL
   'Marco ate spaghetti.'
b. *Marco*   *ha*   *mangiato*
   Marco   AUX eat:PST.PTCP
   'Marco ate.'

A construction like (3b) is typically not labelled as AP in grammatical descriptions; instead, it is discussed as a case of object deletion construction. However, both APs and object deletion constructions tend to occur in the same or very similar pragmatic and discourse contexts—for example, to deemphasize the patient, highlight the action or agent, or signal that the object is irrelevant or non-specific. As Cooreman (1994: 51) puts it, both types of constructions reflect "a certain degree of difficulty in recognizing an effect resulting from an activity by A[gent] on an identifiable

O[bject]". In many languages, in fact, object deletion constructions constitute the only available strategy for backgrounding the patient.

In nearly half of the languages that exhibit APs, this construction is lexically restricted, meaning APs can only occur with a subset of transitive verbs (Heaton 2017; Polinsky 2017; Sansò 2017, 2018; Say 2021). For example, Heaton (2017) found that out of 134 languages with APs, 46 had fully productive APs (34,33%), 57 had partially productive APs (42,54%), and 31 had unproductive APs (23,13%). Polinsky (2013) reported similar rates of non-productive or partially productive APs in her analysis of WALS data, with around 40% falling into these categories. This raises an important question: do the lexical restrictions on APs correlate with similar tendencies characterizing object deletion constructions in accusative languages?

To address this question, this article explores the hypothesis that the lexical restrictions observed in APs across languages correlate with patterns of object deletion in spoken Italian. Specifically, we will examine (a) whether the syntactic, semantic, and pragmatic factors identified in the typological literature as relevant to AP derivation also influence object deletion in spoken Italian, and (b) whether these factors are equally important or can be ranked according to their influence. To understand the relationship between object deletion constructions and APs, it is crucial to consider tendencies observed in spoken language. Many typological studies on APs rely on elicited or non-spontaneous data, which may not fully capture the patterns emerging in natural discourse. Spontaneous speech may reveal grammatical tendencies that may remain unnoticed in controlled environments, particularly regarding constructions influenced by discourse structure and interaction. If object deletion follows patterns similar to those found in APs across languages, investigating spoken data could shed light on the functional motivations of these tendencies, refining our understanding of APs across languages.

As already discussed, Italian lacks a productive AP construction in the strict sense, and the most common strategy used when the patient is irrelevant, non-specific, or must be omitted for any other reasons connected to pragmatics of information structure is object deletion, making it an intriguing case for exploring the intersection of object deletion and APs. However, before analyzing spoken Italian data, it is essential to summarize what is known about lexical restrictions on APs across languages and to explain why Italian was chosen as a test case for this investigation. These tasks will be addressed in the following sections.

1.1. The productivity of APs: lexical and syntactic restrictions

One of the key findings in typological studies of APs is that their productivity can vary significantly across languages. As mentioned earlier, only 34,33% of the APs in Polinsky's (2013) sample are fully productive. For example, in Tolowa, there is a non-productive AP limited to three verbs. The meanings of the derived APs in (4a) and (4b) are somewhat lexicalized, whereas the verb meaning 'to eat' maintains the same meaning when the AP prefix *ch'ee-* is present:

(4)   Tolowa (tol; Athabaskan-Eyak-Tlingit, Athabaskan; Givón & Bommelyn 2000: 53-54)

a.   *'u-sh-d-t'e'sr*   >   *ch'ee-d-t'e'sr*
     TH-1SG-D-tattoo   AP-D-tattoo
     'I am tattooing him/her.'   'S/he is writing.'
b.   *'u-sh-shush*   >   *ch'ee-shush*
     TH-1SG-sip   AP-sip
     'I am sipping it'.   'S/he is drinking alcohol.'
c.   *ch'ee-sh-q̓*
     AP-1SG-eat
     'I am eating.'

In Bezhta (kap; Nakh-Daghestanian, Tsezic; Khalilova & Comrie 2013), only 4 verbs out of the 83 verbs included in the ValPal database regularly participate in the AP/ergative alternation. As an example of a language with a productive AP, we can look at Kuku Yalanji, where the AP "is used productively for what may be called a 'generalised action' […], not discrete and […] performed on some general or 'non-individuated' object" (Patz 2002: 152):

(5)   Kuku Yalanji (gvn; Pama-Nyungan, Yimidhirr-Yalanjic-Yidinic; Patz 2002: 153)

a.   *yinya   karrkay   kaya-nda   kuni-n-kuni-ji-y*
     that.ABS   child.ABS   dog-LOC.PT   hit-N-RED-AP-NPST
     'That little one is hitting all the dogs (around here).'

b.   *barna   dunga-ny   bunjurri-ji-ny*
     Aborigine.ABS   go-PST   throw.spit/curse-AP-PST
     'The Aborigine went and threw curses everywhere.'

c.   *jalbu   wukay-rnba   nubi-nubi-ji-y*
     woman.ABS   yam-LOC   search.for-RED-AP-NPST
     'The woman is looking around for yam.'

The lexical restrictions on APs do not appear to be random. Heaton (2017) observed that in several languages, APs occur only with certain verb types, particularly those that are not highly transitive. Sapién et al. (2021) analyzed natural data from Cariban languages and identified three event types in which APs are more likely to appear: (i) routine processes where the agent performs an activity with a predictable and relatively insignificant patient (e.g. *eat, cut, paddle, cook*, etc.), (ii) cognitive events where the agent is the experiencer and the patient is the stimulus (e.g. *hear, understand*, etc.), and (iii) speech events where the agent produces speech and the patient represents what is said (e.g. *command, ask, tell*, etc.). In these cases, the missing patient can even be specific and identifiable (e.g., visible in the stimulus video), but it is simply not encoded in the verbal description (Sapién et al. 2021: 82).

The most comprehensive effort to identify the semantic properties of verbs that more readily favour AP derivation is by Say (2021). Say (2021) argues that the following semantic properties are strongly correlated with a verb's likelihood of appearing in the AP construction:

a)   Agentivity of the agent: The subject is typically animate, volitional, and in control of the action.

b)   Specification of the agent's manner: Some APs are associated with verbs that lexically encode the manner of action (e.g., *thresh* vs. *beat*).

c)   Inherent atelicity: APs are more often found with verbs where telicity is determined by the incremental nature of the object (e.g., *eat* vs. *kill*).

d)   Narrow class of potential patients: APs tend to occur more frequently with verbs that semantically select a limited class of patients (e.g., *eat* vs. *create*).

e)   Affectedness of the agent: In some APs, the agent is not only the causer but also the endpoint, experiencing a significant change in state (e.g., *eat, drink, hear*).

Say (2021: 185) considers properties a)-e) as "contributing factors that determine the degree to which an individual verb is likely to behave as a natural antipassive." Natural APs are intended as a fuzzy category comprising verbs that are more likely to allow for AP derivation, similar to how verbs like *kiss* and *meet* can be considered natural reciprocals.

Another factor influencing the distribution of APs is finiteness. Some languages allow APs only with non-finite verb forms (e.g., Ch'ol, see Coon 2013; Mandinka, see Creissels 2012, 2015). Consider the following example from Mandinka:

(6) Mandinka (mnk; Mande, Western Mande; Creissels 2015: 240)

a. *ŋ*   *ŋá*   *mus-óo*   *tuu-ri-tôo*   *jé*
    1SG   COMP.POS   woman-DEF   pound-AP-SIMULT   see
    'I saw the woman pounding.'
b. *mus-óo*   *be*   *tuu-r-óo*   *la*
    woman-DEF   COP   pound-AP-DEF   OBL
    'The woman is pounding.' (lit: 'The woman is at the pounding.')

The AP formative *-ri* in Mandinka is used only when the verb is in a non-finite form that expresses temporal simultaneity, as in (6a), or when it is used nominally, as in (6b).

Do the factors identified by Say (2021) and the finiteness of the verb also affect the likelihood of object deletion? We will address this question by analyzing naturally occurring data from a sample of spoken Italian, a language that lacks a morphological AP. Before we delve into this analysis, it is important to provide a brief overview of object deletion in Italian, which will be covered in the next section.

1.2. Object deletion in Italian

In Italian, only a small set of verbs exhibit an AP marked by the reflexive clitic *si*. These include pairs such as *ricordare* vs. *ricordarsi* 'remember', *lamentare* vs. *lamentarsi* 'complain', and *vantare* vs. *vantarsi* 'boast'. The reflexive-marked AP permits both object deletion, as illustrated in (7b), and object demotion, as in (7c), where the patient is realized as an oblique argument in a *di*-headed prepositional phrase:

(7) Italian

a. *mi   scusi   mi   scusi   le   sto*
    1SG.OBJ excuse:SBJV.2SG 1SG.OBJ excuse:SBJV.2SG to.you[HON] AUX.PROG:1SG
    *chiedendo   solo la   signora **lamenta**   dolore da   qualche*
    ask:GER   only ART.F   lady   experience:3SG pain   at   some
    altra   parte
    other   part
    'Excuse me, excuse me, I am only asking if the lady experiences pain somewhere
    else.' (KIParla, KPS001)

b. *mio fratello **si   lamenta**   sempre*
    my   brother REFL   complain:3SG   always
    'My brother is always complaining.' (KIParla, PBB024)

c. *lascio   perdere quella st~ storia   perché   lei   **si   lamenta di***
    let:1SG lose:INF that   st~ story   because   she   REFL complain of
    questa storia
    this   story
    'I leave that stuff alone because she complains about this stuff' (KIParla, KPS003)

Transitive verbs other than those illustrated in (7a–c) only permit deletion of the
object, as illustrated in (7d–e):

(7) Italian

d. *caro   rossi,   **beve**   un po' di   grappa?*
    dear   R.   drink:3SG[HON] a   bit of   grappa
    'Dear Rossi, do you drink some grappa?' (KIParla, PTB026)

e. *c'   è   gente che   **beve**   per   strada magari*
    there   be.3SG people REL   drink:3SG through   road   possibly
    che   fa   un po' di   rumore   diciamo
    REL   make.3SG a   bit of   noise   so.to.speak
    'There are people drinking in the street, maybe making a bit of noise let's say.'
    (KIParla, PBA020)

In the pattern illustrated in (7d–e) with *bere* 'to drink', the intransitive form in (7e)
constitutes a case of agent-preserving lability, or ambitransitivity, in Dixon's (1994:

54 and passim) terms. Under this type of lability, both the transitive and intransitive uses of the verb retain an agentive argument. By contrast, in patient-preserving lability, both uses of the labile verb involve a patientive argument, as in *I broke the stick* vs. *The stick broke*. When the object is deleted, some transitive verbs may also develop a more specific, lexicalized interpretation (e.g. *bere* 'to drink alcohol'), a point to which we return below.

The phenomenon of object deletion in Italian has been investigated mostly within the generative tradition, where it has been treated as a structural issue rather than a purely pragmatic one. A central reference is Rizzi (1986), who argues that Italian allows syntactically represented null objects (pro) with arbitrary interpretation. His key argument is that deleted objects in Italian are syntactically active: for instance, they can control PRO and bind anaphors, a possibility that is systematically excluded in English. This contrast is explained through a parametric difference in the licensing of pro in object position. An important exception to this predominantly generative line of analysis is Cennamo (2017), who approaches object deletion from a semantic and pragmatic perspective. In particular, Cennamo (2017) argues that object deletion is not primarily syntactic, but depends on how arguments are licensed in the verb's event structure template and on the semantic content of the verb root. Objects licensed only as root participants, i.e. lexically entailed by the verbal root itself, are more easily deleted than event structure participants: for example, activity and consumption verbs such as *mangiare* 'eat' or *scrivere* 'write' allow object deletion, whereas achievements like *rompere* 'break' do not, unless used metaphorically (e.g. when *rompere* means 'be annoying'). Object deletion is also sensitive to aspectual boundedness (e.g. imperfective contexts favor deletion), animacy and definiteness of the object, and the agentivity of the subject: *uccidere* 'kill' allows object deletion more easily than the verb *assassinare* 'assassinate', whose subject is more agentive. Cennamo furthermore adopts the distinction between Indefinite and Definite Null Instantiation (Fillmore 1986), showing that the two phenomena are subject to different constraints. Indefinite Null Instantiation displays relatively stable cross-linguistic patterns and typically involves non-referential or weakly specified objects, as with activity and consumption verbs such as *mangiare* 'eat' or *bere* 'drink'. Definite Null Instantiation, by contrast, involves referential objects whose identity must be recoverable from the linguistic or situational context, as in anaphoric sequences (*Ho ascoltato la proposta e poi ho rifiutato* 'I listened to the proposal and then I refused (it)') or in imperatives (*Prendi!*, 'take (it)!'). This latter type in Italian is strongly

conditioned by discourse-pragmatic factors such as topicality and accessibility rather than by verb semantics alone.

The semantic and pragmatic parameters identified by Cennamo (2017) as favoring object deletion in Italian largely overlap with those considered in the present study. In particular, *object predictability* corresponds to the notion of *root participant,* i.e. an argument licensed by the lexical semantics of the verb rather than by its event-structural template. *Contextual accessibility* of the object provides a systematic account of object *recoverability from the linguistic or situational context,* as required in cases of Cennamo's (2017) Definite and Indefinite Null Instantiation. Moreover, *inherent atelicity* is one of the parameters already highlighted by Cennamo (2017) as facilitating object deletion, insofar as it shifts the focus from the affected participant to the event itself. To these factors, the present analysis adds the parameters of *verbal finiteness* and *agent affectedness,* which have not been systematically addressed in previous accounts. The innovative contribution of this study lies in the fact that these parameters are weighed according to their relative importance on the basis of a corpus of naturally occurring data, which has been annotated and quantitatively analyzed. Indeed, only a quantitative approach can provide a reliable basis for assessing the relative contribution of the different factors affecting object deletion in Italian.

In light of this background, the article aims to address the following research questions:

(i)   What factors govern the alternation between the two possibilities exemplified in (7d-e) in spoken Italian?

(ii)   Do the factors identified as relevant for APs across languages also influence object deletion in ambitransitive pairs in languages without an AP construction?

(iii)   Are these factors of equal importance, or can they be ranked in terms of their influence?

By analyzing how these factors interact in naturally occurring spoken data, this study will enhance our understanding of the relationship between APs and object deletion constructions, and of how the latter can offer insights into the mechanisms that shape the use of APs in languages where such constructions exist. The findings will show that typological tendencies are deeply rooted in language use, and much of the cross-linguistic diversity can be meaningfully explained by combining large-scale typological surveys with the analysis of naturally occurring data in languages where this is feasible.

The article is structured as follows. Section 2 provides a brief overview of the data and methods used in this study. Section 3 discusses the factors identified as relevant to the likelihood of AP derivation across languages and presents a statistical analysis of their relative impact on the possibility of object deletion in spoken Italian. Section 4 offers some concluding remarks and considers the broader implications of the study.

2. Data and methods

The analysis is based on data extracted from two modules of the KIParla corpus (Mauri et al. 2019, 2.328.209 tokens), a recently developed resource for the study of spoken Italian. The KIParla corpus has a modular and incremental structure, comprising several internally organized subcorpora.[2]

For this study, the first two modules of the corpus (i.e., KIP and ParlaTO) were analyzed. These modules include data collected across different interactional contexts, involving a diverse range of speakers. More specifically, the KIP module contains recordings made in Bologna and Turin within university settings, including various types of interactions such as professor/student exchanges (lectures, office hours, and exams) and student/student interactions (semi-structured interviews and informal conversations). The ParlaTO module, by contrast, contains semi-structured interviews conducted in Turin with speakers representing a wide range of social backgrounds (e.g., age group, education level, profession). These interactional contexts can be classified according to the degree of power asymmetry between speakers. From this perspective, lectures, exams, and office hours involve clear asymmetry—characterized by more formal exchanges—whereas semi-structured interviews and free conversations tend to reflect a higher degree of symmetry, resulting in more informal interactions.

In order to create a dataset for the present study, a list of all transitive verbs attested in the corpus was extracted, excluding modal and auxiliary verbs. Once the frequency list was obtained, 4 frequency classes were identified, and 4 verbs were selected for each of them (see Table 1).

All occurrences of each verb were extracted and randomized. Then, the occurrences were manually cleaned by eliminating:

- Infinitive forms occurring as subject or direct object;

---

[2] The resource is freely accessible via the NoSketch Engine platform (www.kiparla.it).

- Passive and reflexive forms;
- Cases in which the direct object coincided with a complement clause;
- Cases in which a form of the verb was employed as a discourse marker (e.g. *guarda* 'look!' or *senti* 'listen!').

Frequency (f) class *(based on n. of occurrences)*	Verb	Number of occurrences
A f ≥ 1.000	*capire* 'to understand'	1.471
	prendere 'to take'	1.383
	trovare 'to find'	1.281
	guardare 'to watch'	1.051
B 1.000 > f ≥ 700	*sentire* 'to hear'	976
	scrivere 'to write'	923
	chiamare 'to call'	906
	conoscere 'to know'	716
C 700 > f ≥ 400	*cercare* 'to search for'	584
	leggere 'to read'	485
	finire 'to finish'	481
	studiare 'to study'	471
D 400 > f ≥ 100	*mangiare* 'to eat'	384
	aprire 'to open'	275
	creare 'to create'	204
	bere 'to drink'	113

Table 1: Frequency list.

This preliminary work on the data led us to exclude occurrences of the verb *finire* 'to finish' because they were strongly context-dependent: in most cases, the verb occurred in interviews in which the interviewer reassured the interviewee with a fixed construction that the interview was about to end, as in (8).

(8) KIParla (PTA006)

    TOR001: va bene, segui   il calcio?
        alright   follow:2SG   the football
        'Okay, are you interested in football?'
    TOI006: sì
        yes
        'Yes'

> TOR001: *abbiamo*   *quasi*   *finito*
>   AUX:1PL   almost   finish:PST.PTCP
>   'We are almost done'
> TOI006: *lo*   *seguo […]* *molto*   *attivamente* *il*   *calcio*
>   OBJ   follow:1SG   very   actively   the   football
>   'I am very interested in football'

The final dataset consists of the first hundred clean occurrences of each verb, for a total of 15 headwords and 1.500 occurrences. Then, each occurrence was manually annotated according to a series of linguistic predictors.

The dependent variable in the analysis is object realization, which has three possible values: zero, pronoun and noun phrase. Table 2 reports the frequencies.

Object realization		Absolute frequencies	Normalized frequencies
zero		331	22,1%
pronoun		308	20,5%
noun phrase		861	57,4%
	Tot.	1.500	100%

Table 2: Object realization - frequencies.

Table 3 reports the distribution of values related to the realization (or non-realization) of the object and the verb lemmas in the dataset (listed in alphabetical order). Only absolute values are reported, as 100 occurrences were considered for each lemma.

Verbs	Object realization			Tot.
	zero	pronoun	NP	
aprire 'to open'	21	15	64	100
bere 'to drink'	48	6	46	100
capire 'to understand'	44	17	39	100
cercare 'to search for'	17	16	67	100
chiamare 'to call'	7	53	40	100
conoscere 'to know'	3	31	66	100
creare 'to create'	4	4	92	100
guardare 'to watch'	17	27	56	100
leggere 'to read'	25	27	48	100
mangiare 'to eat'	42	18	40	100
prendere 'to take'	3	25	72	100

Verbs	Object realization			
	zero	**pronoun**	**NP**	**Tot.**
scrivere 'to write'	25	14	61	100
sentire 'to hear'	10	25	65	100
studiare 'to study'	61	6	33	100
trovare 'to find'	4	24	72	100
Tot.	331	308	861	1500

Table 3: Verb lemmas - frequencies.

Then, taking into account factors that in the literature are considered to be relevant to the realization of the object (see Section 1), we considered semantic, syntactic and discourse-pragmatic predictors.

The semantic predictors are lexeme dependent:

o Inherent atelicity of the verb: this predictor has two values, yes (e.g. *bere*, 'to drink'), and no (e.g. *sentire*, 'to hear'). The frequencies are reported in Table 4.

Inherent atelicity	Absolute frequencies	Normalized frequencies
yes	800	53,3%
no	700	46,7%
Tot.	1.500	100%

Table 4: Inherent atelicity - frequencies.

o Agent affectedness: depending on the way in which the A-argument may be affected, we distinguish between physical affectedness (e.g. *mangiare*, 'to eat'), cognitive affectedness (e.g. *capire*, 'to understand), and no affectedness at all (e.g. *scrivere*, 'to write'). The observed frequencies are reported in Table 5.

Agent affectedness	Absolute frequencies	Normalized frequencies
physical	200	13,3%
cognitive	400	26,7%
no	900	60,0%
Tot.	1.500	100%

Table 5: Agent affectedness - frequencies.

o Object predictability: depending on the specific semantic feature of the object that may be predictable on the basis of the verb semantics, we distinguish

between predictable animacy (e.g. *aprire,* 'to open' > inanimate objects), predictable semantic field (e.g. *mangiare,* 'to eat' > food), no predictability (e.g. *guardare,* 'to watch' > anything); frequencies are reported in Table 6.

Object predictability	Absolute frequencies	Normalized frequencies
animacy	200	13,3%
semantic field	600	40,0%
no	700	46,7%
Tot.	1.500	100%

Table 6: Object predictability - frequencies.

Table 7 shows the annotation of the lexemes included in our dataset, ordered on the basis of their absolute frequencies in the corpus, for the three semantic predictors of inherent telicity, agent affectedness and object predictability:

Verb	Inherent atelicity	Agent affectedness	Object predictability
capire 'to understand'	no	cognitive	no
prendere 'to take'	no	no	no
trovare 'to find'	no	no	no
guardare 'to watch'	yes	no	no
sentire 'to hear'	no	no	semantic field (sounds)
scrivere 'to write'	yes	no	semantic field (texts)
chiamare 'to call'	no	no	no
conoscere 'to know'	yes	cognitive	no
cercare 'to search for'	yes	no	no
leggere 'to read'	yes	cognitive	semantic field (texts)
studiare 'to study'	yes	cognitive	semantic field (subjects)
mangiare 'to eat'	yes	physical	semantic field (food)
aprire 'to open'	no	no	animacy (inanimate)
creare 'to create'	no	no	animacy (inanimate)
bere 'to drink'	yes	physical	semantic field (liquids)

Table 6. Annotation of the verbs in the dataset, based on the three semantic predictors of Inherent atelicity, Agent affectedness and Object predictability.

The syntactic predictor concerns the finiteness of the verb form. It may have two possible values: finite (conditional, imperative, indicative and subjunctive), non-finite

(gerundive and infinitive). The frequencies observed for this parameter are reported in Table 8.

Finiteness	Absolute frequencies	Normalized frequencies
finite	1.266	84,4%
non-finite	234	15,6%
Tot.	1.500	100%

Table 8: Finiteness - frequencies.

At the discourse level, we considered object contextual accessibility: taking into account the immediately preceding context ($\cong$ 100 words before), we distinguish between mention (the object has been explicitly mentioned in the preceding discourse, as in (9)), inference (the object is not mentioned, but is inferable from the preceding co-text, as in (10)), not-accessible (the object is not accessible in the preceding context, cf. Chafe 1994). Frequencies are reported in Table 9.

Object accessibility	Absolute frequencies	Normalized frequencies
mention	644	42,9%
inference	215	14,3%
not-accessible	641	42,7%
Tot.	1.500	100%

Table 9: Object contextual accessibility - frequencies.

In (9), the object of drink (i.e. *una birra,* 'a beer') is explicitly mentioned by TOI67, whereas in (10) the object of drink (*acqua,* 'water') is never mentioned but is inferable from the frame of swimming, activated in the previous turns.

(9) KIParla (PTA005)

TOR001: *cioè   volete   **una birra**?*
        I.mean want:2PL *a   beer*
        'I mean, do you want a beer?'

TOI005: *no, se la   vuoi   aprire   **la   bevo**   poi*
        no   if 3SG.OBJ want:2SG open:INF 3SG.OBJ drink:1SG later
        'No, if you want to open it, I will drink it later'

TOR001: *a questo punto*
     at this point
     'At this stage'

TOI005: *già che ci siamo*
     already COMP LOC be:1PL
     'Since we are here'

TOR001: xxx *scusa?*
       sorry
     'xxx sorry?'

TOR002: *eh*?
     ??
     'What?'

TOR001: *dico, siam qua **beviamoci** una birra*
     I.mean be:1PL here drink:1PL:REFL a beer
     'I mean, since we are here, let us have a beer'

(10) KIParla (TOD2010)

TO046 *non ho mai imparato a nuotare in stile libero*
     not have:1SG ever learn:PST.PTCP to swim:INF in style free
     'I have never learned to swim freestyle'

TO055 *ma come non hai mai impara~ è il primo*
     but how not have.2SG ever learn:PST.PTCP be.3SG the first
     stile che si impara
     style REL REFL learn:3SG
     'But how come you've never lear— it's the first style one learns'

TO046: *non ho mai imparato*
     not have:1SG ever learn:PST.PTCP
     'I've never learned'

TO046: *ma avevo fatto i corsi da bambino come tutti*
     but have:IPFV.1SG do:PST.PTCP the courses as child like all
     'But I had taken swimming classes as a child, like everyone'

TO046: *però non ho mai imparato*
     however not have:1SG ever learn:PST.PTCP
     'however I never learned'

TO046: *ho   dei   problemi   a respirare   perché   faccio   due*
have:1SG some   problems to breathe:INF because   do:1SG   two

bracciate   e   poi   emergo   e   poi   emergo   male
strokes   and   then surface:1SG and   then surface:1SG   badly

*e   quindi **bevo   acqua***
and   so   drink:1SG   water

'I have trouble breathing because I do two strokes and then I surface, and then I surface badly, and so I swallow water'

After the annotation, in order to verify the impact of the different linguistic factors on object realization, a statistical analysis was conducted using a conditional inference tree and random forest (Levshina 2015). A conditional inference tree is a decision tree that selects splitting variables, which partition data by recursively applying hypothesis tests, ensuring statistically sound splits. This results in a model that is both interpretable and robust against biased variable selection. A random forest consists of an ensemble of conditional inference trees to improve prediction accuracy and model stability. Each tree in the forest is trained on a random subset of the data, and random feature selection is applied at each split. By aggregating diverse trees, random forests reduce variance and are less prone to overfitting compared to single trees. They are recommended in cases in which there are few linguistic occurrences and many predictors, and they can work with unbalanced data (for a thorough discussion see Tagliamonte & Baayen 2012 and Levshina 2015: 291-300). Furthermore, conditional inference trees and random forests can effectively handle factors interactions without requiring you to specify them explicitly, as they naturally capture interactions between variables by splitting the data at different levels.

Finally, we opted to complement these approaches with a mixed-effects logistic regression, since inference tree and random forest offer limited inferential transparency with respect to the direction, magnitude and statistical significance of individual predictors. A mixed-effects logistic regression allows for a more explicit hypothesis-driven assessment of fixed effects, while simultaneously accounting for structured random variability in the data. In particular, the inclusion of random effects makes it possible to control for lexical dependencies. This modelling strategy thus combines the exploratory strengths of machine-learning approaches with the inferential rigor required for theory-driven analysis.

The whole analysis was conducted using R and made use of the following packages: readxl, party, Hmisc and lme4.

3. Results: assessing the factors at play

This section is devoted to the analysis of the data.

As a first step, we examine the joint distribution of two parameters, namely the realization and the accessibility of the object (see Figure 1), since we hypothesize a strong relationship between these two dimensions.
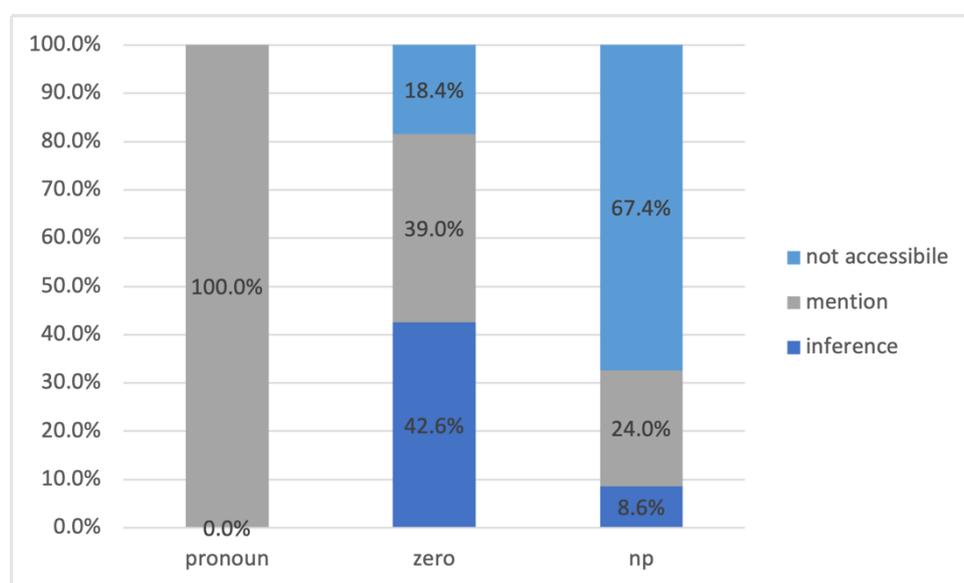

Figure 1: Object-realization and accessibility

As shown in the figure, object deletion (*zero*) is most frequent when the object has been mentioned in the preceding co-text (39%) or is inferable (42.6%). By contrast, when the object is not accessible, it is predominantly realized as a full NP (67.4%). Both *zero* and NP realizations are not restricted to a single accessibility condition: each of them is attested across all values of contextual accessibility, albeit with different distributions. This contrasts with pronouns, which show no such variability: when the object is realized pronominally, it is categorically mentioned in the preceding co-text.

This pattern is illustrated in example (11). *Una tua attività* 'your own business' functions as the object of both *hai* 'you have' and *aprire* 'to open': it is first overtly introduced and subsequently referred to by the clitic pronoun *la*, attached to *aprire*.

(11) KIParla (PTA001)

TOI001: *e poi eh tutto dipende uno cosa vuole fare nella vita*
         and then eh all depend:3SG one what want:3SG do:INF in:DEF life
         'and then ehm it all depends on what one wants to do in life'
         eh se hai   una tua attività **aprir-la**   *qua o*
         eh if have:2SG INDEF your activity open-3SG.OBJ here or
         aprir-la   all'estero
         open-3SG.OBJ abroad
         'eh, if you have your own business, to **open it** here or open it abroad…'

For this reason, occurrences in which P is realized through a pronoun were excluded from the quantitative analysis. The dataset considered therefore consists of 1.192 occurrences.

3.1. Conditional inference tree

Figure 2 shows the conditional inference tree of object deletion, resulted by the statistical analysis conducted on our dataset. The c-index of the model is 0,87 and thus has excellent discrimination (Hosmer & Lemeshow 2000: 162).

The first parameter that proves to be significant in splitting the data into internally homogeneous subsets is object contextual accessibility (node 1). When the object is not accessible in the preceding context, the model identifies affectedness as the next most significant factor (node 2). In particular, when the agent is not affected, the object is almost invariably realized overtly (node 5). Zero realization is instead possible for non-accessible objects with verbs involving some degree of agent affectedness. If the agent is affected at the physical level (as with *mangiare* 'eat' and *bere* 'drink'), the object shows a greater tendency to be deleted even in the absence of prior contextual accessibility (node 3, ca. 40% of the occurrences).

Example (12) provides a case in point: the object of *abbiamo sempre mangiato* 'we have always eaten' is not accessible in the preceding context, but it is any case deleted. The verb 'to eat' is indeed relevant in the discourse context for how it affected the agent with positive consequences (i.e. nourishment and survival), rather than for the specific properties of the patient.
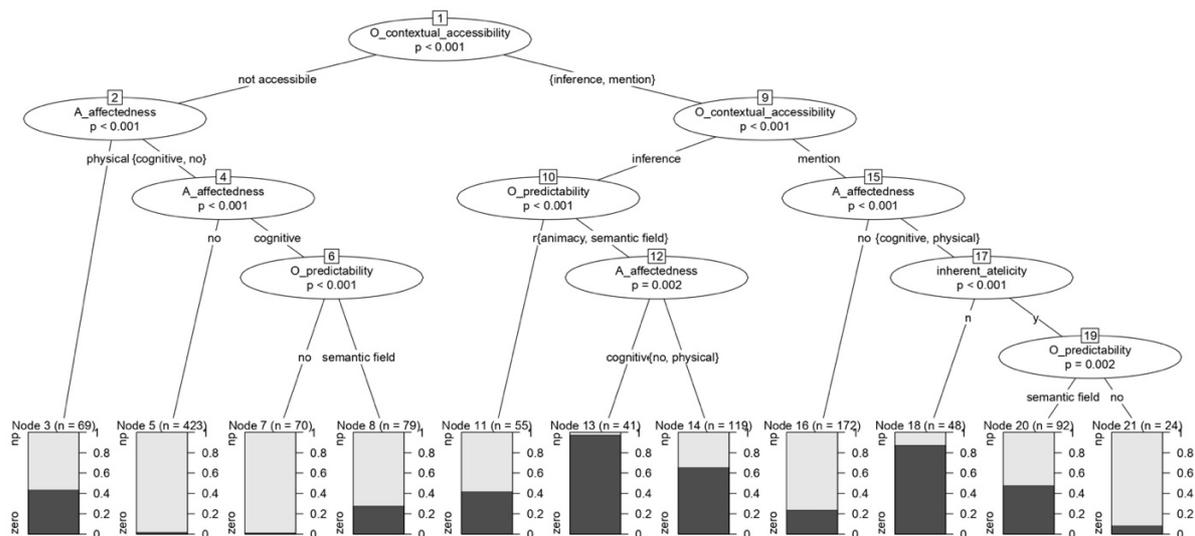
Figure 2: Conditional Inference tree.

Actually, the identification of the specific foods that were eaten is irrelevant and even problematic, given the plurality of specific events of eating being referred to (cf. the use of the adverb *sempre* 'always').

(12) KIParla (PTB018)

TOI056:	[…] *quindi*	*io*	*n~*	*non*	*mi*	*vergogno*		*di*	*dire*
	so	I		NEG	REFL	be.ashamed:1SG		of	say:INF

'[…] So I am not ashamed in saying (that) '

no~	***abbiamo***	***sempre***	***mangiato***	*diciamo*
1PL	AUX:1PL	always	eat:PST.PTCP	let's.say

'We have always eaten, let's say'

eh	*ci*	*è*	*sempre*	*stato*	*il*
eh	LOC	AUX.3SG	always	be:PST.PTCP	DEF

'There has always been the'

l'	*indispensabile in casa*	*però*	*periodi*	*difficili*	*ce*	*ne*
DEF	indispensable at home	but	moment:PL	difficult:PL	LOC	PART

sono	*stati*
AUX.3PL	be:PTCP.PST

'The indispensable at home, but difficult moments we had a few'

The tendency to delete non-accessible objects is reduced when the agent is only cognitively affected. Within this latter group, object predictability (node 6) further refines the distribution, showing that zero realization of non-accessible objects is admitted when they are highly predictable, as they belong to a semantic field required by the verb's lexical semantics (node 8).

By contrast, when the object is accessible in the preceding context, the tree reveals a more articulated structure. If accessibility is achieved through inference alone, object predictability comes into play (node 10): when no semantic feature of the object can be predicted from the verb's lexical semantics, the object is more frequently realized as a full noun phrase; conversely, when the verb constrains the object's animacy or semantic field, deletion becomes more likely, even though affectedness still plays a role (node 12).

When the object is accessible because it has been overtly mentioned in the preceding context, affectedness again emerges as a significant discriminator (node 15), while inherent atelicity (node 17) and object predictability (node 19) further modulate realization preferences.

Overall, the inference tree shows that object realization is governed by a complex interplay between contextual accessibility and verb semantics, especially with respect to agent affectedness and the semantic constraints that make the object's animacy or semantic field predictable. Contextual accessibility constitutes the primary organizing principle: objects that are not accessible in the preceding context tend to be realized by means of full NPs, while deletion becomes increasingly available as accessibility and semantic predictability increase. Examples (13) and (14) may help us understand the mechanisms at work.

(13) KIParla (BOD2014)

BO115: *cioè   se ha   bisogno di parlare robe   così*
        I.mean if have:3SG   need   of talk   things   so
        'I mean, if he needs to talk or stuff like that'
        glie-lo   dico   sempre
        3SG.DAT-3M.SG.OBJ   tell:1SG always
        'I always tell him'
        scrivimi   *se hai   bisogno*
        write:1.SG.DAT   if have:2SG   need
        '«Write to me if you need»'

però	*non*	*l'*	*ha*	*mai*	*fatto*	*capito*
but	NEG	3SG.OBJ	AUX:3SG	never	do:PST.PTCP	you.know

'But he never did it, you know'

In this free conversation between friends, the object of *scrivere* is easily inferable from context: it can be a message, a text, or a similar informal way of contacting a person on the phone to fix an appointment or to talk about problems. In this case, there is clear focus on the relation between the agent and the recipient, while the specific P-argument is not relevant. In example (14), on the other hand, the context is office hours, and the student is discussing some issues with the professor. In this case too, the relevant arguments are the beneficiary and the agent, while the patient is easily accessible from the context and does not need to be syntactically encoded. The object of *scrivere* in this example cannot be an informal message on the phone, but it is necessarily an email, namely, the only object that could be written to the Student Office.

(14) KIParla (BOA1018)

BO082:	*okay*	*ma*	*l'*	*ufficio*	*didattico*	*o*	*la*	*segreteria*	*studenti?*
	okay	but	DEF	office	teaching	or	DEF	secretariat	student.PL

'Okay, but the Teaching Office or the Students Office?

BO085:	*okay*	*io*	***ho***	***scritto***	*a*	*entrambi*
	okay	I	AUX:1SG	write:PST.PTCP	to	both

'Okay, I wrote to both'

The object is thus frequently inferred from the specific speech situation. For instance, when two university students are engaged in a casual conversation, their use of *cercare* 'to look for' is likely to refer to searching for housing, *trovare* 'to find' typically relates to job hunting, and *scrivere* 'to write' most often refers to sending short messages on the phone, as in (13). As a result, explicitly specifying the object of verbs like 'look for', 'find', and 'write' can become unnecessarily redundant, and the object is simply deleted.

In some cases, accessibility arises when the discourse context activates a culture-specific frame, such as nightlife or moving to a new city: the object is perceived by

interlocutors as obvious, leading to a shift in focus from the object to the activity itself. We also observe instances of semantic specialization (cf. Wilson 2003) resulting from repeated use within specific frames. For example, in the frame of a night out with friends (as in *movida* in example (15)), *bere* ∅ 'drink ∅' comes to denote the act of 'drinking alcohol', whereas in the context of a medical check-up, it may refer instead to water and proper hydration.

(15) KIParla (PTA003)

TOI003: *ma   parli   di <u>movida</u>?*
        but   talk:2SG   of movida
        'Are you talking about <u>nightlife</u>?'

TOR001: *sì,   di Torino*
        yes   of Turin
        'Yes, of Turin'

TOI003: *di <u>movida</u>?*
        of nightlife
        '<u>Nightlife</u>?'

TOR001: *mh mh*
        mh mh
        'Mh mh'

TOI003: *allora sicuramente piazza vittorio per   **bere***
        then   definitely   Piazza Vittorio to   drink:INF
        'Then definitely Piazza Vittorio for **a drink**'

Interestingly, some of the examples of APs discussed in the literature point to similar phenomena. Example (1b) from Chukchi (cf. Section 1) shows that the AP form of 'take' is narrowed to the specialized reading 'taking/winning a prize', based on a culture-specific frame that makes the object realization unnecessary. Example (4b) from Tolowa (see Section 1.1) provides an instance of the AP form of 'drink' that specializes as 'drink alcohol', likely as a consequence of a repeated frame in which the object of drinking is obvious and thus easily deleted, as in (15).

3.2. Random forest

Figure 3 shows the predictors considered in the analysis and their relative importance in influencing object realization (C index = 0.88, excellent discrimination, see Hosmer & Lemeshow 2000: 162).
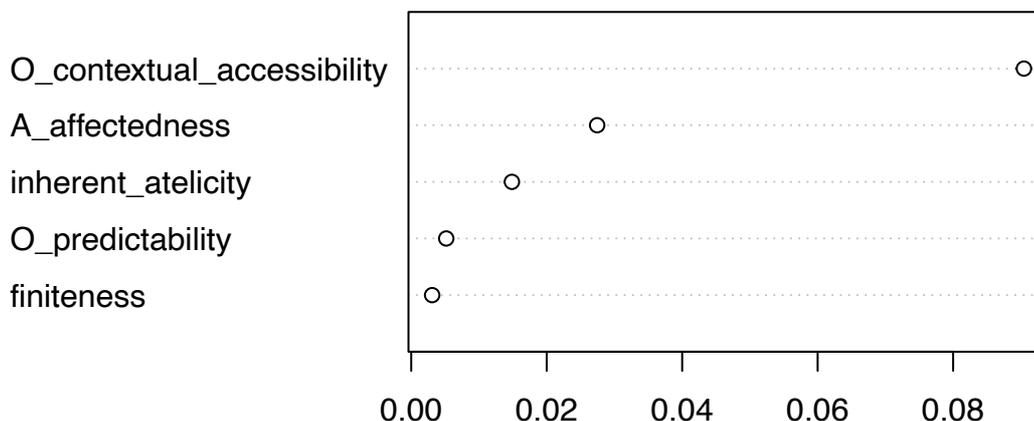

Figure 3: Random forest.

A comparison with Figure 1 reveals a high degree of correspondence: : predictors that emerged as relevant in the inference tree also rank high in the random forest.

The most important predictor for object realization is object CONTEXTUAL ACCESSIBILITY. Its distribution is reported in Table 10, which provides both absolute frequencies and percentages. The association between contextual accessibility and object realization is statistically significant (χ^2 = 278,6375, p value < 0,00001).

CONTEXTUAL ACCESSIBILITY	Zero	NP
inference	141 (42,6%)	74 (8,6%)
mention	129 (39,0%)	207 (24,0%)
not-accessible	61 (18,4%)	580 (67,4%)
tot	1.171 (100%)	329 (100%)

Table 10. Contextual accessibility and object realization.

The distribution shows that the object is most frequently realized as a full NP when it is not accessible in the preceding discourse (67,4%), less often when it has been overtly mentioned in previous context (24,0%) or is accessible by inference alone (8,6%). A complementary pattern is observed for zero realization, which is predominantly attested when the object is accessible in the preceding context, either

through inference (42,6%) or via prior mention (39,0%), and only marginally when the object is not accessible (18,4%).

The second most important parameter is AGENT AFFECTEDNESS, whose distribution is reported in Table 11. This distribution is likewise statistically significant (χ^2 = 131,0982, p value < 0,00001).

AGENT AFFECTEDNESS	Zero	NP
physical	86 (27,2%)	90 (10,0%)
cognitive	186 (40,2%)	133 (21,6%)
no	589 (32,6%)	108 (68,4%)
tot	861 (100%)	331 (100%)

Table 11. Agent affectedness and object realization.

The data reveal systematic differences between the two realization types. Zero objects are more frequently associated with affected agents, particularly in the cognitive category (40,2%), while approximately one third of the occurrences involves verbs with no agent affectedness (32,6%). Objects realized as full noun phrases, by contrast, occur predominantly with verbs involving no agent affectedness (68,4%), and only marginally with cognitively (21,6%) or physically (10%) affected agents. These patterns suggest an association between higher degrees of agent affectedness and zero object realization, while overt realization by a full NP is favored when the agent is not affected.

Corpus data thus support the view that object deletion is often a consequence of the reduced relevance of the P-argument with respect to the A-argument and to the activity itself: when the agent undergoes a change in state and coincides with the activity endpoint, explicit identification of the patient becomes less necessary in discourse.

The third predictor in the random forest ranking is INHERENT_ATELICITY (Fisher exact test statistic value is < 0,0001, the result is significant at p >0,01): object deletion is favored in actions that do not imply a specific endpoint, but whose telicity is determined by the incremental nature of the object (see Section 1.1). In such cases, the discourse focus readily shifts from the patient to the action itself. As shown in Table 12, 71,9% of zero-object occurrences involve atelic predicates, while realized-object cases are more evenly distributed across telic and atelic verbs.

INHERENT ATELICITY	Zero	NP
yes	238 (71,9%)	417 (48,4%)
no	93 (28,1%)	444 (51,6%)
tot	331 (100%)	861 (100%)

Table 12. Inherent atelicity and object realization.

3.3. Logistic regression

The logistic regression yielded similar results, while also highlighting some additional aspects. A generalized linear mixed-effects model with a binomial link function was fitted to predict OBJECT REALIZATION. To account for lexical variability, random intercepts for the verb lexeme were included. Unfortunately, we could not include speakers as a random effect; future studies may address this aspect. The model was estimated using maximum likelihood with Laplace approximation.

The model yields an AIC of 1070,4 and a log-likelihood of -525,2, based on 1.283 observations and 15 lexical types. The random-effects structure reveals substantial variability across verb lexemes: the random intercept for LEXEME shows a variance of 0,623 (SD = 0,790), indicating meaningful differences in baseline probabilities of object realization across verbs. Figure 4 illustrates the distribution of NP and zero object realizations across verb lemmas (see Table 3 for the complete picture).

Turning to the fixed effects, the intercept is negative and statistically significant (Estimate = −1,692, SE = 0,773, z = −2,189, p = 0,0286), corresponding to a low baseline probability of object realization for the reference levels of all predictors.

INHERENT ATELICITY does not exert a reliable effect once other predictors are controlled for (Estimate = −0,109, SE = 0,572, z = −0,190, p = 0,849). Similarly, predictors related to OBJECT PREDICTABILITY do not reach statistical significance, both for lack of predictability (Estimate = 0,960, SE = 0,662, z = 1.450, p = 0.147) and for semantic-field predictability (Estimate = 0,099, SE = 0.806, z = 0.123, p = 0.902). FINITENESS also shows no significant effect: non-finite clauses show a positive but non-significant tendency toward higher object realization (Estimate = 0,286, SE = 0,218, z = 1,312, p = 0,189).
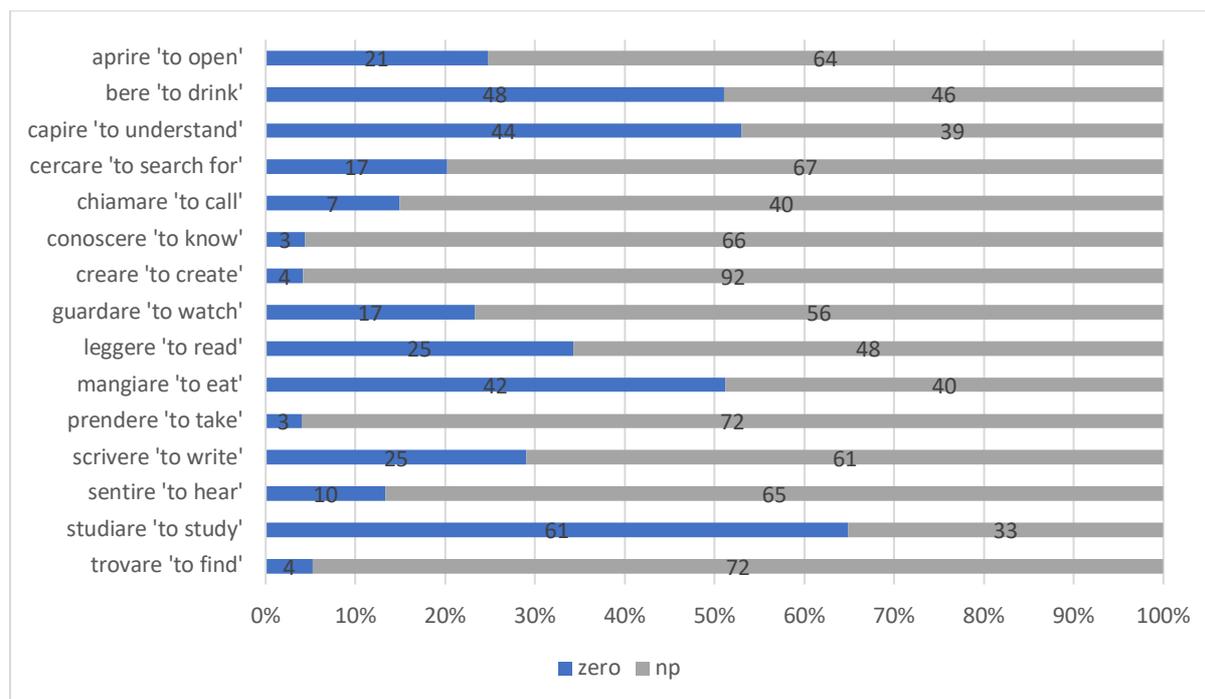
Figure 4. Lexical variability in object realization

By contrast, AGENT AFFECTEDNESS shows a significant effect: the absence of affectedness significantly increases the likelihood of overt object realization relative to the reference level (Estimate = 1m213, SE = 0,569, z = 2,131, p = 0,033), corresponding to a substantial increase in the odds of realization. Physical affectedness does not differ significantly from the baseline (Estimate = 0.059, SE = 0.777, z = 0.076, p = 0.940), indicating no systematic effect. OBJECT CONTEXTUAL ACCESSIBILITY emerges as the strongest predictor in the model. Objects that are accessible (by mention or inference) are significantly less likely to be realized overtly (Estimate = 1,238, SE = 0,202, z = 6.127, p < 0.001). An even larger effect is observed for non-accessible objects, which show a dramatic increase in the log-odds of realization (Estimate = 3,089, SE = 0,214, z = 14,428, p < 0.001). Crucially, these effects remain robust even after accounting for random variation across lexemes.

Overall, the mixed-effects analysis confirms the central role of discourse-level factors, most notably object contextual accessibility, in predicting object realization. At the same time, it shows that aspectual properties, object predictability, and finiteness do not contribute significantly once lexical differences and accessibility are taken into account. The inclusion of random intercepts for verb lexeme further demonstrates that object realization is sensitive to both discourse constraints and item-specific baseline tendencies.

4. Conclusions and future prospects

This study has investigated object deletion in spoken Italian as a discourse strategy for backgrounding the patient argument, and has assessed to what extent the factors that typological studies have identified for AP constructions also shape object deletion in a language without dedicated AP morphology. Using naturally occurring corpus data and a combination of interpretable and predictive modelling techniques (conditional inference tree, random forest, and mixed-effects logistic regression), we have shown that object realization in Italian is governed by a complex interplay of discourse accessibility and verb-related constraints, alongside substantial lexeme-specific variability.

A first robust result concerns the primacy of object contextual accessibility. Across modelling approaches, accessibility emerges as the strongest predictor of whether the object is overtly realized or deleted. When the object is not accessible in the preceding discourse, overt realization as a full NP becomes the default option; conversely, deletion is favored when the object is already available in the common ground, either because it has been mentioned or because it can be inferred from the ongoing discourse. This finding matters for typology because contextual accessibility is rarely operationalized in cross-linguistic work on APs, yet it provides a principled account of when demoting or omitting the patient becomes discourse-economical.

Second, agent affectedness plays a systematic role in shaping object realization preferences, although its contribution is best understood as modulatory rather than categorical. In the inference tree, affectedness refines the distribution especially when the object is not contextually accessible, making deletion more available with verbs that involve some degree of agent affectedness (notably consumption predicates), while strongly disfavoring deletion when the agent is not affected. The mixed-effects model corroborates this general asymmetry by showing that the absence of affectedness increases the odds of overt object realization. Taken together, these results support the idea that patient backgrounding is facilitated when the event structure foregrounds changes in, or consequences for, the agent rather than outcomes for the patient.

Third, while inherent atelicity and object predictability emerge as relevant dimensions in the tree/forest analyses, they do not yield reliable independent effects in the mixed-effects model once contextual accessibility and lexical variability are

taken into account. This suggests that their contribution is largely indirect: they may matter insofar as they co-occur with particular verb classes, interactional routines, and discourse settings that make objects easier to recover or easier to treat as backgrounded. Rather than treating these dimensions as uniform predictors of object deletion, the evidence points to a scenario in which they primarily structure *where* deletion becomes pragmatically licensed and recurrent.

Finally, the mixed-effects analysis highlights a key methodological and theoretical point: object realization is characterized by substantial lexeme-specific baseline differences, even after controlling for the predictors considered. This aligns well with typological observations that APs are frequently lexically restricted across languages. The Italian data thus support a broader view in which patient-backgrounding strategies are not only constructional options, but also reflect the propensity of individual predicates to support economical reference tracking in discourse.

Beyond these quantitative results, the qualitative examination of corpus data shows how recurrent discourse frames and speech situations can make the object effectively obvious, thereby encouraging deletion and, in some cases, facilitating semantic specialization (e.g., 'drink' in nightlife-related frames). Importantly, the cross-linguistic parallels often noted for AP-derived specializations suggest that repeated deletion of predictable objects can be a general pathway linking argument realization, discourse routines, and meaning change.

Overall, our findings provide converging evidence that object deletion in an accusative language like Italian can perform functions that are closely comparable to those of AP constructions cross-linguistically, even in the absence of dedicated morphology. At the same time, they refine the typological picture by showing that discourse accessibility is a primary organizing principle for patient backgrounding in spontaneous speech, while verb semantics and aspectual properties act as secondary constraints whose effects are partly mediated by lexical and contextual factors.

Future research should (i) broaden the lexical coverage to include a larger set of transitive predicates, allowing finer-grained generalizations about verb classes and the distribution of 'natural' patient-backgrounding verbs; (ii) extend the annotation to interactional and sociolinguistic variables (e.g. speech event type, degree of formality, participant roles), which are likely to affect shared knowledge and hence object recoverability; and (iii) pursue richer random-effects structures (including speakers where feasible) to better model discourse and individual variability. Ultimately, this research agenda contributes to a usage-based, discourse-sensitive

typology of argument realization, in which spoken data provide crucial evidence for understanding how patient-backgrounding strategies are conditioned, routinized, and potentially conventionalized.

Acknowledgements

Abbreviations

> = acts on
1 = 1st person
2 = 2nd person
3 = 3rd person
A = agent
ABS = absolutive
AP = antipassive
ART = article
AUX = auxiliary
COMP = complementizer
COP = copula
D = multifunctional *d-*prefix (in Athabaskan)
DAT = dative
DEF = definite
ERG = ergative

F = feminine
GER = gerund
HON = honorific form
INF = infinitive
IPFV = imperfective
LOC = locative
M = masculine
N = uninterpreted morpheme (in Kuku Yalanji)
NEG = negation
NPST = non-past
OBJ = object
OBL = oblique
PART = partitive clitic
PL = plural
POS = positive

PRS = present
PROG = progressive
PST = past
PT = 'potent' case inflection (in Kuku Yalanji)
PTCP = participle
RED = reduplication
REFL = reflexive
REL = relativizer
SBJ = subject
SBJV = subjunctive
SG = singular
SIMULT = simultaneous
TH = them

References

Blake, Barry J. 1982. The absolutive: Its scope in English and Kalkatungu. In Paul J. Hopper & Sandra A. Thompson (eds.), *Studies in transitivity*, 71–94. New York: Academic Press.

Cennamo, Michela. 2017. Object omission and the semantics of predicates in Italian in a comparative perspective. In Lars Hellan, Andrej Malchukov & Michela Cennamo (eds.), *Contrastive studies in verbal valency*, 251–273. Amsterdam: John Benjamins.

Chafe, Wallace. 1994. *Discourse, consciousness, and time. The flow and displacement of conscious experience in speaking and writing*. Chicago: The University of Chicago Press.

Coon, Jessica. 2013. *Aspects of split ergativity*. Oxford: Oxford University Press.

Cooreman, Ann. 1994. A functional typology of antipassives. In Barbara Fox & Paul J. Hopper (eds.), *Voice: Form and function*, 49-88. Amsterdam: John Benjamins.

Creissels, Denis. 2012. The origin of antipassive markers in West Mande languages. Paper presented at the 45th Annual meeting of the Societas Linguistica Europaea (SLE). Stockholm, Sweden.

Creissels, Denis. 2015. Valency properties of Mandinka verbs. In Andrej Malchukov & Bernard Comrie (eds.), *Valency classes in the world's languages*, Vol. 1, 221–260. Berlin: Mouton de Gruyter.

Dixon, R. M. W. 1994. *Ergativity*. Cambridge: Cambridge University Press.

Dixon, R. M. W. & Alexandra Aikhenvald. 2000. Introduction. In R. M. W. Dixon & Alexandra Aikhenvald (eds.), *Changing valency: Case studies in transitivity*, 1–29. Cambridge: Cambridge University Press.

Dunn, Michael John. 1999. *A grammar of Chukchi*. Canberra: Australian National University. (Doctoral Dissertation.)

Givón, Talmy & Loren Bommelyn. 2000. The evolution of de-transitive voice in Tolowa Athabaskan. *Studies in Language* 24 (1). 41–76.

Heaton, Raina. 2017. A typology of antipassives, with special reference to Mayan. Mānoa: University of Hawai'i at Mānoa. (Doctoral Dissertation.)

Hosmer, David W., Jr. & Stanley Lemeshow. 2000. *Applied logistic regression*. 2nd ed. New York: Wiley.

Janic, Katarzyna. 2021. Variation in the verbal marking of antipassive constructions. In Katarzyna Janic & Alena Witzlack-Makarevich (eds.), *Antipassive. Typology, diachrony, and related constructions*, 249–291. Amsterdam: John Benjamins.

Khalilova, Zaira & Bernard Comrie. 2013. Bezhta. In Iren Hartmann, Martin Haspelmath & Bradley Taylor (eds.), *Valency Patterns Leipzig*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at http://valpal.info/contributions/bezh1248).

Levshina, N. 2015. *How to do linguistics with R*. Amsterdam: Benjamins.

Mauri, Caterina & Silvia Ballarè. In press. *To understand in interaction: the rise of epistemic and evidential constructions based on* capire *in spoken Italian*. In Karolina Grzech & Henrik Bergqvist (eds.), *Expanding the boundaries of epistemicity*. Berlin: Mouton de Gruyter.

Mauri, Caterina, Silvia Ballarè, Eugenio Goria, Massimo Cerruti & Francesco Suriano. 2019. KIParla corpus: a new resource for spoken Italian. In Raffaella Bernardi, Roberto Navigli & Giovanni Semeraro (eds.), *Proceedings of the 6th Italian Conference on Computational Linguistics CLiC-it*. (URL: http://ceur-ws.org/Vol-2481/paper45.pdf)

Patz, Elisabeth. 2002. *A grammar of the Kuku Yalanji language of North Queensland*. Canberra: Pacific Linguistics.

Polinsky, Maria. 2013. Antipassive constructions. In Matthew S. Dryer & Martin Haspelmath (eds.), *The World Atlas of Language Structures online*. Leipzig: The Max Planck Institute for Evolutionary Anthropology. Available online at: https://wals.info/chapter/108.

Polinsky, Maria. 2017. Antipassive. In Jessica Coon, Diane Massam, & Lisa deMena Travis (eds.), *The Oxford handbook of ergativity*, 307–331. Oxford: Oxford University Press.

Rizzi, Luigi. 1986. Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17 (3). 501-557.

Sansò, Andrea. 2017. Where do antipassive constructions come from? A study in diachronic typology. *Diachronica* 34 (2). 175–218.

Sansò, Andrea. 2018. Explaining the diversity of antipassives: Formal grammar vs. (diachronic) typology. *Language and Linguistics Compass* 12 (6). 1–22.

Sapién, Racquel-María, Natalia Cáceres Arandia, Spike Gildea & Sérgio Meira. 2021. Antipassive in the Cariban family. In Katarzyna Janic & Alena Witzlack-Makarevich (eds.), *Antipassive. Typology, diachrony, and related constructions*, 65–96. Amsterdam: John Benjamins.

Say, Sergey. 2021. Antipassive and the lexical meaning of verbs. In Katarzyna Janic & Alena Witzlack-Makarevich (eds.), *Antipassive. Typology, diachrony, and related constructions*, 177–212. Amsterdam: John Benjamins.

Tagliamonte, Sali A. & R. Harald Baayen. 2012. Models, forests, and trees of York English: *Was/were* variation as a case study for statistical practice. *Language Variation and Change* 24 (2). 135-178.

Wilson, Deirdre. 2003. Relevance and Lexical Pragmatics. *Italian Journal of Linguistics* 15.2. 273-291.

CONTACT

silvia.ballare@unibo.it

caterina.mauri@unibo.it

asanso@unisa.it