

Lexical vs. compositional Agency: The role of the context in licencing Agency

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Abstract: In this paper, we propose a taxonomy of verbs based on their compositional behaviour regarding Agency. The taxonomy comprises three primary classes: agent-selecting verbs, non-agent-selecting verbs, and verbs that are lexically underspecified regarding Agency. We describe the semantic and syntactic characteristics of each class using evidence from corpora and considering the potential influence of coercive phenomena in semantic composition, which may be prompted by contextual cues such as agent-oriented or patient-oriented adverbials (*intentionally*, *accidentally*). Our analysis focuses on Italian, but the conclusions generally apply to other languages as well.

Keywords: agent, subject, semantic role, verb classes, context, coercion

1 Introduction

Semantic relations were first introduced in generative grammar during the mid-1960s and early 1970s. According to the traditional framework, these relations are determined by the verb; a verb subcategorizes its arguments and assigns them a specific role (such as Agent, Patient, Experiencer, and so on). However, as Wechsler (2005b) noted, this perspective needs to be re-evaluated, as contextual factors may also influence how a participant in the situation described by a verb is interpreted. Consider, for example, the sentences in (1) where the subject of the verb *colpire*, whose English equivalent *hit* is classified as an agent-selecting verb in Dowty (1989), is interpreted as agentive in (1a) and non-agentive in (1b), depending on the nature of the direct object filler:

- (1) a. Mi è subito piaciuto come Jannik colpiva la palla
(default reading: agentive)¹
'I immediately liked the way Jannik hit the ball.'
- b. Il centrocampista ha colpito la traversa.
(default reading: non-agentive)
'The midfielder hit the crossbar.'

In other words, in (1a) and (1b), the direct object's type assigns the semantic role to the Subject: if it is a ball, the Subject is intended as an Agent; if it is a crossbar, it is intended as a non-Agent.²

The goal of the paper is to establish a verb taxonomy based on the premise that semantic roles are not assigned exclusively by verbs. The taxonomy consists of three primary classes: agent-selecting verbs, non-agent-selecting verbs, and unmarked verbs. Agent-selecting verbs lexically specify an agent Subject argument; for non-agent-selecting verbs, the opposite holds, and unmarked verbs are lexically underspecified concerning the role they assign to their Subject referent.

It is not easy to define the class membership for each verb, as within our framework, besides assigning Agency in the case of unmarked verbs (as in the case of the direct Object in (1)), contextual cues may change a verb's classification, due to *semantic type coercion* (Pustejovsky & Ježek 2008): this is the case, for example, of participant-oriented adverbials, specifically agent-oriented such as *deliberately* or patient-oriented, such as *accidentally*, which we examine below.

In the upcoming sections, we will first provide background information on the concept of Agency and address methodological concerns (Sections 2, 3, and 4). We will then proceed with analysing the semantic and syntactic characteristics of the suggested classes, which will be supported by studying empirical evidence from corpora (Section 5). In the analysis, we will consider the following contextual factors: semantic type of argument fillers, adverbial modification, and modification by purpose clauses. Finally, we will present our concluding remarks in Section 6. Our analysis focuses on Italian, but the conclusions are generally applicable to other languages. A few examples in English are used for illustration purposes.

¹ By *default reading*, we mean the most likely reading when no further context is provided.

² It is possible that pragmatic implicatures and commonsense knowledge are at play in the interpretation of these examples; we will return to this idea below.

2 Two views on Agency

2.1 The semantic role approach

In theoretical linguistics, starting from Gruber (1965) and Fillmore (1968), the notion of Agent has traditionally been defined in terms of the *role* a participant plays in the event expressed by the verb. At the syntax-semantic interface, a linking rule has been defined: if the semantic structure of a sentence contains an Agent (the animate entity that activates and controls the action), it normally corresponds to the Subject in the syntactic structure: the Object complement can never be an Agent (Salvi 1988). As discussed in Wechsler (2005b), there are two main versions of the participant role approach. In the first version, the verb is associated with an atomic relation and a list of arguments labelled with roles: for example, *eat* (agent, patient). In the second version, the verb is decomposed into a structure built from more basic relations such as CAUSE, GO, STAY (Jackendoff's 1990 localist approach), and BECOME (Dowty 1991). In this latter case, semantic roles are derived from argument positions in the verb's decompositional representation. For example, in the Role and Reference Grammar (RRG) framework (Van Valin & Lapolla 1997), the Agent is the first argument of the abstract operator DO (also informally known as *big* DO, originally proposed as an abstract higher predicate in Ross (1972)). This operator is necessarily associated with a logical structure containing the primitive DO (or ACT), which is intended as the universal primitive for situations in which a participant does something, either intentionally or unintentionally. This is represented in (2) below, where the abstract operator DO is in capital letters, while the primitive do is in small capitals:

- (2) DO (*x*, [DO (*x* [predicate ...

As regards the content of the notion of semantic role, Dowty proposes to analyse it as a cluster of entailments associated with the verb meaning. For example, "if the sentence '*x* builds *y*' is true, then it is necessarily also true that *x* performs purposeful actions, that as a result of these actions an artefact *y* comes into existence, and so on" (Dowty 1969: 75). In this view, the Agent role type may be defined as the *set of entailments* that are common to all the individual semantic roles of the Subject argument of various verbs that are identified as Agent arguments, including:

- (3) a. is a *rational* and *sentient* being;
b. acts *volitionally* in the circumstance described by the verb.

Lexical entailments, as in (3), may be converted into properties, such as [\pm rationality], [\pm volitionality], [\pm sentience], and so forth.

It should be noted that defining what properties make up the concept of the Agent role is a topic of much debate in the linguistic literature (see Huyghe & Wauquier 2020, for an overview). For example, scholars have varying opinions on whether Agents need to be animate and intentional. The reason for this is that alongside intentional animate beings, there exist biological and chemical agents, natural forces (such as wind, see *What the wind did was to blow the tree down*, Cruse 1973), and instruments (such as sophisticated mechanical devices and softwares) that are not animate nor intentional, but once they are triggered by an Agent, operate independently and can perform actions alone, utilising their energy. The topic is particularly controversial today when abstract or artificial agents, such as computers, robots, and similar devices, act on our behalf, as when a computer calculates the best route (see *What the computer is doing is calculating the correlation coefficient*, Cruse 1973).

Different solutions have been proposed to address these issues, such as adding roles – next to the Agent role – like Effector (“the participant that brings something about, but there is no implication of its being volitional or the original instigator”, Van Valin & La Polla 1997)³ or Cause (“actor that may be animate or inanimate and that initiates the event, but that does not act with any intentionality or consciousness” Petukhova & Bunt 2008).⁴ Another solution is to view agency as a scalar concept, differentiating between prototypical and non-prototypical agents.⁵

Regardless of this debate, in all the approaches above, it is generally assumed that thematic relations are assigned by the verb, i.e., a verb such as *eat* assigns the role of Agent to its Subject.

³ The term *Effector* was first proposed by Van Valin & Wilkins (1996) to characterise humans that activate an event involuntarily and/or with no intended goal. It roughly corresponds to the notion of ‘involuntary’ or ‘unintentional agents’ proposed in the cognitive-typological literature (see Haspelmath 1993 and Kittila 2003).

⁴ To our knowledge, no semantic role set in linguistics has introduced the notion of Artificial Agent so far, nor is such a role present in lexical resources that employ role sets to define frame/event participants, such as FrameNet and VerbNet for English.

⁵ Note that adopting a prototypical view for the Agent role is not the same as adopting proto-roles (Dowty 1991): only two roles are foreseen in the latter account (Proto-Agent and Proto-Patient), while in the former this is not the case.

2.2 The ontological approach

The view that Agent is the role of an event participant instead of an inherent property of an entity is, however, not uncontroversial. For example, in ontological studies, an Agent is often analysed as an ontological category instead of a participant. In the DOLCE ontology (Gangemi et al. 2010), Agents are defined as “physical objects endowed with intentions, beliefs, and desires”. According to this latter interpretation, an entity does not need to be involved in an action and be assigned a role to qualify as an Agent. Instead, an Agent is defined based on its inherent cognitive capacities and, more specifically, its ability to have intentions. In this view, an Agent is an “intentional or cognitive entity”. This definition entails that every person is necessarily an Agent since *agentivity* (the capability of dealing with objects or states of the world) is an essential property of human beings (and according to many, of other animates like animals; see (22) below on this point).

2.3 Our definition

For the purposes of this study, we will adopt a linguistic perspective and assume that Agency is a role that certain kinds of entities take on when they participate in specific types of events reported by verbs. Specifically, we will assume that verbs selecting for an Agent role in the Subject position are associated with the following mandatory lexical entailments:

- (4) Selectional Requirements for the Subject Position of Verbs lexicalising Agency.
 - a. the referent is animate and sentient;
 - b. he/she voluntarily engages in the action and controls it;
 - c. he/she has an intended goal.

In this view, a potential Agent becomes an actual Agent (i.e., takes on the Agent role) when he/she voluntarily performs an action driven by a well-defined purpose.

3 A compositional account of Agency

As referenced in Section 1 (ex. (1)), Wechsler (2005b) and Pustejovsky (2010), among others, pointed out that theories attributing the property of assigning Agency entirely to the verb are not satisfactory, as many verbs may be construed as agentive or non-agentive in the syntax. For example, Wechsler notices that the non-agentive verb *disappear* may be construed as agentive in the context of (5a), whereas the opposite holds for *enter* (5b):

- (5) a. John always disappears when work is mentioned.
- b. Smoke entered the room through the ventilation duct.⁶

Along the same line, the agentive It. verb *lasciare* ‘leave’ may be construed as agentive in (6a) and non-agentive in (6b).

- (6) a. Molte famiglie lasceranno il paese.
‘Many families will leave the country.’
- b. La nube lascerà i cieli italiani alle 8.00.
‘The cloud will leave the Italian skies at 8.00.’

Studying the coding of intransitive Subjects in Tsova-Tush (an ergative language spoken in the Caucasus, in which ergative marking generally conveys agentivity while the form with absolutive is always interpreted as non-agentive), Holinsky (1987) notes that intransitive verbs fall into three main classes.⁷ Some intransitive verbs take ergative (Agent) marking, while others take absolutive (Patient) marking, but most intransitive verbs can take either one, depending on how they are used. For example, in Tsova-Tush, the verb expressing the meaning ‘to lose one’s footing and fall’ falls into the third class. If one uses the ergative suffix, it means ‘slide.’ If, however, one uses the absolutive suffix, it means ‘slip.’ In other words, Tsova-Tush exploits its case marking system to signal that *sliding* is a controlled (agentive) event, whereas *slipping* is not.

Although there is consensus among scholars that the concept of Agency is best understood as a *derived notion*, there is still controversy regarding how the derivative account of Agency should be modeled, particularly concerning the interaction between semantic and pragmatic factors. Holinsky, for instance,

⁶ Examples are from Wechsler (2005b).

⁷ A synopsis of Holinsky’s account may be found in Van Valin & Lapolla (1997: 118–119).

argues that the evidence coming from Tsova-Tush suggests taking into account the interaction of the semantics of the sentence with general principles of conversation, according to which, for example, speakers tend to interpret a human doer as an agent, unless there is information to the contrary in the sentence.

In our discussion, we expand on previous studies that recognize that Agency can be determined either lexically or compositionally and introduce a new argument to model the possible construals of Agency. Specifically, we argue that semantic coercion phenomena supplement the standard compositional principle in building a sentence's semantics. We define semantic coercion as the mechanism by which a word or expression imposes a specific interpretation on another word or expression with which it combines. Semantic coercion has been frequently used to account for grammatical verb–argument combinations that nevertheless exhibit a mismatch between the type selected by the verb and the type of the argument (Pustejovsky 2005), as in *hear the bell*, where the verb selects a sound as direct Object, and the bell is instead an artefact. This mismatch is resolved by positing that the verb imposes the selected type on the argument type, as illustrated in the transformation of the interpretation from 'hear the bell' to 'hear the sound of the bell' (Pustejovsky & Ježek 2008).⁸ In our framework, we examine how semantic coercion is induced by adverbial modification, specifically agent-oriented adverbs (adverbs that presuppose/are oriented towards the Agent) such as *intenzionalmente* 'intentionally', and patient-oriented adverbs (adverbs that presuppose/are oriented towards the Patient) such as *inavvertitamente* 'inadvertently, unintentionally'.⁹

It is important to note that when coercion is integrated into the theoretical framework, defining class membership for verbs with respect to Agency becomes more complex because contextual cues, in addition to assigning/not assigning Agency with verbs underspecified for Agency, may trigger coercion in verbs which are specified either for Agency or for absence of Agency. For example, the patient-oriented adverb *inavvertitamente* 'inadvertently, unintentionally' may assign non-agency to the unmarked verb *uccidere* 'kill' (7a) or

⁸ Concerning Agency, semantic coercion has been specifically exploited to account for the agentive interpretation of verbs such as *kill* with human subjects (subject-induced coercion, according to Pustejovsky 2012).

⁹ In our framework, coercion may account for several linguistic phenomena, including figures of speech that unlock the speaker's creativity, such as personifications. However, we do not explore this perspective in this paper.

coerce the agent-selecting predicate *azionare* ‘activate’ from intentional to unintentional in (7b):

- (7) a. Luca ha ucciso inavvertitamente il gatto.
 ‘Luca killed the cat unintentionally.’
 b. Il tasto video è in posizione tale che lo si aziona spesso inavvertitamente.
 ‘The video button is positioned so that it is often activated/pressed inadvertently.’

It follows that a verb exhibiting flexible behaviour concerning Agency in the syntax may be analysed in at least three different ways:

- (8) i. agent-selecting verb, occasionally coerced to non-agentive by contextual factors;
 ii. non-agent-selecting verb, occasionally coerced to agentive by contextual factors;
 iii. verb which is lexically underspecified or unmarked concerning Agency.

As we will see in Section 5, for verbs of class iii., Agency is always assigned compositionally. For verbs of class i., the agentive interpretation is the norm and the non-agentive one is coerced, while for class ii. verbs, the opposite holds. In the rest of the paper, we examine the properties of the classes in detail.

4 Data and methodology

As clarified above, the goal of the research is to propose a three-output classification of verbs concerning Agency, and to contribute to characterising the semantic and syntactic behaviour of these classes based on empirical data and assuming that semantic type coercion may be active in meaning composition. This is achieved by examining a set of sentences obtained by querying the Italian Web 2020 (itTenTen20) corpus through the Sketch Engine online platform (Kilgarriff et al. 2004). In particular, we use the platform’s Concordance and Word Sketch functions. The Concordance function returns examples of use of the target word being queried. In contrast, the Word Sketch function returns a one-page summary of the word’s distributional behaviour (i.e., collocates and

surrounding words) organized into grammatical relations, such as words that serve as an object of the verb, words that serve as a subject of the verb, words that modify the verb, etc. The data we obtained through this analysis contain three kinds of linguistic expressions:¹⁰

- (a) sentences containing the following target verbs that are usually associated with:
 - agentivity: *assassinare* ‘murder’, *bere* ‘drink’, *comprare* ‘buy’ *installare* ‘install’, *lucidare* ‘polish’, *mangiare* ‘eat’, *masticare* ‘chew’, *mentire* ‘lie’, *riparare* ‘repair, fix’;
 - non-agentivity: *cadere* ‘fall’, *morire* ‘die’, *partorire* ‘give birth’, *scivolare* ‘slide’, *sparire* ‘disappear’, *tramontare* ‘set’ (of sun).
- (b) sentences containing two types of adverbs:
 - agent-oriented adverbs, i.e., manner adverbs, which are typically analysed as licenced by the presence of an Agent’s argument in the verb argument structure: *intenzionalmente* ‘intentionally’, *deliberatamente* ‘deliberately’, *volontariamente* ‘willingly’;
 - patient-oriented adverbs, i.e. adverbs, which are typically analysed as licenced by the presence of a Patient’s argument in the verb argument structure: *accidentalmente* ‘accidentally’, *inavvertitamente* ‘inadvertently’, *involontariamente* ‘unintentionally’.
- (c) sentences containing purpose and rationale clauses, as in *Luca è andato a Roma per incontrare il suo amico* ‘Luca went to Rome to meet his friend’.

We verify whether the type of Subject is animate or not. When it is inanimate, we assume it is not an Agent.¹¹ In the following, we present and discuss the results of our investigation.

¹⁰ The Sketch Engine (Kilgariff et al. 2004) is available at <https://www.sketchengine.eu>. The Italian Web 2020 corpus is an all-purpose Italian corpus covering the largest possible variety of genres, topics, text types and web sources. Data was downloaded in October–December 2019 and December 2020. The corpus consists of more than 12 billion words.

¹¹ See, however, Ježek & Varvara (2015) for a discussion of Instrument Subjects coerced to Agents.

5 Verb Classes

In this Section, we examine in detail the syntactic and semantic properties of verbs belonging to the classes introduced above as they emerge from our empirical investigation, considering the theoretical framework outlined in Section 3.

5.1 Agent-selecting verbs

Agent-selecting verbs are verbs that, in the Subject position, select an animate rational entity that acts volitionally with a goal. We will also refer to these verbs as verbs with lexical agents for current purposes. Examples are given in (9):

- (9) a. L'operaio ha riparato il tetto.
'The worker repaired the roof.'
b. Luisa ha lucidato l'argenteria.
'Luisa polished the silverware.'

From a semantic point of view, these verbs denote an event that cannot come about spontaneously. That is, they require an Agent that performs the action. This is shown by the test in (10) a. and b. below, where both sentences are ungrammatical:

- (10) a. *Quello che è successo all'operaio è che ha riparato i tetti.
'What happened to the worker is that he repaired the roofs.'
b. *Quello che è successo a Luisa è che ha lucidato l'argenteria.
'What happened to Luisa is that she polished the silverware.'

This semantic property (lack of spontaneity) affects agent-selecting verbs' syntactic and argument flexibility in several ways. For example, unlike unmarked verbs (see Section 5.3), transitive agent-selecting verbs do not exhibit inchoative alternations (11a–b).

- (11) a. *I tetti si sono riparati.
'The roofs PRON repaired.'
b. *L'argenteria si è lucidata.
'The silverware PRON polished.'

A *lexical* Agent can never be demoted or backgrounded except in passive constructions (12a–b).

- (12) a. I tetti sono stati riparati.
 ‘The roofs have been repaired.’
 b. L’argenteria è stata lucidata.
 ‘The silverware has been polished.’

Another syntactic constraint for verbs that lexically entail a volitional Subject acting with a predefined purpose, such as *assassinare* ‘murder’, is the impossibility of the instrument used by the Agent to surface as a Subject, contrary to unmarked verbs such as *uccidere* ‘kill’:

- (13) a. *Il proiettile ha assassinato il manifestante.
 ‘The bullet assassinated the protester.’
 b. Il proiettile ha ucciso il manifestante.
 ‘The bullet killed the protester.’

In (13), the instrument (*bullet*) can fill the Subject slot of *uccidere* ‘kill’ in (13b) because this verb does not lexically entail an Agent in the Subject position (not class i.), while *assassinare* ‘murder’ does (class i.).

Regarding adverbial modification, adding an agent-oriented adverb with these verbs is generally odd, as it adds information already lexically specified in the predicate.

- (14) *Luisa ha lucidato l’argenteria intenzionalmente.
 ‘Luisa polished the silverware intentionally.’

Sometimes, however, the adverb is allowed and emphasises the intentionality already entailed in the verb, as for *mentire* ‘lie’ in (15):

- (15) Il presidente ha mentito deliberatamente sul Coronavirus.
 ‘The President deliberately lied about the Coronavirus.’

The insertion of a patient-oriented/agency-cancelling adverb is usually deviant semantically, as it contradicts the information made available by the predicate, namely that the action cannot occur spontaneously:

- (16) *Luisa ha lucidato l’argenteria inavvertitamente.
 ‘Luisa polished the silverware inadvertently.’

In some cases, however, agent-selecting verbs do license patient-oriented adverbials. For example, *installare* ‘install’ and *masticare* ‘chew’ can occur in contexts such as in (17).

- (17) a. Potreste aver installato inavvertitamente un virus che vi sta creando diversi problemi nel PC.
 ‘You may have inadvertently installed a virus that is causing various problems on your PC.’
 b. La lingua insensibile viene spesso masticata inavvertitamente.
 ‘The numb tongue is often chewed inadvertently.’

Under the analysis proposed here, the adverb in (17) *coerces* the interpretation of the predicate from intentional to non-intentional by cancelling the lexical entailment of Agency in *installare* and *masticare*.¹²

Mangiare ‘eat’ and *bere* ‘drink’ are generally classified as agent-selecting verbs. This holds also when the referent of the Object argument is non-conventional food for the Subject, as in (18), where the Subject’s participation is voluntary.

- (18) I bambini mangeranno fiori, bacche, bulbi e qualsiasi altra cosa catturi la loro attenzione, quindi siate avvisati.
 ‘Children will eat flowers, berries, bulbs and anything else that catches their eye, so be warned.’

In (19), on the other hand, the situation seems different, as the event of drinking is accidental:

- (19) Ricoverata una bimba: ha bevuto del detersivo per lavatrice scambiandolo per acqua.
 ‘A child hospitalized after she drank washing machine detergent, mistaking it for water.’

These constructions are frequently accompanied by patient-oriented adverbs such as *accidentalmente* ‘accidentally’, *involontariamente* ‘involuntarily’, *inavvertitamente* ‘inadvertently’.

¹² Van Valin & Wilkins (1996: 308) also observe that *look at* seems to co-occur with patient-oriented adverbials, suggesting that its Agent is not an Agent like that of *murder*. Compare: *Mary accidentally looked at his neighbor’s test and was accused of cheating* vs. **Larry inadvertently murdered his neighbor*.

- (20) a. Il bimbo ha mangiato accidentalmente il cibo per animali.
 ‘The child accidentally ate pet food.’
 b. Può capitare che qualcuno beva accidentalmente un po’ di benzina
 mentre cerca di travasarla dal serbatoio.
 ‘Sometimes someone accidentally drinks some gasoline while try-
 ing to siphon it from the tank.’
 c. E quanta acqua che ho bevuto involontariamente, ma è stata
 un’esperienza bellissima!
 ‘And how much water I drank involuntarily, but it was a beautiful
 experience!’
 d. Cosa fare se Fido mangia inavvertitamente uno o più spicchi
 d’aglio?
 ‘What to do if Fido accidentally eats one or more cloves of garlic?’

According to Kittilä (2005: 388–389), in such cases, “the agent’s participation cannot *per se* be considered involuntary. One cannot *eat* or *drink* something completely accidentally; the given action is always volitionally instigated and controlled. The accidentality manifests itself only in that the event’s target deviates from what it was supposed to be, and the overall intentionality of the event can be regarded as somewhat lower”.

According to our account, the type of Object acts as a functor and coerces the Subject from volitional to non-volitional. Verbs like *eat* license an agentive Subject only when the referent in the Object position is an artefact made for eating. Note that by contrast, a manner of eating verb such as *divorare* ‘devour’ does not behave like *mangiare* (i.e., it cannot be coerced) and appears to entail Agency in all its uses in its ‘ingest’ meaning (class i.).

Agent-selecting verbs may also be found with purpose or benefactive clauses that specify the inherent goal of the Agent in performing the action, as in *Luca corre regolarmente per mantenersi in forma* ‘Luca regularly runs to keep fit’. With benefactive clauses such as *per la moglie* ‘for the wife’ and *per il figlio* ‘for the son’ in (21) a. and b., the intended purpose is implicit. For example, in (21a), Luca’s final goal is that his wife reads the book, while in (21b), it is that his child plays with the new toys.

- (21) a. Luca ha comprato un libro per la moglie.
 ‘Luca bought a book for his wife.’ (to read)
 b. Luca ha comprato il lego per il figlio.
 ‘Luca bought the Lego for his son.’ (to play with)

Agent-selecting verbs may occasionally exhibit non-human entities in Subject position, such as substances in (5)–(6b). In such cases, we assume that to satisfy the verb's selectional requirements, the Subject referent is interpreted/seen as an entity endowed with intentions and that a process of coercion occurs in Subject-verb composition. A special case is that of animals, as in (22). While classifying animal behaviour as intentional is conceptually intricate (Heyes & Dickinson 1990), animals' intentional agency is increasingly substantiated in both the natural and social sciences. Under this latter interpretation, no coercion occurs in (22a–b).

- (22) a. Il castoro ha tagliato l'albero per costruire una diga.
'The beaver cut down the tree to build a dam.'
b. Una famiglia di castori ha deciso d'insediarsi qui.
'A family of beavers decided to settle here.'

5.2 Non-Agent selecting Verbs

Non-agent selecting verbs are verbs that lexically select Subjects that do not act volitionally towards a goal. They express events characterized by spontaneity. Examples are:

- (23) a. Il gatto è morto.
'The cat died.'
b. Luca è scivolato ed è caduto dal tetto.
'Luca slipped and fell from the roof.'
c. Il libro è caduto in piscina.
'The book fell into the swimming pool.'
d. Alle 19.00 tramonta il sole.
'The sun sets at 7pm.'

This is a very heterogeneous class ranging from patient-selecting verbs such as *morire* 'die', which denote events in which the Subject referent is inactive and undergoes a change of state, to verbs like *partorire* 'give birth (to)' and *segnare (un gol)* 'score' in (24), denoting events in which the Subject referent is actively engaged in the event that is taking place but cannot be considered an Agent as the event is "happening to them" (see *Quello che è successo alle due donne è stato che partorirono nello stesso momento* 'What happened to the two women is that they gave birth at the same time').

- (24) a. Le due donne partorirono nello stesso istante.
 'The two women gave birth at the same time.'
 b. Il giocatore ha segnato tre gol.
 'The player scored three goals.'

In (24a), the two women are engaged in the activity but cannot be held responsible for the outcome. Similarly, in (24b), the player instigates the action, but the result is not under his/her control. As we anticipated in Section 3, following Van Valin & Wilkins (1996), this role can be called Effector and defined as the dynamic participant doing something in an event.

As regards adverbial modification, the addition of an agent-oriented adverbial such as *deliberately* with these verbs, is generally odd:

- (25) a. *morire deliberatamente 'to die deliberately'
 b. *cadere deliberatamente 'to fall deliberately'
 c. *partorire deliberatamente 'to give birth deliberately'
 d. *segnare deliberatamente 'to score deliberately'

There are some exceptions, as in (26), where the adverb *volontariamente* 'intentionally' (and perhaps the expression *controllandolo* 'controlling him') may be analysed as coercing the interpretation of the predicate *cadere* and its Subject from non-agentive to agentive.

- (26) Cadere volontariamente indietro insieme all'avversario, controllandolo, mentre resta aggrappato alle spalle.
 'To intentionally fall backwards with the opponent, controlling him, while remaining attached to his shoulders.'

Contrary to expectations, patient-oriented adverbs, such as *accidentally* and *inadvertently*, modify non-agent-selecting verbs quite commonly.¹³ In this scenario, the adverb emphasizes the lack of an Agent, which is already implied by the verb's meaning.

- (27) a. Circa un anno fa, sono scivolato accidentalmente su una lastra di ghiaccio.
 'About a year ago, I accidentally slipped on a patch of ice.'

¹³ This behaviour contrasts with that of agent-selecting verbs, which tend not to license agent-oriented adverbs.

- b. Costava carissimo ed era fragilissimo. Se cadeva inavvertitamente non era più utilizzabile.
'It was very expensive and very fragile. If it fell accidentally, it was no longer usable.
- c. La relazione del dottore è stata dimenticata inavvertitamente sulla sua scrivania.
'The doctor's report was inadvertently left on his desk.'

As noted in Cruse (1973), an agentive-like interpretation can be imposed in context (i.e., coerced, in our terms) also through the presence of purposive constructions, as in (28):

- (28) C'era anche J. S., un giovane artista morto per salvare la propria sorella da un proiettile.
'There was also J. S., a young artist who died to save his sister from a bullet.'

Non-agent selecting verbs may display flexible behaviour concerning Agency, depending on the type of Subject. For example, in the context of (29a), *sparire* 'disappear' is interpreted as non-agentive, while in (29b) (see also (5a)), the default interpretation is agentive.

- (29) a. Il sole sta sparendo dietro gli alberi.
'The sun is disappearing behind the trees.'
- b. Luca sparisce sempre quando si parla di lavoro.
'Luca always disappears when work is mentioned.'

Under the analysis proposed here, *sparire* is a non-agent-selecting verb (class ii.), which may be coerced to agentive by contextual factors, such as the presence of a human Subject as in (29).

5.3 Unmarked verbs

Unmarked verbs are lexically underspecified for the role of their Subject referent. They express events that may or may not occur spontaneously. Because of this property, they exhibit systematic alternation between agentive and non-agentive interpretations; the context assigns one or the other. Equivalent terms are *context-dependent* or *underspecified* verbs. Consider again the verb *colpire* 'hit' in the following contexts:

- (30) a. Il giocatore ha colpito la palla.
 ‘The player hit the ball.’
 b. Il giocatore ha colpito la traversa.
 ‘The player hit the crossbar.’
 c. La tempesta ha colpito la barca.
 ‘The storm hit the boat.’

Under the analysis we propose, the predicate is underspecified in the contexts in (30), and no coercion applies. As explained in Section 3, in (30a), both the player and the ball induce an agentive interpretation in the underspecified predicate *colpire*, whereas the crossbar in (30b) induces a non-agentive one. Finally, in (30c), the default interpretation is non-agentive. A storm is a self-propelled, natural event capable of independent motion that can cause an event but is not endowed with intentions.

Because of their underspecification, unmarked verbs such as *uccidere* ‘kill’ tend to admit both agent-oriented (*deliberatamente* in (31a)) and patient-oriented adverbs (*accidentalmente* in (31b)):

- (31) a. Uno che uccide deliberatamente e a freddo una persona non merita di vivere.
 ‘Someone who deliberately and coldly kills a person does not deserve to live.’
 b. Se qualcuno uccideva intenzionalmente o per errore uno di questi animali, veniva condannato a morte.
 ‘If someone intentionally or accidentally killed one of these animals, he was sentenced to death.’
 c. L’uomo è stato ucciso accidentalmente da un colpo di fucile sparato da un cacciatore.
 ‘The man was accidentally killed by a rifle shot fired by a hunter.’

Finally, causative/inchoative verbs tend to fall into this category. As is well known (Haspelmath 1993), the event expressed by these verbs may be construed in the language as an event caused by an Agent or as an event that comes about spontaneously. An example is *affondare* ‘sink’:

- (32) a. Il sottomarino affondò la nave nemica.
 ‘The submarine sank the enemy ship.’
 b. La nave nemica affondò.
 ‘The enemy ship sank.’

6 Concluding remarks

In this paper, we have demonstrated that the Agent role is not solely assigned by the verb. We have proposed a three-fold classification of verbs related to Agency: agent-selecting, non-agent-selecting, and unmarked verbs. We have described these classes' main semantic and syntactic properties based on empirical analysis of data from corpora. Although all these types of verbs can be interpreted contextually as having both an agentive and a non-agentive interpretation, we argued that only unmarked verbs (class iii.) are underspecified and assign the thematic role of Agent based on context rather than lexically. In the other cases (class i. and ii.), the non-agentive or agentive interpretation results from a coercion mechanism in the semantic composition between the verb, its arguments, and other contextual cues such as adverbial expressions. The analysis reveals that several verbs, commonly regarded as agent-selecting verbs in the literature, may display non-agentive interpretations. This highlights the need for a semantic role analysis approach that takes into account a more comprehensive characterization of contextual structure and compositional processes in the semantics.

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