1 Dispositions, events and event nouns

Dispositions have proved to be a useful notion for describing some linguistic phenomena, one well-known example being that of middle constructions. By saying that a vase is breakable or that The vase breaks easily, one means that the vase has some dispositions to be broken. Middle constructions of this type appear to be licensed by what may be termed passive dispositions: the disposition expressed by breakable relates to properties ascribed to an entity and licences for its bearer the role of patient in a breaking event (Lekakou 2004). Such a "passive" view is motivated by the traditional treatement that disposition ascription has received in the philosophical literature. According to the received view, the reasoning underlying disposition ascription is a counterfactual relation between entities and events: if an entity x were in an event y, then the manifestation z would ensue, in case x is disposed to y-ing. Importantly, the event is triggered by some stimulus condition: a vase is breakable if, whenever something would act upon the vase with a certain force, the vase would break.

This way of analysing dispositions is not without problems. On the one hand, some dispositions can be triggered by more than one stimulous condition, and these conditions can be so different that it proves difficult to reduce them to a single case that would fit into the counterfactual conditional antecedent. For example, an irascible man is disposed to get angry easily, which means precisely that there may be a variety of stimuli that can trigger the manifestation of this disposition. On the other hand, some dispositions seem to manifest themselves spontaneously, i.e. without being triggered (at least overtly) by stimuli. As pointed out by Vetter (2010), the very existence of the latter type of dispositional properties, sometimes called active dispositions,
is excluded within the counterfactual model.

A way to overcome these problems is to assume that the characterisation of dispositions need not be related to counterfactual reasoning, but that dispositions express a type of modality which is a species of possibility. According to the view defended recently by Vetter (2010), dispositions can be seen to express a type of potentiality. Potentialities are a “local’ analogue of possibility” (Vetter 2010:41), which is to say possibilities rooted in objects and manifested as properties anchored to individuals. The departure from the counterfactual model implies that modal properties are accepted in the basic furniture of the world. This is an ontological complication, but it has also some advantages to offer to metaphysics and to the philosophy of science, as extensively argued by Vetter (2010, 2012).

In this paper, we argue that looking at dispositions as modal properties is an approach that can also be of use in describing linguistic phenomena. In particular, it can come in handy in dealing with phenomena related to licensing a thematic role for an entity with respect to a verbal predicate. The contrast between the pairs of sentences in the English and Italian examples in (1) and (2) illustrates the phenomenon we are going to study.

(1) a. Yesterday, Mario fell down
   b. Ieri Mario è caduto
   c. The Berlin Wall fell down in 1989
   d. Il muro di Berlino è caduto nel 1989

(2) a. Yesterday Mario had a (great) fall
   b. Ieri Mario ha fatto una (brutta) caduta.
   c. #In 1989, the Berlin Wall had a (great) fall
   d. #Nel 1989, il muro di Berlino ha fatto una (brutta) caduta.

The sentences in (1) display the unaccusative verb fall (in Italian, cadere), and differ in the type of entity referred to by the noun phrase in subject position. Sentences (1a,b) have an animate subject, while the subject is inanimate in (1c,d). The difference does not affect the status of the sentences, which are in all cases perfectly acceptable. In the sentences in (2), on the other hand, the verbal predicate is nominalised and is embedded in a complex predication headed by a light-verb, respectively have and fare, litt. ‘do’. Here the animacy difference matters, and sentences (2c,d) with inanimate subjects are unacceptable, whereas (2a,b) are fine.

The difference between the structures in (1) and (2), and the contrast between the subjects in (2a,b) and (2c,d) can be decomposed into a set of issues. A question is whether the contrast can be imputed to properties that the entities participating in the event are expected to exhibit—such as animacy—and, if so, how these properties can be expressed in relation to the verbal predicate. We propose to capture the constraints that lead to the contrast between (2a,b) vs. (2c,d) by considering that the relevant participants’ properties express dispositions towards the event described by the predicate.

Looking at the properties of agents and undergoers as dispositions is a way to fill a gap in the modelling of thematic relations. Thematic roles can be seen as the linguistic realisation of the participants’ relations in an event, and it is fairly common to assume a two-way conditioning, in the line of Dowty (1991): i) verbs entail for each thematic role a set of relations with respect to their participants, and ii) those entities that satisfy some or all of these entailments are likely
to be mapped to the corresponding thematic role. (Proto-)role entailments are defined with respect to the semantics of verbs and research on verbs has thrived, whereas the requisites of the entities denoted by the nominals realising the verb’s arguments are less frequently investigated. We propose to approach the contrast in (2) by talking of dispositions related to thematic roles as a way of telescoping two pieces of information. On the one hand, dispositions are modal properties ascribed to an entity and, on the other hand, these properties are seen as elements in a causal chain. Disposition ascription is a form of conceptual bridging between an entity and a class of events, which, due to the modal essence of dispositions, tells something about the entity but does not carry any existential commitment on the instantiation of the class of events.

The local expression of some requirements on the subject via disposition ascription is instrumental in dealing with sentences such as in (2) where the verb is light and the characterisation of the event comes from a nominal (Jespersen 1954). These are instances of complex predication and the entailments that are projected on the external position have multiple origins, in our view. The possible origin of the animacy constraint that both English and Italian sentences exhibit in (2) is discussed by focussing on the case of Italian, because Ata nominalisations in Italian provide us with a more transparent case. These nominalisations are morphologically derived from verbs by suffixation with the morpheme Ata. Following Tovena and Donazzan (2015), we argue that this suffix carries the trace of a condition restricting a potential external argument of the verb whose root enters the nominalisation, and contributes specific constraints on the combination of the argument structure of the noun with that of the light-verb. The properties related to the thematic position associated with the external argument are referred to as agentive dispositions, and we show that introducing agentive dispositions as a type of potentialities can help us to deal with an issue of argument selection at the syntax-semantic interface.

The paper is organised as follows. In section 2, we will expound in detail the semantics of Ata nouns. Our key hypothesis is that Ata event nouns enter light verb constructions in order to regain the possibility of being predicated of something. This hypothesis spells out the assumption put forth by Tovena and Donazzan (2015) that the deverbal Ata nominalisation is endowed with a semantic trace of an external argument, i.e. the external argument is at least semantically active, even if syntactically not realisable. As a consequence, the event noun imposes some specific constraints on the realisation of a complex predicate. The first step, in section 2.2, is to review some empirical arguments that strengthen the case for such a semantic trace in the nominalisation. Section 2.3 will then provide a formal definition for the semantics of the suffix. Next, section 3 discusses the proposal according to which dispositions are properties related to thematic roles assigned by predicates, and provides broad empirical support for it. We will start by taking the macro-property of animacy as a first approximation, and consider its relation to typical (proto-)agentive entailments. Our aim is to look more precisely at the way in which the thematic role associated to the subject position should be characterised, and at the properties that should be ascribed to the entity that discharges this role. We will then propose a non-restrictive definition of the Agent role in terms of causal relations, and show that these properties can be expressed as dispositions. Dispositions are put into use in the further compositional step that is taken up more specifically in section 4, where we look at how to put

1In the following, we will refer to the Italian suffix as Ata. We consider Ata as one derivational suffix with allomorphs. The capitalised vowel refers therefore to the thematic vowel of the verb, which may varies depending on the declension to which the verb belongs (e.g. cadere ‘fall’ has the form cadUta, and nuotare ‘swim’ gives nuotAta). Irregular verbs may also have specific forms, cf. leggere ‘read’ → letta of example (14) below.
together a verb that is light, has undergone semantic bleaching, at least to a certain extent and
only preserves a causative meaning, with an event predicate that is expressed by a nominal. The
contrast between (2b) and (2d) calls for a finer characterisation of the agentive role associ-
ated with the external argument, one that is relative/sensitive to the type of event described by
the nominalisation and of the light verb construction. Agentive dispositions are put at work to
relativise causative capacities to types of events. Section 5 concludes the paper.

2 Ata-nominals and their contribution in light verb constructions

2.1 The elective affinity

There is a clear elective affinity between light verb constructions in Italian and event nouns
ending by Ata. This facet of the distribution of Ata event nouns has drawn the attention of
researchers, mainly with regards to the issue of how the argument structure of these nominal-
isations is realised in the light verb construction, or, if they do not have one, what is realised
in such a construction. This is the concern of syntactic proposals put forth by Samek-Lodovici
(2003) and Folli and Harley (2013). They do not address explicitly the issue of why Ata-nominals
are the specific event nominals used in Italian for this type of construction, and this is a point
on which our paper makes a contribution. In our view, the semantic constraint on the external
argument present in Ata-nominals together with the possibility of overtly expressing such an
external argument offered by the light verb construction, are the key for making sense of what
looks like an elective affinity of Ata-nominals for light verb constructions.

On the one hand, a bias for expressing an external argument seems to be imposed by the
derivational suffix itself. The verb that the suffix selects as a base has to be a causative predicate,
i.e. it has to encode the potential for expressing an external argument. As we will show, non-
dynamic predicates such as stative verbs cannot serve as a base for the derivation process, and
predicates that express a change of state of their thematic argument are also generally excluded.

On the other hand, as we have seen in (2b), when the nominalisation is part of a com-
plex predication, more specific constraints on the realisation of the external argument arise. As
noted also by Alba-Salas (2004), the nominalisation of cadere does not obey to the same con-
straints when it is used outside the complex predicate, compare the marginality of (2d) with the
acceptability of the attested example in (3).

(3) La caduta del Muro di Berlino simboleggia l’inizio del processo di unificazione della
Germania
the fall-ATA of the Berlin Wall symbolises the start of Germany unification process

In the remainder of this section, we tackle the question of how to compose the constraints
imposed by the nominalised verb (in a way, the output of the nominalisation process) with the
selectional requirements of the light verb.

2.2 Three empirical arguments for an external argument in Ata-nouns

In this section, we recall three empirical arguments that support the existence of a semantic
trace of some agentive requirement within Ata nominalisations. Before we present them, we
provide some background on Ata-nominals in light-v constructions. The two main patterns that

2The reverse is only partly true, because these nominalisations are not restricted to light verb constructions.
3http://www.berlino.com/muro-di-berlino/
are realised have been identified by crossing the arity of the base verb with that of the light verb (Samek-Lodovici 1999, 2003). *Ata*-nouns construed on transitive verbs occur with ditransitive light-verb *dare* "give" (4), and *Ata*-nouns construed on intransitive verbs occur with transitive light-verb *fare* "do" (5).

(4) Mario ha dato una mescolata al minestrone. transitive V-base
Mario gave a stir to the soup

(5) Gianni ha fatto una camminata. intransitive V-base
Gianni had a walk.

In some cases, both light verbs are possible with the same nominalisation, cf. the case of *lavata* ‘wash’ in (6). The transitivity distinction surfaces via the referentiality of the complement noun. When the patient is expressed by an indefinite nominal, the light verb is *fare*, as in (6a). When it is definite, the light verb is *dare*, see (6b).

(6) a. Gianni ha fatto una lavata di lenzuola. indefinite NP
Gianni made a washing of sheets.

b. Gianni ha dato una lavata alle lenzuola. definite NP
Gianni gave a washing to the sheets.

For the purposes of this paper we will not discuss in detail the issue of the internal argument and its relation to the choice of the light-verb. We leave aside the specifics of the alternance in (4)–(5) by assuming that the nominalisation—directly or indirectly, e.g. via an ApplicativeP as per Folli and Harley (2013)—is always the complement of this little V projection.

2.2.1 Coincidence of subjects The first piece of evidence comes from facts holding in several languages. In *Ata* complex predications, the subject of the light verb is obligatorily coreferential with one of the arguments of the event noun. An analogous constraint was observed to hold for English light verb constructions by Wierzbicka (1982) in her descriptive study. This requirement is captured by a transfer style approach such as the one proposed by Samek-Lodovici (2003). Sentence (7b) is judged ungrammatical, contrary to (7a) where *fare* is a full verb.

(7) a. Mario ha fatto la firma di Paolo. indefinite NP
Mario made Paolo’s signature

b. #Mario ha fatto la nuotata di Paolo. definite NP
Mario had the swim-ATA of Paolo

Note, however, that if the applicative integrates the complement in the syntactic representation, no aspectual effect is expected. Where is the constraint against patients that measure out the event? Folli and Harley posit a constraint against definiteness as part of the diagnostic of light verb *dare* with creation verbs. The subject of the small clause would involve a presupposition of existence, incompatible with a non-existent item. This line of reasoning does not cover contrasts such as (i) vs. (ii), where the base verb is transitive and is not a verb of creation, the light verb is *fare* and the internal argument cannot be definite.

(i) Luisa ha fatto una mangiata di funghi
Luisa had a treat of mushrooms

(ii) *Luisa ha fatto una mangiata dei funghi
Luisa had a treat of the mushroom
Further evidence pointing in the same direction comes from sentences containing relational adjectives. These forms potentially can express one of the arguments, but they never do so, cf. (8).

(8) a. Mario ha fatto una chiacchierata paterna con Gianni.
   Mario had a paternal chat with Gianni.  

b. Ho colto con grande simpatia la chiacchierata paterna che il nostro Papa ha fatto con i preti di Albano a Castel Gandolfo qualche giorno fa.
   I received with great sympathy the paternal chat that our Pope had with the priests of Albano in Castel Gandolfo, a few days ago.
   (http://www.uncommondescent.com/documentation/ID-in-Italy.pdf)

Coreference with the argument of the relational adjective is never available in (8), and the adjectives are interpreted intensionally as referring to a kind. Mario doesn’t need to be the father of Gianni for the sentence (8a) to be true, as (8b) further shows.

2.2.2 Restrictions on the aspectual classes

The second piece of evidence is more specific to Italian and concerns the aspectual class of the verbs whose roots can enter the nominalisation, as noted by Gaeta (2002) and Tovena (2014), and contra Folli and Harley (2013). Non-dynamic predicates such as states (9) and inchoative states (10), are excluded. Dynamic telic punctual predicates such as achievements (11) are equally excluded, unless they undergo a form of coercion. Examples such as (12) illustrate the fact that accomplishments are also banned.

(9) Mario conosce il francese/ *ha fatto una conosciuta di francese
   Mario knows French

(10) Mario si è ammalato/ *ha fatto un’ammalata
   Mario got sick

(11) a. Mario ha vinto la gara/ *ha fatto una vinta della gara
   Mario won the race

b. Il vaso si è spaccato/* ha fatto una spaccata.
   The vase broke

(12) Mario ha mangiato la torta /*ha fatto una mangiata della torta
   Mario ate the cake

In other words, Ata-nominalisations consistently denote events of the activity type. This aspectual restriction can be stated also in the following terms: Ata nouns select for predicates whose only argument is the external one. These predicates, moreover, denote dynamic events, which are known to be characterised by agentive arguments (Dowty 1979). Building on these two empirical observations, we suggest the following conclusion: the individual that discharges the agentive role in the argument structure of the nominalised verb is the only participant of the event denoted by Ata-noun that may act as a particular for identifying the event. This speculation is not unmotivated. To say that an event is identified by the individual who is causally responsible for it, can be seen as a way of spelling out the assumption that causes identify events (Davidson 1969).
2.2.3 Nomina vicis The third empirical argument in favour of the presence of a condition for the potential realisation of an external argument has also to do with the role of the external argument in identifying the event, and concerns the specific reading of these event nouns. Its cross-linguistics implications are an independent research project on its own and we will not be able to do them justice here.

Deverbal Ata-nominals are nominals that can refer to specific occurrences of events, not to types of events (Gaeta 2000, 2002, Tovena and Donazzan 2015, Donazzan and Tovena to appear). It has been proposed to characterise this reading with the notion of nomen vicis. The forms that support it might not be specialised for it, and surely do not seem to have a unique morphological makeup across languages. A characterisation of Ata-nominals in Italian that extends to nomina vicis is provided by Gaeta (2000, 2002), who observes that Ata-nouns do not support generic readings (13).

(13) Il nuoto/# la nuotata in piscina non è più di moda.  
Swimming/the swim-ata in the pool has gone out of fashion

Note that other forms of derived nouns in Italian are not subject to this constraint, cf. (14). This behaviour is specific to ata nominalisations.

(14) Leggere/la lettura/*la letta è un’attività solitaria.  
Read-INF/ the read-URA/ the read-ATA is a private activity

Gaeta’s observation is formulated in negative terms, as a distributional restriction, but is motivated by invoking a morphological reason. Genericity, says Gaeta, is blocked because the domain of denotation of these nouns is discretised by perfective aspect and the single units cannot be used to refer to the process.

We agree with Gaeta’s idea of taking into consideration aspectual information, and we integrate elements from the morphological derivation with syntactic-semantic considerations. The suffix can be derived from that of inflexional past participial morphology and is subject to the same morpho-phonological adjustments (Ippolito 1999), but aspect cannot be the only ingredient. On the one hand, perfective aspect does not block reference per se, and on the other hand, past participle formation in Italian is not sensitive to aspectual classes in the way we see for Ata-nominals (Tovena 2014), cf. (9)–(12) in section 2.2.2.

The resistance to generic readings is taken to be a side-effect of the constraints on event identification. The external argument of the base predicate cannot be given an arbitrary referent, but has to be realised by a particular individual.

2.3 The external argument in the suffix

We have seen that there are empirical reasons for assuming that Ata-nominalisations contain a semantic trace motivating the realisation of the external argument as the subject of a light-verb in complex predicates. Aspectual considerations related to the perfective component in the original inflexional suffix have motivated Tovena (2014) to propose that the present days -Ata ending has specialised into a derivational suffix. Tovena and Donazzan (2015) have added a constraint to its content, stating that the events in the denotation of nomina vicis are associated with an initiator. This is a semantic restriction that applies to the external argument although this argument is not syntactically realised. The entry of the suffix is provided in (15).
The derivational suffix takes as input a Root, contributes a Davidsonian argument and the property of delimitedness of the event, and associates it to an individual via the role of initiator. The event is associated with an initiator by a function that takes the event variable as its argument and returns an individual that is assigned as a value to variable x. This variable x is not bound by a lambda operator, because the nominalisation does not have a syntactically realised external subject. The function INITIATOR works as a semantically active constraint with no syntactic expression when the nominalisation is used in isolation. The end result is that whenever the Davidsonian variable gets instantiated, the event is associated with a particular initiator. This undefeasible and specific association between event and initiator right from the beginning is at the base of the nomen vicis reading. As we see, the requirement of an initiator is introduced by the suffix and, as its immediate consequence, it makes it work as a filter for the candidate roots. The requirement captures the empirical generalisation that only activity verbs seem to be allowed as bases for these nominalisations illustrated by the facts in (9)–(12)² and accounts for the specificity of nomina vicis, because the external argument discharges the Agent role and is the participant that individuates the event denoted by activity predicates.

The function DELIMIT has been developed by Tovena (2015), according to whom the suffix works like an event modifier that measures the event using contextual information, see (16).

\[(16) \lambda P \lambda e[P(e) \land \mu(\tau(e)) = d \land d \geq \text{Min}(\mu(\tau(e)))]\]

The measure function for times μ in (16) is a variable over measure functions such as hours or minutes. The perfective content is captured by applying the contextually determined function μ to the temporal trace of the event τ(e) and assigning its value to a variable d. The predicate of events P is instantiated by the verb base and restricted to denoting in a homogeneous domain. \(\text{Min}(\mu(\tau(e)))\) is the minimal duration of an event of type P, and the value of d is superior or equal to it.

In this paper, we adopt the idea of a nominalisation obtained with the apport of a suffix derived from inflexional past participle morphology, and integrate it with Tovena’s (2015) aspectual restriction and with Tovena and Donazzan’s (2015) initiator condition.⁶ Taken all together, this results in the characterisation of the suffix given in (17).

\[(17) \lambda R \lambda e[R(e) \land \text{INITIATOR}(e) = x \land \mu(\tau(e)) = d \land d \geq \text{Min}(\mu(\tau(e)))]\]

The next step is to determine how the constraint of the external argument in (17) can be integrated in a compositional analysis of the complex predicate. Previous analyses have not considered this issue, but have tackled the more general issue of the arguments of the light verb construction. We will treat the composition in detail in section 4. Before that, we devote section 3 to the discussion of the Agent role of the causative verb, and the properties required by the entity that discharges this role.

### 3 Agentivity and dispositions

As we have pointed out in the previous section, there are reasons to assume that Ata-nominalisations are associated with the external part of an argument structure, at least of a conceptual

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⁵See Folli and Harley (2013) for a different view on the presence of aspectual constraints.

⁶There is a nominalising head that determines the category of the output as a noun ending by a, but this is not crucial for the point we are making here.
argument structure. There is a long trend of analysis in the literature about the role of participants in an event, and various notions and terms have been proposed. Several theories of argument selection can be seen ultimately as attempts to solve the problem of terminological proliferation, by reducing thematic relations to cluster concepts, such as "proto-roles" (Dowty 1991) or "macro-roles" (Van Valin 2005). An important point for our argument is that the entailments associated with thematic positions determine the attribution of specific properties to the entity filling the relevant thematic role. In the following sections, we will try to "bridge the gap", so to speak, between the verbal entailments that characterise the thematic role of Agent and the properties of the entities that are allowed to fit into this role.

3.1 More data illustrating the agent (proto)type

Let us look more closely at the properties of the entity associated with the Agent role by considering, as a start, the broad categorial property of animacy. The contrast with respect to animacy is brought up, in our case, by unaccusative verbs. Unaccusativity, in its semantic interpretation, is the label traditionally used to refer to an intransitive verb whose syntactic argument in subject position does not discharge a semantic role of agent. Some verbs traditionally classified as unaccusative in Italian allow Afa-nominalisation, see (18)–(19).

(18) a. Mario è/"ha caduto giù per venti metri.
   Mario fell twenty metres down
   b. Mario ha fatto una (brutta) caduta
   Mario had a (bad) fall

(19) a. Mario è/??ha scivolato giù per venti metri.
   Mario slid twenty metres down
   b. Mario ha fatto una scivolata di venti metri giù per il pendio
   Mario slid twenty metres down the slope

Unaccusative verbs can have a subject that is human (20a, 22a) or non-human (21a, 23a). but the distinction that is relevant for our argument is that when the nominalised verb is inserted in a complex predication, non-human subjects are not acceptable anymore (21b, 23b).

7For instance, 'deep semantic cases' (Fillmore 1968) and 'thematic relations' (Jackendoff 1972), to name just two milestone references in the semantic production on the topic.

8Here we take auxiliary selection as prima facie evidence for unaccusativity. It is fairly common to assume, starting from Burzio (1986), that unaccusative verbs select for the auxiliary to be in Italian, while unergative verbs select for have. It has also become clear however that the auxiliary selection criterion identifies not only two core classes of unaccusative and unergative verbs but also more peripheral ones, where it is possible to observe variation and context effects within one and the same language.

9A similar observation has been made by Wierzbicka (1982) with respect to the verb fall in the English light-verb construction have a fall, cf. (Wierzbicka 1982:796):

Thus Humpty Dumpty could have a great fall from the wall, but an apple could not have a fall from a tree or a book from a bookshelf.

Wierzbicka (1982) explains the contrast by evoking, for the have a fall construction, a potential experience of the agent, an intuition that only partially matches our analysis.
Animacy is a categorial property, that is, a property that is attributed to entities independently from their relation to an event. Animacy however is often related to more specific prototypical entailments (Dowty 1991). One of these is volitionality. It may be argued that volitional agents are necessarily animate, and thus, if being animate does not entail to act volitionally, the converse must be true. However, to characterise the role of the agent by volitionality is also problematic. On the one hand, typically non-volitional ergative verbs are found in nominalised form, e.g. *sudare* "to sweat" (24).

Recall that predicates describing non-volitional events such as *bleed* and *perspire/sweat* posed noticeable problems to philosophers of action. It is a debated issue whether non-volitional bodily movements should be described as actions or as things that merely happen to their subjects. Thalberg (1972) discusses the problem in some length, and argues that "these episodes are not things that happen to a person" (because) "if you perspire, it is a contingent matter that anything acts upon you to make you perspire" (p. 19). In other words, perspiring and bleeding, when predicated of a person, are non-volitional, but are still actions that depend primarily on their subject to be brought about.\(^\text{10}\)

\(^{10}\)More precisely, Thalberg (1972) considers predicates such as *choke* and *cough* to be of a potentially separate group that describe "reactions" to stimuli, and therefore non-voluntary *acts* of a subject. Likewise, *sleep* is termed a "breakdown" verb, which implies a lack of control and awareness, but which describes again an action. The problem, here again, arises when one considers control and volition the crucial notions for teasing apart actors from undergo-
On the other hand, volitionality can be seen as a weaker pragmatic enrichment (Holisky 1987, Van Valin and Wilkins 1996), since it can be suspended in most cases with no consequences on grammaticality.

(25) a. Mario ha sudato senza volerlo.
   Mario sweated without intending to do so.

   b. Mario è caduto senza farlo apposta.
   Mario fell without doing it on purpose

(26) a. Mario ha fatto una sudata senza volerlo.
   Mario had a sweating without intending to do so.

   b. Senza volerlo, Mario ha fatto una brutta caduta.
   Involuntarily, Mario had a bad fall.

Finally, note that, when the nominalised non-volitional predicate enters a light-verb construction, the contrast surfaces once again in terms of animacy, but volition then cannot be at the origin of the contrast.

(27) a. Mario sta sudando
   Mario is sweating

   b. Mario sta facendo una sudata.
   Mario is having a sweating

(28) a. Il salame sta sudando in questa fase di stagionatura
   The salami is sweating in this phase of the curing

   b. *? Il salame sta facendo una sudata in questa fase di stagionatura
   The salami is having a sweating in this phase of the curing

The notion of control has also been frequently evoked to explain proto-agent entailments. Contrary to volitionality, the possibility to control an action or a process is not related to animacy by entailment. Complex systems and automata can be understood as controlling a given process. In particular, a form of control could explain the difference between the examples in (29) and (30). One can argue that it is easier to attribute the possibility of controlling its own movement to a self-propelling engine like a motorbike, irrespective of animacy and volition.\footnote{The acceptability of (29) may at first sight seem marginal, but a quick Google search confirmed our intuition. The ergative pattern in the (a) examples \textit{X ha scivolato} had the contrasting scores of 240 hits for the motorbike vs. none at all for \textit{la bici ha scivolato}. In the complex constructions (b) \textit{X ha fatto una scivolata}, the motorbike totalised 8 examples vs. none at all for the bike.}

(29) a. La moto è scivolata/?ha scivolato
   The motorbike slid

   b. ?La moto ha fatto una scivolata.
   The motorbike had a slide
Control, however, is an entailment of the verb, that is, it cannot be considered as a property that can be ascribed to an entity independently, unlike animacy. The very same Daniel is in control in (31a) and is not in (31b).

(31) a. Daniele mi ha promesso di venire
    Daniel promised me he will come

    b. Daniele conosce la risposta
    Daniel knows the answer.

Summing up, it looks as if there can be no common ground in the examples we looked at so far. The property of animacy is not compelling for the subject, since agentivity clines can be observed between non-animate entities, and it does not imply volition or control. Control can explain the contrast between (29) and (30), but cannot be at the origin of the difference between (27) and (28). In other words, the quick survey of the examples proposed in this section makes the point for trying to solve the notorious problem of linking theories, namely the fact that the broad inventory of possible thematic roles often assumed in decompositional approaches, and the even larger number of semantic features associated with these, are sometimes not sharp enough to capture the selectional restrictions of verbs within one and the same language. In the following section, we propose a non-restrictive definition of the Agent role, capable of encompassing the inventory of features evoked to describe the cases discussed here.

3.2 The Agent role

As noted by de Lancey (1990), the semantic category of Agent must be understood as intensional. Agent is a relation that can be predicated only of particular entities with respect to particular events. It makes sense then to ground the definition of agentivity first and foremost in the structure of an event type. The view that we will adopt here is that dynamic events can be represented essentially by causal chains, and that thematic positions can be defined in terms of causal relations. The role of agent is then related to causal responsibility and to the status of first link of the chain.

Cognitive semantics considers causation as the principle that underlies the fundamental sense of agentivity, since the different properties of agents can be reduced to their role as immediate or mediate causers in a causal chain (de Lancey 1984, Croft 1998). The conceptualisation of events as causal chains is supported by several studies in cognitive psychology, where a connection has been established also with respect to linguistic expressions. It has been noted that the perception of events as wholes or as composite entities parallels the linguistic expressions (e.g. periphrastic or lexicalized causatives) used to describe them (Wolff 2003).

Building on this background, we propose that the main entailment that is relevant for agentivity is a causative entailment, which could be expressed in a decompositional analysis by imposing a feature \texttt{CAUSE} on the Agent role. This role thus represents the causal responsibility of the subject with respect to the event denoted by the verbal predicate. Being causally responsible for an event means, in practice, to be “the first identifiable cause of the event” (de Lancey 1990: p. 71).
In terms of entailments, then, this approach implies a less restrictive notion of agentivity than generally assumed in the literature, where neither animacy nor volition are necessarily part of the definition.

The non restrictive definition that we adopt allows for cross-linguistic variation in the choice of which properties are relevant for expressing causal responsibility with respect to which predicates. Some languages may be more restrictive, imposing a morphosyntactic or semantic feature of animacy or volition for a certain predicate, and other less. Cross-linguistic variation however will not be our concern here, since our aim is to build a more general frame for analysing the interaction of the Agent role feature with the properties displayed by the event participants.

### 3.3 Agent-related properties as dispositions

The Agent role is identified with the first link of the causal chain that defines an event type. But then, we may ask what legitimates the assignment of the Agent role to a particular entity in the causal chain, and which properties an entity has to possess in order to be causally responsible of a particular event.

There may be different approaches to an answer. One is to look at the set of entailments of a particular predicate, and indirectly define the properties that a possible agent may have. Another way is to move from entailments with respect to a position to the properties that entities have in more abstract causal chains. Agentive properties then would be the link between two independent perspectives—that of the verb with that of the event represented by the causal chain. A verb has roles, an event has participants. We are interested in the properties of event participants, and then we wish to link them to the entailments of the verb. Invoking dispositions enables us to bridge these two domains, and we are going to take dispositions as properties viewed as relevant for events.

Let’s take stock. We introduced the contrast between the pairs of sentences in (1) and (2) as an illustration of a linguistic phenomenon that calls for an approach based on dispositions, and we also argued that, in order to describe this agentive component, we need to depart from the view on dispositions as conditional statements about entities that was mentioned in the introduction. This is because, in our view, dispositions express a form of potentiality. To be more precise, dispositions are properties that "bestow a causal power upon their bearers" (Ellis 2002). A more precise definition of causal power is provided by Ellis (2012): ‘Any quantitative property P that disposes its bearer S in certain circumstances C₀ to participate in a physical causal process, which has the effect E − E₀ in the circumstances C₀, where E is the actual outcome and E₀ is what the outcome would have been if P had not been operating.’ As noted by Ford (2012), this description ‘outlines two criteria for being a causal power: It must dispose its bearers to be involved in causal processes that i) involve transfer of energy; and ii) would thereby make a difference in outcome so long as the circumstances remain constant’ (p. 190). We

12Cf. also Primus (1999) and Schlesinger (2013), for alternative accounts of the role of causation, as a prominent entailment or semantic feature.

13Traditionally, both dispositional and categorical properties have been put forward in attempts to describe the manifest world. Categorial and dispositional properties have been opposed in philosophy with respect to their role in causation, and the debate is whether all or only some of the fundamental properties have dispositional essences. Ellis (2012) contends that there is an ontological difference between dispositional properties and categorial properties, that is, properties that do not have dispositional essences. The debate should not concern us directly here, since we will focus on dispositional properties as related to causation and triggered by specific events.
content the entities that can discharge the Agent role must be characterised by active causal powers, acting in causal processes by impressing energy and by determining, by their action, the outcome.

Assuming the association of a causal process to an event-type, we argue that dispositions are those potentialities that attribute to their bearer the power to be an element of the causal chain leading to a class of events.

\[(32)\] disposition = a property that has the status of a power with respect to a manifestation, and more generally with respect to a characterisation of events, making its bearer an element in the causal chain leading to this characterisation of events.

In less abstract terms, and linking causal powers to linguistic realisation, we suggest that "active" and "passive" powers respectively mean the licensing of the role of Agent or Undergoer with respect to a verbal predicate. It is precisely when taken in a causal relation that dispositions can be "passive" or "active". In this paper we are discussing in particular the case of "active" dispositions that we call *agentive dispositions*. The general definition in (32) is refined as in (33) for the specific case of agentive dispositions.

\[(33)\] agentive disposition = a property that has the status of a causal power with respect to a manifestation, and more generally with respect to a characterisation of events, making its bearer the first element in the causal chain leading to events under this characterisation.

It is the link between the property and the manifestation that gives to the property the status of a power, and, in the case of agentive dispositions, this power is a causative power: the bearer of the disposition has the potential to be the cause of the event.

### 3.4 Agentive dispositions in language

Let’s see now how this characterisation of agentive dispositions can be useful if applied to concrete examples. Take the case of (27) vs. (28), repeated below as (34) and (35).

\[(34)\] a. Mario sta sudando
   Mario is sweating
b. Mario sta facendo una sudata.
   Mario is having a sweating

\[(35)\] a. Il salame sta sudando in questa fase di stagionatura
   The salami is sweating in this phase of the curing
b. *? Il salame sta facendo una sudata in questa fase di stagionatura
   The salami is having a sweating in this phase of the curing

It should be clear that the characterisation that we are pursuing is not concerned with the actual manifestation of the event, nor are we claiming that dispositions are to any extent a way to define thematic roles. Rather, the question we have been addressing is that of finding a way to express the difference between two potential subjects of the verb *sweat* in Italian, given the requirement imposed by the thematic role of the verb. The answer must clarify why it is the
case that both Mario and the salami can be the subject of *sweat*, but only Mario can be mapped to the external argument position of the light verb in the complex causative construction.

The line we are exploring is that an agentive dispositional subject of sweating is viewed as having some properties that give him the disposition of sweating, i.e. that enable him to be causally responsible of an event of sweating that realises his disposition, as stated in (36).

\[(36) \text{Mario has an agentive disposition wrt to } [\text{sweat}]=\text{Mario possesses the property that is considered a causal power wrt events of sweating}\]

From the data we have examined, it has turned out that the agentive dispositions that are relevant in light verb constructions are not necessarily so for the roots in *Ata* nominalisations. In other words, the causative light verb in (35) selects for its external argument a causative feature that has to be checked by an entity with specific causal powers, which are possessed by Mario but not by the salami.

We have seen that invoking volitionality or control is not really useful for expressing this causative feature in the light verb construction, since no such constraints are found on the Agent of the light verb. The contrast recalled in (34) and (35) is suggestive of an animacy opposition. We have seen, however, that reading the data in this way is also not an optimal solution, for at least two reasons. First, on an empirical ground, animacy alone cannot explain the contrasts in acceptability that we observed for *Ata*-nouns in section 3.1, see in particular (29) and (30). Second, and more importantly, animacy is a categorial property, which is ascribed to an individual independently from its relation to an event.

We manage to defuse both issues by saying that animacy is not relevant *per se*, but it becomes relevant in relation to causal responsibility. In a sense, animacy bestows some causal powers on its bearer. Mario has a causal power with respect to sweating in (34b) in virtue of his being an entity self-organised for sweating, and therefore being the primary cause of an event of that type that has him as an experiencer participant. Similarly, a motorbike is a self-propelling entity and a bicycle is not. The fact of being an entity with (respectively without) this property, makes it an entity with (without) the power to be causally responsible of a motion event, and the contrast between (29) and (30) is expected.

In sum, assuming that entities have properties, what we call requalifying a particular property as a disposition is precisely the move of characterising such a property relatively to its causal powers with respect to an event type. In the next section, we analyse light verb constructions with *Ata* nominals as constructions that require this type of requalification.

4 Integrating semantics and syntax

4.1 A hybrid predicate

The view of dispositions as characterisations of properties relativised to the causal power they can have with respect to an event type, has something to offer to a theory of argument selection. For one thing, it opens the possibility to appeal to the notion of agentive dispositions in order to account for the contrasts between (29) and (30), repeated here as (37) and (38), abstracting away from the problematic notion of animacy and from specific entailments such as volition or control.

\[(37) \text{La moto ha fatto una scivolata.}\]

the motorbike had a slide
(38) #La bici ha fatto una scivolata.
the bike had a slide

As pointed out above, the contrast is explained in our account by the fact that an engine—as a motorbike—has the power to be causally responsible of a motion event, whereas a bicycle cannot be easily seen as self-moving or self propelling. Property requalification brings with it some specific assumptions with respect to the structure of the light verb construction. The motorbike in (37) is the subject of a causative light verb, yet it is licensed for this function in virtue of its disposition to be causally responsible of an event of a specific type, namely a motion event. However, the characterisation of the event type is provided by the nominalised verb, not by causative fare. Moreover, the nominalisation is not alone in characterising the event. As said, the causative light verb imposes a constraint on this external argument position that is stronger than the one imposed by the nominalisation. In other words, the event of sliding (scivolare) is an event of change of place when the root is realised as a verb, but when it is described via an Ata nominalisation (i.e. as scivolata) embedded in the light verb construction, the entity that undergoes the change of location must also be actively implicated in the event. The task is therefore to explain how these components combine to yield the strengthened requirement on the external argument.

The issue of the embedding of Ata-nominalisations in light verb constructions has been tackled by previous analyses in different ways. Samek-Lodovici (2003) has proposed that the complex predicate has a unique argumental structure inherited from the base verb, via a system of transfer and suppression of thematic indices. His proposal cannot predict contrasts such as (34) and (35), nor that between (37) and (38). Indeed, the contrast between (38) and (39) shows that the causative light verb does contribute a specific constraint, and that the thematic role of its external argument cannot simply result from a transfer from the argument structure of the nominalised verb.

(39) La bici è scivolata.
The bike slided down.

Folli and Harley (2013) have taken the opposite route and dealt with the argumental structure of the two predicates independently. More specifically, they claim that the external argument of the light verb is not transferred from the nominalised verb, rather ‘the complex predicates formed with both fare and dare are agentive, and both these light verbs select an external argument of their own’ (p. 102). The nominalisation does not select arguments. Their proposal too does not make the right predictions. The causative entailment imposed by the light verb turns out to be relevant relatively to the specific event denoted by the nominalisation, not in general terms, as it could be expected if the constraint were projected independently by the light verb alone, see again the contrast between (37) and (38). More generally, the assumption of a constraint independently projected goes against the idea that we try to spell out here, namely that the nominalising suffix itself contributes a piece of information concerning the realisation of the external argument.

Our approach is justified in the light of clear empirical data, and, we claim, is sound from a theoretical point of view. Ata-nominalisations in light verb constructions are nominal predicates that denote in the event domain, i.e. their type is $<\epsilon, t>$ and not $<\epsilon, t>$, where $\epsilon$ is the type

14Recall that this remark and the content of the whole section apply to the light verb construction with dare too.
of events. One implication of our analysis is that information concerning the structure of the event denoted by the nominalised verb, and of its conceptual argument structure, must still be accessible at the level of the composition between nominalisation and light verb. This means that the nominalisation, when it is complement of *fare*, is not by itself a closed interpretive phase. If we assume that the interpretive phase closes off at the DP level\textsuperscript{15}, the event noun should not be analysed as a DP but as a property. It is interesting to note that the nominalisation can hardly be a definite or quantified over, when it is complement of a light verb, see (40).

\begin{quote}
(40) Gianni oggi ha fatto *la scivolata/*tutte le scivolate/*ogni scivolata.
Gianni today has made THE slide-ATA/ all the slide-ATA.PL/ each slide-ATA
\end{quote}

But in other syntactic contexts, it is possible for *Ata*-nouns to be complement of determiners. In such cases, the DP can be used independently as argument of a lexical verb or a preposition, and can be quantified over (41), albeit with some restrictions coming from the interpretation of the external argument.\textsuperscript{16}

\begin{quote}
(41) L’allenatore ha trattenuto il respiro ad ogni scivolata/a tutte le scivolate/durante la scivolata del pattinatore.
The trainer has held the breath at every slip/ at all the slips/ during the slip of the skater
\end{quote}

Thus, the light verb construction is a somewhat hybrid structure. On the one hand, contrasts such as (37) and (38) show that the thematic role associated to the external argument position of the light verb *fare* is determined also by entailments projected by the nominalised verb. The dispositions that legitimate the denotatum of the subject DP as Agent in (37), and not in (38), are defined with respect to a verb of motion. On the other hand, the light verb *fare*, which has become semantically bleached and acts as a purely functional head, still contributes the semantics of a causative verb. This contribution determines a strengthening of the causative entailment for the thematic role associated with the subject position of the complex predicate, cf. (38) vs. (39).

The causative entailment is an essential piece of information for the saturation of the subject position. In order to be causally responsible of the event denoted by the nominalised verb, the entity that discharges the role of Agent must possess at least a property that can be requalified as an agentive disposition for the type of event. In the next section, we will propose a way to build this hybrid structure.

4.2 Building the predicate

The task of the light verb is understood as to bring the event denoted by the nominal–with its properties–into the main predication. Tovena and Donazzan (2015) have proposed that the nominalisation that occurs in a light verb construction merges with the head v via the special rule in (42), and we adopt this analysis.

\begin{quote}
(42) Event Identification with Role Composition
\end{quote}

\textsuperscript{15}Cf. e.g. Frascarelli (2006) for discussion.
\textsuperscript{16}See section 2.2.3 for an explanation of these constraints with respect to the *nomen vicis* interpretation of *Ata*-nouns.
If \( Z \) is a binary branching structure with daughters \( X \) and \( Y \), and \( X \) is of type \(< e, < e, t >>\) and \( Y \) is of type \(< e, t, t >\), then:

\[
[[ Z ]] = \lambda x \lambda e \left( [[[X]](x)(e) & [[[Y]]](e) \right)
\]

a. \( [[[X]]] = \lambda x \lambda e \left( \text{Agent}(e,x) & \text{event}(e) \right) \)

b. \( [[[Y]]] = \lambda e \left( \text{R}(e) & \text{INITIATOR}(e)=x & \text{DELIMIT}(e) \right) \)

c. \( [[[Z]]] = \lambda x \lambda e \left( \text{R}(e) & \text{DELIMIT}(e) & \text{event}(e) & \text{Agent}(e,x) \right) \)

The first node \( X \) in (42) contributes the possibility of having an external argument via the agentive role, the Davidsonian argument, and a characterisation of the eventuality as an activity. This is the contribution of the light verb. The second sister node \( Y \) in (42) contributes the Davidsonian argument, the characterisation of the event, by providing a root \( R \) for predicates of events. It contributes to aspect via constraints on the event atelicity and boundedness\(^\text{17}\), and contributes a characterisation of the eventuality as an activity via the requirement that it be associated with an entity that is an initiator. This is the contribution of the nominalisation. In the mother node \( Z \), one gets the complex predicate that can apply to the external argument. The requirements on the event coming from the two sisters are combined. The free individual variable in \( Y \) is identified and brought into the domain of the lambda operator that binds the individual variable argument of Agent in \( X \). The role composition in (42) is licensed in virtue of the fact that the role contributed by the nominalisation is (either equal or) subsumed by the role contributed by the head daughter. Thus, the weaker specification gets deleted. Next, the complex predicate built via (42) composes with the expression that provides a value for the external argument position associated with the agentive role, provided it has the required disposition.

Let’s dwell on rule (42). The role composition turns out to be a sort of filter, because only entities with agentive dispositions can provide the value for the agent argument position. As just said, the role contributed by the nominalisation is subsumed by the role specified by the light verb, but is not identical to it. This situation results from the hybrid nature of the complex predicate. Let’s proceed in a bottom up way. First, the nominalisation states a more general role of initiator. The external argument cannot be overtly realised, but it is conceptually present and a constraint is imposed on its interpretation. Three cases can be envisaged. When the root \( R \) would derive a verb that imposes a stronger constraint on the realisation of the thematic role associated with the external argument, it can also derive an \( Ata \) nominalisation. For instance, a verb like \textit{nuotare} ‘swim’ requires an Agent, and initiator is a more general constraint. When the root \( R \) imposes a weaker constraint, such as Experiencer with psych verbs, the nominalisation cannot be derived, e.g. \textit{amare} ‘love-Ata’, \textit{conoscere} ‘know-Ata’. Finally, when the root \( R \) would derive a verb that does not imposes an agentive role but is dynamic, and therefore potentially associated with a causal chain, the nominalisation can be derived, e.g. \textit{cadere} ‘fall-Ata’. Second, the light verb strengthens the general role introduced by the nominalisation by imposing the more specific role of Agent, which subsumes the initiator role.

Summing up, i) there is only an initiator in the nominalisation step, whether or not the root \( R \) would derive a verb that imposes an Agent role; ii) the light verb is a functional head that performs the syntactic operation of introducing the external argument, whose semantic counterpart is the operation of imposing an agentive requirement. It must be a true agent that must be able to be the first link of a causal chain.

\(^\text{17}\)As said in section 2.3, aspectual constraints have been spelled out by Tovena (2015), but we use a simplified version because the focus of the discussion in this section is not on aspect.
From the composition of roles, and the status of first link of a causal chain, it follows that the subject of the light verb must refer to the same entity that is the initiator of the event described by the nominalisation, as illustrated in section 2.2.1. The conceptualisation of the event described by the complex predicate as a unique causal chain allows us to integrate the entailments projected by the nominalisation into the complex predicate. The existence of such a unique causal chain shows in the relevance of agentive dispositions. When one considers the properties that are relevant for discharging the role of Agent of the light verb, these properties are those that are relevant for the event described by the nominalisation. Dispositions are properties ascribed to an entity that are perceived in the perspective of a manifestation. Assume the association of a causal chain to an event-type. Talking of agentive dispositions is a way of telescoping two pieces of information. On the one hand, agentive dispositions are properties ascribed to an entity and, on the other hand, those properties are seen as the first element of a causal chain leading to a class of events.

5 Conclusions
In this paper, we have offered a new argument for introducing dispositions in the analysis of natural language. We presented data drawn from complex predication in Italian that show the need for a finer-grained characterisation of the properties associated with the Agentive role. These fine-grained agentive properties were described as agentive dispositions. In the context of argument selection, an agentive disposition is a property that holds of the instantiator of the external argument position and is understood to be a power for the realisation of the event described by the event predicate of the clause.

The empirical case of *Ata*-nouns offers an interesting case for exploring the constraints imposed by verbal meaning on thematic positions. In nominalisations, traditionally the external argument is deemed suppressed, but in *Ata* nominalisations it is still semantically active. When the nominalisation is part of a complex predication, the semantic requirement within it is to be combined with the requirement of the external argument of a light verb with causative meaning.

Assuming that the light verb has undergone semantic bleaching, at least to a certain extent, and that it only preserves its causative meaning, it is then possible to reduce the (proto-)entailments of the light verb to a single entailment, namely that the subject of the verb be responsible for causing the event.

To conclude, let us stress that our argument for "active" (or rather, agentive) dispositions is not an argument against the "passive" dispositions analysis. We are not saying that -able adjectives such as breakable and their counterparts across languages shouldn’t be analysed as expressing dispositions ascribed to an entity in a patient role. In our view, a theory of disposition can be considered, from the point of view of a linguist, as a theory of the different ways in which languages express dispositions. In this paper we take a specific empirical fact as our starting point, and we show that the notion of disposition can be useful to deal with a more general phenomenon, which is that of argument selection.

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