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Beyond thematic uniqueness

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A common way of characterising the relationship between events and their participants is to postulate that the latter are assigned thematic roles. This is subject to a 'thematic uniqueness' constraint: an event cannot have more than one participant bearing the same thematic role. Building on recent work on predicates of individuals, this article demonstrates that thematic uniqueness is part of a broader phenomenon, which I call 'predicational uniqueness.' I model predicational uniqueness as stemming from predicational exhaustification; on this view, all predicates, whether they are thematic predicates of events or non-thematic predicates of individuals, are locally strengthened vis-à-vis alternative predicates from the same conceptual or thematic class.

1 Introduction

Since the work of Davidson (1976), it has been widely accepted that events are part of semantic meaning.[1] On this view, the meaning of a sentence like (1) is paraphrasable as 'there is an event in which Hiro is eating the pie with the spoon.'

(1)   Hiro is eating the pie with the spoon.

A long-standing hypothesis about the internal structure of events is that their participants are assigned 'thematic roles' (e.g. Blake 1930; Gruber 1965; Fillmore 1968; Jackendoff 1972; Dowty 1991; Carlson 1998; Davis 2019; according to Coppock & Champollion (in progress), the idea historically goes back to the *kārakas* in Pāṇini's *Aṣṭādhyāyī*). For the purposes of this article, it will suffice to assume that there are thematic roles such as those in (2); they are semantically assigned to DPs in sentences, as shown informally in (3a) and more formally in the truth conditions in (3b). (3b) constitutes a 'neo-Davidsonian' semantics (Dowty 1989) because it treats verbs' arguments as thematic predicates of events (Carlson 1984; Parsons 1980).

(2)   **Thematic roles:** {agent, theme, recipient, beneficiary, instrument, …}

(3)   a.   Hiro$_\text{Ag}$ is eating the pie$_\text{Th}$ with the spoon$_\text{Instr}$.
        b. $\exists e[\text{eat}(e) \wedge \text{agent}(e,h) \wedge \text{theme}(e,p) \wedge \text{instrument}(e,s)]$.

A widespread view is that in an event, a given thematic role cannot be assigned to more than one participant, corresponding to one DP constituent. This constraint is called THEMATIC UNIQUENESS (e.g. Fillmore 1968; Perlmutter & Postal 1977; Chomsky 1981; Bresnan 1982; Dowty 1989; Carlson 1998; Nie 2020; Baker 2025; Raghotham 2025). (4) gives some initial motivation for such a condition: the event contains two instruments and semantic deviance results.

(4)   #Hiro is eating with a fork with a spoon.

This article suggests that thematic uniqueness should be viewed as part of a more general constraint, found not only among thematic predicates of events like *with a fork*, but also among predicates of individuals like *green, poodle*, or *animated*. This claim builds on some of my previous work (e.g. Paillé 2024; 2025a) discussing constraints on the application of predicates of individuals. In those works, I focused on examples like (5), which is a contradiction rather than being true of a fork–spoon hybrid (a spork):

(5)   #This fork is a spoon.

The present paper argues that this kind of uniqueness effect should be given the same analysis as thematic uniqueness due to patterning identically with conjunctive material. To appreciate this,

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[1] In this article, I use the term 'event' for states, events, and processes (see e.g. Bach 1986; he uses 'eventuality' rather than 'event' as the cover term).

first observe that thematic uniqueness can persist even when one thematic predicate is part of a DP subject:

(6)   #The man eating with a fork is eating with a spoon.

From here, one can see that (5) and (6) share the property of becoming acceptable with *also*:

(7)   a.   This fork is also a spoon. (Paillé 2025a)
        b.   The man eating with a fork is also eating with a spoon.

The observation that thematic uniqueness can be circumvented by conjunctive material like *also* is new to this paper. In light of (7), I will suggest that thematic uniqueness (6) and 'lexical–conceptual uniqueness' (5) are both cases of a general PREDICATIONAL UNIQUENESS constraint in language.

To model predicational uniqueness, I will postulate the obligatory presence of a predicational exhaustivity operator Pred-Exh, building on the propositional Exh of Chierchia et al. (2012). Thus, (4) and (5) have the structures in (8):[2]

(8)   a. #Hiro is eating [Pred-Exh$_{ALT}$ [with a fork]] [Pred-Exh$_{ALT}$ [with a spoon]].
        b. #The [Pred-Exh$_{ALT}$ fork] is a [Pred-Exh$_{ALT}$ spoon].

This derives a semantic contradiction on the assumption that *with a fork* and *with a spoon* are alternatives to each other (presumably with other phrases as alternatives too), as are the nouns *fork* and *spoon*. For the purposes of this paper, I will for the most part simply assume that predicate-alternatives are constrained to predicates that are semantically similar in some sense; I give some discussion of this in section 5 but without developing a full theory of alternativehood. Finally, to explain the widespread presence of Pred-Exh operators advocated for in this article, I will suggest to extend Magri's (2009) view that all t-type nodes are exhaustified, to include et-type and vt-type nodes too. Intuitively, given the postulation of predicate-exhaustification, this plethora of obligatory Pred-Exh operators follows from the spirit of Magri's proposal, which is that language exhaustifies all the nodes that it can. This means that many predicates are locally exhaustified even when they are semantically different enough that no contradiction is intuited in the sentence they are in—for example (abstracting away from any propositional Exh operators):

(9)   a.   Hiro is a student from Montréal with brown hair.
        b.   Hiro is [$_{DP}$ Pred-Exh$_{ALT}$ a [$_{NP}$ Pred-Exh$_{ALT}$ student] [$_{PP}$ Pred-Exh$_{ALT}$ from Montréal] [$_{PP}$ Pred-Exh$_{ALT}$ with [$_{DP}$ Pred-Exh$_{ALT}$ [$_{AP}$ Pred-Exh$_{ALT}$ brown] [$_{NP}$ Pred-Exh$_{ALT}$ hair]]]].

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[2] In fact, (8a) is a slight simplification: on the theory proposed, there are also predicational Exh operators on the nouns *fork* and *spoon*:

(i)   #Hiro is eating [Pred-Exh$_{ALT}$ [with a [Pred-Exh$_{ALT}$ [fork]]]] [Pred-Exh$_{ALT}$ [with a [Pred-Exh$_{ALT}$ [spoon]]]].

While (9b) is what follows from the current proposal, not all of these Pred-Exh operators will necessarily have an observable effect: that depends on their sets of alternatives.

This article is organised as follows. Section 2 motivates that thematic uniqueness is a semantic rather than syntactic phenomenon, and shows that there is an identical constraint on thematic and non-thematic PPs—a first reason to doubt that thematic uniqueness is sui generis. Then, section 3 more radically breaks away from the standard view of thematic uniqueness, due to examples like (5). Having motivated a unified analysis of the semantic deviance of both thematic and non-thematic uniqueness violations, section 4 models predicational uniqueness via predicate-exhaustification. Section 5 briefly discusses alternativehood for this effect, and section 6 concludes.

2 From 'thematic uniqueness' to 'event-predicative uniqueness'

This section starts by briefly motivating thematic uniqueness, arguing that it is a semantic rather than a syntactic phenomenon. It then turns to new data showing that thematic uniqueness is not quite the right description: non-thematic PPs are apparently subject to a similar uniqueness constraint, with apparently no reason not to group the two uniqueness effects together.

2.1 Thematic uniqueness as a semantic effect

I start with some background on thematic roles. For the purposes of this article, I simply assume that thematic roles exist, and that the set of roles includes the following:[3]

(10)   **Thematic roles:** {agent, theme, recipient, beneficiary, instrument, …}

I will also assume that these roles are assigned by syntactic heads; nothing will hinge on this assumption except some discussion of constituency in section 4.3. These heads can be silent or pronounced; they can be adpositions or heads in the clausal spine. I will assume (cf. section 2.2) that some but not all prepositions assign thematic roles; instrumental *with*, for example, assigns its complement the 'instrument' thematic role, while *about* or *before* do not assign a thematic role. This is a view taken by Parsons (1995), for example; on his approach, (11a) is translated as (11b), where *Hiro* bears a thematic role but *Miko* does not.

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[3] There are two views opposed to this assumption. One comes from Dowty (1991), who suggests to collapse thematic roles to prototypes of 'agent' and 'patient,' with all other roles being less-than-prototypical agents or patients. It is not clear to me how thematic uniqueness would be modelled from this perspective. The view that there are thematic roles also contrasts with the view that they are epiphenomenal. As Carlson (1984: 260) writes, in a semantic system where "verbs (and other functors) treated as n-place functions from (for example) NP denotations to (n–1)-place functions," one can obtain interpretations "only know[ing] which NP to apply which function to, a matter that can be determined on the basis of lexical properties of the verb and formal information about sentence structure." He goes on to argue that thematic roles do exist.

(11) a. Hiro talked about Miko.
   b. $\exists e[\mathsf{talk}(e) \wedge \mathsf{agent}(e,h) \wedge \mathsf{about}(e,m)]$.

As stated in the introduction, it has often been claimed that only one DP per event can be assigned a given thematic role. This 'thematic uniqueness' constraint has roots in the observation that no verb assigns the same thematic role to more than one argument. Carlson (1998) makes the case for this by inventing a hypothetical verb *skick*; this verb would assign the role of agent to the subject and would take two internal arguments, a theme and another agent. We would therefore observe sentences like (12).

(12) Hiro$_{\mathrm{Ag}}$ skicked the ball$_{\mathrm{Th}}$ Miko$_{\mathrm{Ag}}$.

The intended meaning is that Hiro and Miko both kicked the ball. Carlson's point is that no such verb exists in any language; he therefore posits:

(13) **Thematic uniqueness:**   (Carlson 1998: 40)
   An event has at most one entity playing a given thematic role.

I assume that plurals (*the girls*) and conjunctions of two individuals (*Hiro and his dad*) count as a single entity for (13) (cf. Dowty 1989: 85–86).[4]

Carlson's thought experiment sheds somewhat limited light on thematic uniqueness. It is unclear from (12) whether the thematic uniqueness constraint is syntactic or semantic, because (12) involves a verb taking two agentive *arguments*. This means (12) could be problematic for syntactic reasons; perhaps nothing can assign case to *Miko* in such a sentence. Of course, the syntax can produce sentences that are superficially similar to (12), as in (14)—but (14) involves different thematic heads than (12), and these heads might assign case differently.

(14) Hiro gave Miko the ball.

I therefore suggest to put aside verbs' arguments and turn to adjuncts, in particular PPs (see Dowty 1989: §4.4 for similar argumentation). In principle, the syntax should allow adjunction ad infinitum, regardless of the thematic role being assigned by a given preposition. As it turns out, PPs behave just as (13) leads us to expect:[5]

(15) #Hiro is eating with a fork with a spoon.

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[4] But see Landman 2000, who argues that thematic roles are borne by the atoms making up a plurality, not the plurality itself.

[5] I take the *with*-PPs in (15) to be adjuncts in light of classic word-order tests:

 (i) Hiro is eating his soup {at home with a spoon, with a spoon at home}.

By hypothesis, (15) is deviant because there are two instruments in a single event, the fork and the spoon. Further, (15) forms a minimal pair with (16), where one occurrence of *with* is comitative rather than instrumental, and the result is a fully acceptable sentence.

(16)   Hiro is eating with a spoon with his dad.

Deviance does not only arise with multiple predications of *with*-instrumentals; other examples include:

(17)   a. #Hiro was described by Miko by Eito.   AGENTIVE *by*-PPS
         b. #I wrote a letter for Hiro for Miko.   RECIPIENT *for*-PPS
         c. #Hiro is hanging out with his friends with his family.   COMITATIVE *with*-PPS

(17b) can be felicitous on an interpretation where the letter was directed at Hiro but written to please Miko. In this case, Hiro is the recipient while Miko is the beneficiary: the DPs bear distinct thematic roles, so thematic uniqueness is not violated—cf. the two *with*-PPs in (16).

The above sentences all involve what I will call CO-PREDICATIONS. Consider (15) again. Here, there are two predicates of events, *with a fork* and *with a spoon,* that are similar in some sense—specifically in the sense of introducing an instrument. I will use the term 'co-predication' to refer to cases where two predicates that come from the same class (here, instrumental predicates of events) are predicated of the same entity (here an event—later, in section 3, I will also discuss predicates of individuals).

How general is this observed prohibition against thematic co-predications? It generally seems very strong (e.g. Dowty 1991); Parsons (1995: 645) calls it a "well-entrenched principle" without "any compelling counterexamples." However, there are several kinds of apparent counter-example. One of these, the case of multiple temporal or locative phrases (18), will be discussed and explained in section 5.

(18)   Hiro arrived in March on a Tuesday at 2pm.

Another apparent counter-example comes from symmetric predicates like *identical* (Carlson 1998). As far as thematic relations are concerned, it is not obvious what the difference between *picture A* and *picture B* in (19) should be. If the subjects of states are themes, for instance, one would think that both DPs in (19) are themes.

(19)   Picture A is identical to picture B.

Arguably, picture A and picture B are viewed with a different perspective in (19); picture A is the figure and picture B the ground (Talmy 1978). But figure and ground are not thematic roles (Dowty 1991), so the issue for thematic uniqueness remains.

One way to handle (19) is to follow Parsons (1995: §1.3), who suggests that the subjects of stative predicates are not themes. He takes them to bear their own kind of thematic role. He calls it the 'In' role (because one can be 'in a state'), but I will follow Glass (2019) in writing instead of the 'holder' thematic role. In (19), then, picture A is a holder, while picture B is a theme. This is perhaps not the most appealing analysis; a reviewer points out that with this holder thematic role, the subject of *like* and the object of *please* can no longer be analyzed as having the same thematic role, for example, given that only the subject of *like* would have the holder role. So, whether appealing to a holder role to break the symmetry of examples like (19) is a good idea is up to debate; with two themes in (19), however, one would need to explain why this class of examples is not subject to thematic uniqueness.

A reviewer points out that another kind of difficulty for the empirical claim that thematic uniqueness exists, this one coming from *with*-PPs. While I showed above that instrumental *with*-PPs cannot be co-predicated (15), and neither can comitative *with*-PPs (20), some apparently thematically similar *with*-PPs can in fact be co-predicated.

(20)   #Hiro is hanging out with his dad with his mom.

Indeed, possessive *with*-PPs are not subject to such a constraint:

(21)   Hiro is a student with brown hair with an expensive car.

While one could claim that possessive *with* does not assign a thematic role to its complement DP, in which case no thematic uniqueness violation would arise in (21), I am about to argue in section 2.2 that even non-thematic PPs display a uniqueness constraint similar to thematic uniqueness. I return to (21) in section 5, but without offering an explanation.

In sum, despite some possible counter-examples, (15) and (17) show that there is a prohibition in language against multiple participants in an event bearing the same thematic role. Given that the phrases causing the deviance in these examples are adjuncts rather than arguments, the examples also show that it is in the semantics that something malfunctions when multiple participants bear the same thematic role. But what semantically creates thematic uniqueness? As it turns out, theories of thematic uniqueness are almost entirely absent from the literature, which has focused on the empirical validity of this constraint, not on explaining it. Presumably, the simplest way of understanding thematic uniqueness is in terms of the lexical meaning of the heads that assign thematic roles. We could take these heads to mean that their associated DP not only bears a thematic roles, but also that nothing else bears that role (22). In (22), take 'instrument(e, x)' to be non-exhaustive; it means x is one of possibly more instruments in the event e.

(22)   ⟦with_Instr⟧

    a. $= \lambda x.\lambda e.$ instrument$(e, x) \land \forall y[$instrument$(e, y) \to y \sqsubseteq x]$.

    b. $\neq \lambda x.\lambda e.$ instrument(e, x).

A claim like this is made by Chierchia (1984: ch. 4, §3). He takes thematic assignment to be a partial function picking out the participant in an event that bears a given thematic role. As a function, this assignment is right-unique, so an event can by definition only have one participant with the thematic role.

I will show in section 3.3 that it is wrong to model thematic uniqueness as hard-wired in this way, whether due the lexical content of heads like *with* or due to stipulating that thematic assignment is a function. As a consequence, in section 4, I will model thematic uniqueness as arising from a semantic strengthening effect on predicates of events.

2.2 Uniqueness with non-thematic PPs

We have just observed thematic uniqueness by focusing on co-predications of PPs whose meanings involve a thematic role. But as stated at the beginning of section 2.1, many prepositions do not assign a thematic role; consider for example *about, on,* or *than.* Talk of 'thematic uniqueness' clearly suggests a uniqueness effect hinging on the presence of thematic roles; yet, non-thematic PPs resist co-predication just as much as thematic ones:

(23)   a. #Hiro is talking about cats about bicycles.

    b. #The book is on the table on the chair.

       (INTENDED MEANING: *the book straddles the table and the chair)*

    c. #The book is longer than *The Kangaroo Notebook* than *Baron in the Trees.*

It seems that the notion of thematic uniqueness, then, covers a rather arbitrary subset of a more general constraint against co-predicating similar predicates of events.

One could try to claim that in fact, thematic uniqueness is the right generalization, and the PPs causing problems in (23) are thematic. On this view, the problem in (23a) and (23b), for example, is that there are two themes in each example. This would commit us to the view that the complements of *about* and *on* are both themes. Yet, it is possible to co-predicate *about-* and *on-*PPs:

(24)   Hiro is writing about cats on the internet.

As such, to explain (23a–b) as thematic uniqueness violations, we would have to convincingly come up with different thematic roles for the complements of *about* and *on.* Clearly, attempting to capture data like (23) in terms of thematic uniqueness would lead to a proliferation of thematic roles.

Thus, we must re-define a new uniqueness constraint operating on both thematic and non-thematic predicates of events—call it EVENT-PREDICATIVE UNIQUENESS. Before pursuing this line of reasoning, however, it is worth seeing if the data collected so far represent the full scale of the uniqueness phenomenon under investigation. In fact, I will now show that there is much more data to include as part of the same uniqueness effect—data with a quite different profile, involving predicates not of events but of individuals.

3 Bridging event-predicative and lexical–conceptual uniqueness

So far, we have observed the existence of thematic uniqueness, taken it to be a semantic constraint, and also found that it has a twin in a uniqueness effect observed with non-thematic PPs. Thus, thematic uniqueness is part of a broader 'event-predicative uniqueness' effect (but I will usually focus on data involving thematic roles, and therefore write of 'thematic uniqueness'). The present section departs more radically from the traditional description of thematic uniqueness, showing that it is part of an even broader phenomenon affecting predicates of individuals, too.

I will start in section 3.1 by syntactically manipulating the kinds of examples where we observed thematic uniqueness in the clausal domain, to see that it also holds within DPs and (in the right circumstances) with thematic predicates distributed between a subject DP and the clause's VP. Using these constructions, I will then demonstrate (section 3.2) that even the expanded notion of 'event-predicative uniqueness' is insufficiently general. This will be due to some of my recents claims on the lexical–conceptual meaning of nouns and adjectives: in Paillé (2024; 2025a), I described a constraint against the co-predication of nouns and adjectives from a given conceptual domain, which I will refer to here as LEXICAL–CONCEPTUAL UNIQUENESS. Building on this, I will show in section 3.3 that event-predicative uniqueness and lexical–conceptual uniqueness disappear in the same environments, namely with conjunctive material like *and* or *also*.

The contribution of this section is twofold. First, thematic uniqueness has never before been noticed to systematically disappear in certain constructions, making this an important empirical contribution of this paper. Second, it pushes further the conclusion of the previous section. Section 2 reached the conclusion that a theory explaining examples like (25) based specifically on the thematic character of the *with*-PPs is theoretically suspect, since the explanatory power of such a theory would be limited to a subset of the data—thematic uniqueness, but not the broader event-predicative uniqueness paradigm.

(25) #Hiro is eating with a fork with a spoon.

The conclusion of the present section will be that even attempting to explain (25) in terms of the two predicates being predicates of events would be too specific an explanation. Rather, the uniqueness effect in (25) is part of a general PREDICATIONAL UNIQUENESS affecting all predicates.

3.1 Thematic uniqueness beyond simple clauses

This section turns to some new data showing that thematic uniqueness survives two related syntactic manipulations. First, thematic uniqueness persists even when the DPs bearing a given thematic role are within a larger DP rather than being clausal arguments or adjuncts. Second, it also persists when the two DPs bearing the same thematic role are distributed between a sentence's subject and VP, at least when the verb is *to be*. These manipulations will be necessary in the following subsections, where we will observe a parallel between the behaviour of predicates of events and predicates of individuals.

So far, the thematic roles we have seen have been borne by DPs associated with a clausal event. However, thematic assignment also occurs within DPs (e.g. Abney 1987; Dowty 1989; Parsons 1995):[6]

(26) Hiro_{Ag}'s destruction of his computer$_{Th}$

Thematic uniqueness also holds within such DPs:

(27)   #the letter for Hiro_{Rec} for Miko_{Rec}

On the intended interpretation (see my discussion of (17b)), there are two recipients in (27), and the DP is deviant. Thematic uniqueness is therefore not a phenomenon limited to the clausal domain.

Thematic uniqueness survives a second syntactic manipulation: having one thematic PP inside the sentence's DP subject, and the other as part of the VP:[7]

(28)   #The letter for Hiro_{Rec} is for Miko_{Rec}.

I will refer to examples like (28) as 'distributed' co-predications. Of course, whether a thematic-uniqueness violation arises depends on whether the PP in the subject DP and the PP in the clausal VP are predicated of the same event:

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[6] The existence of thematic roles within DPs as in (26) raises the question of what kind of entity they modify. Adjectival modifications like (i) suggest the presence of an underlying event. I will therefore continue to write of events.

(i)   Hiro's rapid destruction of his computer

Not all nouns that can be modified by apparently thematic predicates are as clearly eventive as *destruction*, however—take *book*, for example:

(ii)   the book by Hiro_{Ag}

One possibility is to take the lexical meaning of *book* to be complex in a way that licenses reference to the event of creating the book (Pustejovsky 1995). Nothing will hinge on this for this article.

[7] While (28) involves a uniqueness presupposition, the same effect is also observable with indefinites:

(i)   #Some letters for Hiro_{Rec} are for Miko_{Rec}.

Thus, one should presumably not explain (28) based on it having a definite subject.

(29)   The letter by Hiro was sent by Miko.

Here, Hiro is the agent of the writing event, and Miko the agent of the sending event, so it is not surprising that no deviance arises.

3.2 A uniqueness effect among predicates of individuals

With DP-internal and distributed thematic co-predications in our pocket, we can now turn to appreciating a formal parallelism between thematic uniqueness and another kind of uniqueness constraint. In Paillé (2024; 2025a), I laid out constraints on the co-predication of predicates of individuals, like *green* or *fork*. Examples like (30) are intuited as inherently inconsistent. I argued that the semantic problem in these examples is not due to the lexical meaning of the colour adjectives, a point I return to in section 3.3.[8]

(30)   a. #the white green flag
          b. #The green flag is white.

While (30b) might lead to the suspicion that the colour adjectives are intuited as inconsistent because the co-predication is distributed, examples like (30a) show that such an explanation would be insufficiently general: even within a single DP, they are intuited as inconsistent.

What unites event-predicative uniqueness and (30) is that these examples all involve the co-predication of two different but somehow similar elements. In event-predicative uniqueness, the co-predicated predicates are two different predicates of events introducing similar meaning (a same thematic role, in the case of thematic uniqueness); in (30), they are two different predicates of individuals taken from the set of colour terminology.

In this article, I will often use colour terms to exemplify the uniqueness effect with predicates of individuals. But it is important to observe that the effect persists elsewhere, like in the co-predications in (31) (see Paillé 2025a for more examples and more extensive discussion):[9]

(31)   a. #Some federal responsibilities are provincial.
          b. #Some derivational morphemes are inflectional.

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[8] Predicates like *green* involve quantification over parts, and are intuited as mutually exclusive in examples like (30) because their quantification has universal force. This is observed even in non-co-predicational examples:

(i)   The flag is green.
        ⤳ it is entirely green

However, various discourse factors can weaken this quantification, a phenomenon known as 'non-maximality' (e.g., Dowty 1987; Lasersohn 1999; Brisson 1998; 2003; Malamud 2012; Schwarz 2013; Križ 2015; Križ & Spector 2021; Bar-Lev 2021). See Paillé 2023b and 2025b for discussion of this, and how the predicate-exhaustification theory advocated in the present paper can be modified minimally to account for this.

[9] (31c) is acceptable if the nationalities are given different meanings (e.g. country of origin vs. country of residence), but contradictory otherwise.

    c. #Five Chinese doctors are Australian.

    d. #A labradoodle is a poodle that is a labrador.

    e. #A tragicomedy is a tragedy that is a comedy.

    f. #A spork is a fork that is a spoon.

    g. #Some live-action movies are animated.

We know that flags can be of more than one colour, that responsibilities can be shared between different levels of government, that there could in principle be portmanteau morphemes that are both derivational and inflectional, that it is possible to be an Australian and a Chinese person at the same time, that labradoodles are poodle–labrador cross breeds, that tragicomedies and sporks exist, and that a film can mix live action and animation. Yet there is a kind of uniqueness effect that prevents the expression of these thoughts via the co-predication of the two predicates denoting the component parts of these hybrids (30)–(31). Such a gap between thinkable thoughts and what can be uttered linguistically has a parallel in thematic/event-predicative uniqueness; for example, we know that a letter can be addressed to two people, but this cannot be expressed by (32), repeated from (28).

(32) #The letter for Hiro$_{\text{Rec}}$ is for Miko$_{\text{Rec}}$.

    To state the obvious, the uniqueness effect in (31) cannot be subsumed under thematic uniqueness.[10] I will call the uniqueness effect discussed in Paillé 2025a LEXICAL–CONCEPTUAL

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[10] To see this, consider again (i).

(i) #The green flag is white.

To analyze (i) as a violation of thematic uniqueness, one would have to say that the colour terms themselves carry the same thematic role. This role would be assigned to them by a null preposition (iib), paralleling the clearly thematic (iia). In (ii), I italicize material assigning a thematic role, and bold material receiving one.

(ii) a. #The letter [$_{\text{PP}}$ *for* **Hiro**] is [$_{\text{PP}}$ *for* **Miko**].
      b. #The [$_{\text{PP}}$ *P* **green**] flag is [$_{\text{PP}}$ *P* **white**].

However, in at least some languages with overt ɸ-agreement on adjectives, colour adjectives are clearly adjectival, not nominal complements of prepositions:

(iii)#Les ligne-s vert-*(es) sont blanc-*(hes).   (French)
     the flag-PL green-F.PL are white-F.PL
     '#The green flags are white.'

Even if one were prepared to accept (iib) for colour terms, it remains that co-predications of same-class nouns and adjectives are contradictory generally (31), so that we would have to accept that a large proportion of nouns and adjectives are nominal complements of null prepositions. These null prepositions would have to assign different thematic roles to different classes of predicates, because co-predicating predicates from different conceptual domains (e.g. the adjectives in (iv)) does not systematically result in contradictions.

(iv) the shiny clean green flags

We would be left with a proliferation of ad hoc thematic roles.

UNIQUENESS: it is a constraint against the co-predication of two predicates of individuals from a given conceptual class (colours, nationalities, dog breeds, etc.), in the same way that thematic uniqueness is a constraint against the co-predication of two predicates of events from a given thematic class.

3.3 Two uniqueness effects, or one? Identical interaction with *and* and *also*

So far, we have observed a parallel between the contradictory effect of various co-predications:

(33)   a. #The letter **for Hiro** is **for Miko**.
       b. #The **green** flag is **white**.

The comparability of these examples could be superficial. But I suggest that this is not the case, because the semantic deviance disappears under the same conditions. This is an empirically new point about thematic uniqueness: it has never been noted before that thematic uniqueness systematically disappears in certain environments.

The first environment where lexical–conceptual uniqueness disappears is in the presence of additive particles, including at least *also* (Paillé 2024; 2025a):

(34)   The green flag is (in fact) also white.

(34) successfully describes a partly green, partly white flag. Thematic uniqueness is also circumvented by additives:

(35)   The letter for Hiro is (in fact) also for Miko.

The second environment where lexical–conceptual uniqueness disappears is in the presence of *and* (see Paillé 2024 and 2025a for discussion of this, including arguments that *and* in examples like (36) is Boolean):

(36)   the green and white flag

The same goes for thematic uniqueness:

(37)   the letter for Hiro and for Miko

I already noted in section 2.1 that conjoined *individuals* (as in *the letter for Hiro and Miko*) were a single entity for Carlson's (1998) definition of thematic uniqueness (13), but (37) is a conjunction of PPs: it is not individuals, but predicates of events that are conjoined. It therefore does not follow from Carlson's definition of thematic uniqueness (13) that (37) should be acceptable. On the strong lexical meaning given to thematic heads in section 2.1, (35) and (37) would both have the contradictory meaning that the unique recipient is Hiro and the unique recipient is Miko—I return to this point in section 4.1.

Moving empirically beyond *white/green* and *for Hiro/for Miko*, the same pattern exists for the other predicates given so far. (38)–(39) show that the other predicates of individuals given in (31) can also be co-predicated successfully with *also* and *and* (see Paillé 2025a):

(38) a. Some federal responsabilities are (in fact) also provincial.
      b. Some derivational morphemes are (in fact) also inflectional.
      c. Five Chinese doctors are (in fact) also Australian.
      d. A labradoodle is a poodle that is also a labrador.
      e. A tragicomedy is a tragedy that is also a comedy.
      f. A spork is a fork that is also a spoon.

(39) a. Some responsabilities are (both) federal and provincial.
      b. Some morphemes are (both) derivational and inflectional.
      c. Five doctors are (both) Chinese and Australian.
      d. A labradoodle is ?(both) a poodle and a labrador.
      e. A tragicomedy is (both) a tragedy and a comedy.
      f. A spork is ?(both) a fork and a spoon.

Likewise, other phrases previously used to observe thematic uniqueness violations—(15), (17)—also become acceptable with *and* and *also*. This is easy to see with *and*:

(40) a. Hiro is eating with a fork and with a spoon.
      b. Hiro was described by Miko and by Eito.
      c. I wrote a letter for Hiro and for Miko.
      d. Hiro is hanging out with his friends and with his family.

As for *also*, it requires the thematic predicates to be distributed between the subject and the VP, meaning we must make minor modifications to our set of sentences (41). Still, the fact that *also* does away with thematic uniqueness is quite clear:[11]

(41) a. The boy eating with a fork is #(also) eating with a spoon.
      b. The boy who was described by Miko was ?(also) described by Eito.
      c. The letter for Hiro was #(also) for Miko.
      d. The boy hanging out with his friends is #(also) hanging out with his family.

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[11] At least one of the examples in (41) only requires *also* on the intended interpretation where both thematic predicates hold at the same time. Specifically, in (41b), *also* is required if there was a single description event by both Miko and Eito. On the other hand, *also* is less clearly required if the boy was first described by Miko, and then subsequently by Eito. This is not unexpected: on that interpretation, there are two events, yet thematic uniqueness is only a constraint on individual events.

The same goes for the non-thematic event-predicative data from section 2.2. I only give examples with *and* here:

(42) a. a book about cats #(and) about bicycles
      b. a book on the table #(and) on the chair
          (on the intended meaning: the book is what is on the chair)
      c. The book is longer than *The Kangaroo Notebook* #(and) than *Baron in the Trees*.

A set of uniqueness effects—event-predicative and lexical–conceptual uniqueness—that appear and disappear under the same conditions calls for a unified analysis. We are dealing with a single uniqueness constraint in predication; call it PREDICATIONAL UNIQUENESS.

3.4 Section summary

This paper started with sentences like (43a), which demonstrate the existence of thematic (event-predicative) uniqueness and its status as a semantic constraint. This section moved on to data suggesting that this uniqueness is more general. First, the behaviour of VP-internal PPs in (43a) parallels the behaviour of the distributed PPs in (43b). From there, we can appreciate an obvious parallel between such distributed PPs and other distributed predicates (43c). But at this point, we are clearly no longer in the domain of thematic relations.

(43) a. #Hiro is eating with a fork with a spoon.   *VP-internal PPs*
      b. #The letter for Hiro is for Miko.   *distributed PPs*
      c. #The green flag is white.   *distributed APs*

Crucially, (43a)–(43b) interact in the same way as (43c) with conjunctive elements (*and* and *also*). I therefore take all the co-predications in (43), thematic or not, as involving the same PREDICATIONAL UNIQUENESS constraint. I now turn to modelling this constraint.

4 Predicational uniqueness from predicate-exhaustification

Building on the suggestion for lexical–conceptual uniqueness in Paillé 2025a, I argue in this section that predicates, thematic or not, are systematically strengthened in language. It is not the clauses/sentences that predicates are in that are strengthened (although these may also be strengthened for independent reasons), but the predicates themselves, through what I will call 'predicate-exhaustification.'

I first argue (section 4.1) that the data from section 3.3 show that uniqueness effects are not the result of lexical meaning. I then discuss the suggestion for lexical–conceptual uniqueness in Paillé 2025a (section 4.2), and turn to extending it to thematic uniqueness (section 4.3). Finally, section 4.4 concludes with comments on whether thematic roles are needed at all for my proposal. Following this, section 5 will briefly discuss alternativehood for predicate-exhaustification.

4.1 No lexical account of predicational uniqueness

I start by elaborating on the consequences of the data with conjunctive material like *and* and *also* seen in section 3.3. These data do more than motivating that event-predicative and lexical–conceptual uniqueness should be taken to be special cases of a single uniqueness constraint. They also demonstrate that predicational uniqueness is not the result of lexical meaning, since conjunctive expressions could not make lexically inconsistent expressions consistent (Paillé 2025a).

Thus, the lexical meaning of colour adjectives must be weak (44), i.e. compatible with other colours (colour terms are discussed at length in Paillé 2024).[12]

(44)   ⟦green⟧
  a. $\neq \lambda x.\ \forall y[y \sqsubseteq x \to \mathsf{green}(y)]$.
  b. $= \lambda x.\ \exists y[y \sqsubseteq x \land \mathsf{green}(y)]$.

Likewise, a noun like *comedy* must overlap in meaning with other genre terms, and a noun like *fork* with other utensil terms. That is, *comedy* and *tragedy* lexically have a non-empty intersection populated by tragicomedies (hence (45a)), *fork* and *spoon* have an intersection populated by sporks (hence (45b)), and so on (Paillé 2025a).

(45)   a.   A tragicomedy is a comedy that is also a tragedy.
  b.   A spork is a fork that is also a spoon.

By the same token, the disappearance of a thematic uniqueness constraint in the presence of *and/also* (seen in (35) and (37)) demonstrates that thematic uniqueness cannot come from the lexical meaning of thematic heads, as was suggested in section 2.1. (22) had it backwards; thematic heads are lexically weak (46b) rather than strong (46a).

(46)   ⟦with$_{\mathrm{Instr}}$⟧
  a. $\neq \lambda x.\lambda e.\ \mathsf{instrument}(e,x) \land \forall y[\mathsf{instrument}(e,y) \to y \sqsubseteq x]$.
  b. $= \lambda x.\lambda e.\ \mathsf{instrument}(e,x)$.

The same goes for non-thematic prepositions like *about* or *on*.

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[12] This article will treat nouns and adjectives as both being of type $\langle e, t\rangle$ (for scalar adjectives, which are usually taken to lexically require a degree variable, the $\langle e, t\rangle$ type emerges following the composition of the adjective and the degree argument). This contrasts with predicates of events like *with a fork*, which are $\langle v, t\rangle$. On an alternative approach (see Glass 2019 and citations therein), adjectives also have an event variable, so that the template for adjectival meaning is of type $\langle e, \langle v, t\rangle\rangle$:

(i)   ⟦A⟧ $= \lambda x_e.\lambda s_v.\mathrm{A}(s) \land \mathsf{holder}(s,x)$.

Nothing of substance in this article hinges on this distinction; however, the formalization of predicate-exhaustification in section 4.3 would have to be modified if adjectives are $\langle e, \langle v, t\rangle\rangle$.

The claim in (44) and (46) rests on the assumption that thematic heads and predicates like *green* have a single lexical meaning (putting aside obvious polysemy like instrumental vs. comitative *with*): if *green* or *with* are lexically weak, they cannot also be lexically strong. This is not uncontroversial. Theorists working in the tradition of lexical pragmatics posit that lexical items are systematically underspecified for their meanings (e.g. Blutner 1998; Wilson & Carston 2007; Recanati 2010; Potts et al. 2015; Horn 2017; see also Feinmann 2020 for argumentation against these claims). Since predicates are sometimes interpreted as strong and sometimes as weak, could we explain contrasts like (47) in terms of instrumental *with* actually being compatible with *both* the meanings in (46)?

(47)   a. #Hiro is eating with a fork with a knife.
        b. Hiro is eating with a fork and with a knife.

This lexical-pragmatic approach would be able to deal with (47b) and its contrast with a simpler sentence like (48), where *with* is apparently strong.

(48)   Hiro is eating with a fork.

Indeed, one would simply claim that a strong meaning is preferred where possible (48) (cf. the Strongest Meaning Hypothesis of Dalrymple et al. (1994)), but a weak one is appealed to if the listener would otherwise be forced to attribute a contradictory belief to the speaker (47b). But (47a) is a problem for this lexical-pragmatic approach. With the option of choosing a weak meaning for *with*, no rational listener assuming a cooperative speaker would give *with* a strong meaning here. (47a) would therefore be interpreted as a consistent sentence, having the same meaning as (47b). As such, I maintain that language users do not have access to both strong and weak lexical meanings for predicates; thematic heads and predicates like *green* are lexically weak.

4.2 Obtaining lexical–conceptual uniqueness through local exhaustification

In Paillé (2024; 2025a), I took the co-predicational paradigm with nouns and adjectives to show that these predicates are systematically strengthened in natural language, a strengthening effect that only conjunctive vocabulary can circumvent. I modelled the strengthening through the Exh(aust) operator of Chierchia et al. (2012), but with a special constraint: in these cases, Exh must be ultra-local to the predicate it strengthens. This section lays out these claims; section 4.3 then extends them to thematic predication.

4.2.1 Background: embedded strengthening

Chierchia et al. (2012) propose an operator, Exh (49); it is semantically equivalent to *only*, except that it asserts the truth of its prejacent rather than presupposing it.

(49) $[\![\text{Exh}_{\text{ALT}}(S)]\!] = 1$ iff $[\![S]\!] = 1 \land \forall S' \in \text{ALT}[S'$ is not entailed by $S \to [\![S']\!] = 0]$.

They do so to re-analyse some instances of strengthening previously understood as pragmatic implicatures. While Grice's (1989) pragmatic theory can only strengthen entire utterances (see Sauerland 2004; Geurts 2010), Chierchia et al. (2012) argue that it is possible for constituents of a sentence to be strengthened by themselves. This may even have the effect of weakening the overall meaning of the sentence; for example, in a downward-entailing context like the complement of *if*, the lexically inclusive meaning of disjunction can optionally either remain inclusive (50a), or be made exclusive (50b):

(50)   a.   If you take salad or dessert, you'll be real full.
         b.   If you take salad or dessert, you pay $20; but if you take both there is a surcharge.

<div align="right">(Chierchia et al. 2012: 2306)</div>

Chierchia et al. (2012) suggest to capture (50b) by means of an Exh located below *if*:

(51)   ⟦If [Exh$_{\text{ALT}}$ [you take salad or dessert]], you pay $20⟧
       = 1 iff you pay $20 if you take salad **or** dessert & you do not take salad **and** dessert.

4.2.2 'Predicate-exhaustification' with predicates of individuals

In discussing lexical–conceptual uniqueness, I point out in Paillé 2025a that exhaustivity is known to interact substantially with additive particles (*also*, *too*). Indeed, Bade (2016) argues that when an additive particle is obligatory, as in (52), it is because there would be an undesirable exhaustivity effect without it.[13]

(52)   A: Who came to the party?
        B: Hiro came. Miko #(also) came.

By hypothesis, if it were not for the additive, B's second sentence would be strengthened to mean that *only* Miko came. It would have the structure and meaning in (53), contradicting the context.

(53)   ⟦Exh$_{\text{ALT}}$ [Miko$_F$ came]⟧
       = 1 iff Miko came & Hiro did not come & Eito did not come & …

I return to the question of how additive particles can circumvent unwanted exhaustification in section 4.2.3.

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[13] List intonation (e.g. Steindel Burdin & Tyler 2018) can override the need for an additive in (52). This can be seen in examples like:

(i)   Q: Who sang?
       A: Hiro sang … Miko sang … That's it, I think.

We will see in this section that *also* is a 'de-exhaustifier'; so, then, is list intonation.

From this observation, my suggestion in Paillé 2025a is to model the meanings of predicates of individuals as involving exhaustification. After all, as we saw in section 3.3, they are intuited as strong and mutually incompatible in the absence of conjunctive material like *also*, but as mutually inclusive in its presence:

(54)　a.　Some green flags are #(also) white.
　　　b.　This comedy is #(also) a tragedy.

Assuming again weak lexical meaning for colours terms (55a), a simple sentence like (55b) obtains stronger truth conditions due to exhaustification (55c). Note that I will often abbreviate existential meanings like (55a) as 'green$_\exists$(*x*).'

(55)　a.　$[\![\text{green}]\!] = \lambda x.\exists y[y \sqsubseteq x \wedge \text{green}(y)]$.
　　　b.　The flag is green.
　　　c.　$[\![\text{Exh}_{\text{ALT}} \text{ [the flag is green]}]\!] = 1$ iff green$_\exists$(*f*) $\wedge \neg$red$_\exists$(*f*) $\wedge \neg$blue$_\exists$(*f*) $\wedge$ …

(55c) obtains on the assumption that sentences in the set of alternatives ALT are created from Exh's prejacent by replacing *green* with other colour terms. More generally, the exhaustification leading to lexical–conceptual uniqueness has alternatives obtained by replacing a given predicates with other predicates from the same conceptual domain:

(56)　*Predicate classes feeding the alternatives for the Exh operator leading to lexical–conceptual uniqueness:*
　　　a.　COLOUR TERMS:　{green, red, white, …}
　　　b.　DOG BREEDS:　　{poodle, labrador, husky, …}
　　　c.　NATIONALITIES:　{Chinese, Australian, Indian, …}
　　　d.　etc.

I return to the matter of alternativehood in section 5.

(55c) is not the full story: as discussed in more detail in Paillé 2025a, there are difficulties in explaining that without *also*, (54a) is contradictory. Consider the LF in (57):

(57)　Exh$_{\text{ALT}}$ [some green flags are white].

Given the weak lexical meanings of *green* and *white*, Exh's prejacent entails that there are flags that are at least partly green, and at least partly white. Exh does not negate entailed alternatives (49), so it will not exclude alternatives with either of those colour terms. Exh would negate alternatives like *some green flags are blue,* but nothing that would create a contradiction. Based on this and

other data, I therefore proposed in Paillé 2025a that strengthening occurs locally on colour terms and other nouns and adjectives, as in (58).[14]

(58) ⟦Some [Exh$_{\text{ALT}}$ green] flags are [Exh$_{\text{ALT}}$ white]⟧
      = 1 iff there are (green$_\exists$ & not white$_\exists$ & not red$_\exists$) flags that are (white$_\exists$ & not green$_\exists$ & not red$_\exists$).
      ⇒ contradiction

Of course, Exh was defined in (49) as a propositional operator. I therefore define a predicational Exh (59), which takes a predicate and makes it exclude other alternative predicates, based on a generalized notion of entailment. A predicate P entails another predicate Q if for all x, $P(x)$ entails $Q(x)$ (hence *dog* entails *animal*, and *scarlet* entails *red*).

(59) ⟦Pred-Exh$_{\text{ALT}}(P)$⟧ = $\lambda x.$⟦P⟧$(x) \wedge \forall P' \in$ ALT$[P'$ is not entailed by $P \rightarrow$ ⟦P'⟧$(x) = 0]$.

Thus:

(60) ⟦Pred-Exh$_{\text{ALT}}$ green⟧ = $\lambda x.$green$_\exists(x) \wedge \neg$white$_\exists(x) \wedge \neg$red$_\exists(x) \wedge \ldots$

(58) follows simply by replacing Exh with Pred-Exh.

It is not just in contradictory co-predications that Exh must be taken to be ultra-local to predicates (Paillé 2025a). For instance, in (61a), the intuited meaning is that exactly five balloons are entirely green. This cannot be captured by a global Exh (61b).

(61) a. Exactly five balloons are green.
      b. ⟦Exh$_{\text{ALT}}$ [exactly five balloons are green]⟧ = 1 iff exactly five balloons are green$_\exists$.

Assume the alternatives for Exh in (61) are obtained by replacing *green* with other colour terms, and *five* with other numerals. All alternatives of the form 'exactly n balloons are green' (where $n \neq 5$) can be negated by Exh, but this is vacuous given the assertion. As for alternatives of the form 'exactly n balloons are P' where P is a colour term other than *green*, none of these alternatives can be negated. They are not 'innocently excludable' (Fox 2007), since negating all such alternatives would mean that for colours other than green, there is no numeral n such that n balloons have parts of that colour—an impossibility. Thus, the

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[14] In (58), an additional global Exh could then strengthen *some* to mean 'not all':

(i) ⟦Exh$_{\text{ALT}}$ [some [Pred-Exh$_{\text{ALT}}$ green] flags are [Pred-Exh$_{\text{ALT}}$ white]]⟧ = 1 iff some only-green flags are only-white & not all only-green flags are only-white.

I abstract away from this in the main text.

global Exh in (61b) results in no strengthening at all, and *green* is wrongly expected to remain weak.[15]

This shows that it is not only in co-predications that predicates of individuals undergo local predicate-exhaustification; rather, such local exhaustification occurs generally. By extrapolation, (55c), repeated in (62a), must be amended to (62b).

(62) a. $[\![\text{Exh}_{\text{ALT}} \text{ [the flag is green]}]\!] = 1$ iff the flag is green$_\exists$ & the flag is not white$_\exists$ & the flag is not blue$_\exists$ & …

  b. $[\![\text{The flag is [Pred-Exh}_{\text{ALT}} \text{ green]}]\!] = 1$ iff the flag is (green$_\exists$ & not white$_\exists$ & not blue$_\exists$ & …).

The truth conditions are identical, of course; they are written differently to bring out that they arise differently.

As described by Chierchia et al. (2012), Exh is an optional operator. Yet, we must claim that Pred-Exh is obligatory; otherwise, contradictions would not be intuited, as a non-contradictory parse without Pred-Exh operators would be available. The view that Exh is at least sometimes obligatory is not entirely new (cf. Magri 2009; Bade 2016; Bar-Lev 2021). Magri (2009) suggests that all *t*-type nodes are obligatorily exhaustified due to data like (63) (my example):

(63) #Some inhabitants of Italy live in a republic.

If Exh was optional, speakers would choose not to exhaustify (63), to avoid negating that all inhabitants of Italy live in a republic; they would take into consideration the knowledge that all inhabitants of Italy live in the same state. Yet, we find that there is oddness in (63), which Magri attributes to it being obligatorily exhaustified to negate the alternative with *all*. The spirit of Magri's proposal is that all nodes that can be exhaustified are exhaustified. As such, if there is a Pred-Exh operator in addition to the propositional Exh, it follows that all *et*-type nodes should be obligatorily exhaustified too.[16]

To see that this theory does not accidentally predict more contradictions than are observed, consider examples like (64), involving co-predications with entailment between the predicates:

(64) a. This dog is a poodle.
  b. The green flag is emerald.

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[15] The problem for a global Exh changes if only *green*, and not *five*, was substituted in the alternatives for (61b). The truth conditions of (61b) would then be that exactly five balloons are partly green, and for all other colours, the number of balloons partly of those colours is not exactly five. Clearly, this is not a welcome result either.

[16] See also Sauerland et al. (2023), who use ultra-local exhaustification of *et*-type nodes for another reason altogether, namely to capture the ordering of adjectives.

Neither of these are contradictory, despite the predicates being subject to predicate-exhaustification. Focusing on (64b), the reason *emerald* is not strengthened to negate *green* is because it entails *green*, and Exh is defined to only exclude non-entailed alternatives. As for why *green* is not strengthened to exclude *emerald*, one possibility is that *emerald* is simply not an alternative to *green* because *green* is a basic-level colour term, while *emerald* is a subordinate-level colour term (Berlin & Kay 1969).

4.2.3 Circumventing unwanted predicate-exhaustification with *and* and *also*

The picture so far is that lexical–conceptual uniqueness emerges from the predicate-exhaustification of predicates of individuals; if two predicates are alternatives, then their predicate-exhaustification makes them mutually exclusive. I now turn to how *and* and *also* circumvent this. The goal for this article is not to develop a proper theory of these 'de-exhaustifers,' so I merely sketch out a way forward.

First, let us observe that de-exhaustifiers do not really de-exhaustify: while *comedy* and *tragedy* (for example) become mutually compatible in the presence of *and* and *also* (65), they are still exclusive of other genre predicates—the play referred to in (65) cannot be an epic, for example (unless one goes on to say it is '*also* an epic,' with an additive).

(65)   a.   This play is both a comedy and a tragedy.
           b.   This comedy is also a tragedy.

Thus, some Exh operator(s) must still be present in (65). I therefore assume that *also* makes *comedy/tragedy* in (65b) mutually compatible by pruning alternatives from Exh, rather than removing Exh operators entirely:[17]

(66)   a.   The [Pred-Exh$_{\text{ALT-1}}$ comedy] is also a [Pred-Exh$_{\text{ALT-2}}$ tragedy].
           b.   ALT-1 = ALT-2 = {~~comedy~~, ~~tragedy~~, epic …}
           c. $[\![(66a)]\!]$ = 1 iff the text having the properties of at least comedies (but not epics) also has the properties of at least tragedies (but not epics).

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[17] The literature on additive particles usually focuses on examples like (i), where the additive is anaphoric to a prior sentence rather than a predicate within the subject of its own clause. In such examples, the pruning theory involves pruning entire sentential alternatives:

(i)   a.   Hiro came. Miko also came.
         b.   Exh$_{\{\text{Hiro came, }\sout{\text{Miko came}}\text{, Eito came}\}}$ [Hiro came]. Exh$_{\{\sout{\text{Hiro came}}\text{, Miko came, Eito came}\}}$ [Miko also came].

This is similar to the proposal by Aravind & Hackl (2017), who take it that the Exh in the first sentence has a smaller set of alternatives than the Exh in the second sentence: {Hiro came, Eito came} for the first, {Hiro came, Eito came, Miko came} for the second. They assume this comes from the sentences answering different QUDs; in both cases, it is 'Who came?', but the domain of the question is only Hiro and Eito in the first sentence, and Hiro, Eito, and Miko in the second. While this is a less stipulative way of obtaining the non-contradictory meaning of (ia), it is not clear how to extend it to the kind of monoclausal data discussed in this article (Paillé 2022a). Constituents of single clauses cannot answer different QUDs, so something other than the QUD must restrict the domain of Exh in the first sentence (the additive itself, on the current proposal).

As for de-exhaustification by *and,* one option would be to claim that Pred-Exh undergoes pruning as with *also*:

(67)   a.   This play is both a [Pred-Exh$_{\text{ALT-1}}$ comedy] and a [Pred-Exh$_{\text{ALT-2}}$ tragedy].

           b.   ALT-1 = ALT-2 = {~~comedy~~, ~~tragedy~~, epic …}

Another option would be to strengthen these predicates in one go with a single Pred-Exh above the entire conjunction (Paillé 2022b: ch. 6; cf. Bade 2016); in (68), Pred-Exh's predicate complement entails both *comedy* and *tragedy*, so Pred-Exh will exclude alternatives like *epic* without creating a contradiction.

(68)   This play is both [Pred-Exh$_{\text{ALT}}$ a comedy and a tragedy].

This would need to be squared with the proposal above that all *et*-type nodes are exhaustified. Perhaps the smaller nodes [$_{\text{NP}}$ comedy] and [$_{\text{NP}}$ tragedy] are exhaustified too in (68), but vacuously so, since the relevant alternatives are taken up by the higher Pred-Exh. Another approach would be to part from Magri's view and take Pred-Exh's locality requirement to be that it must be in the XP of the predicate it exhaustifies. If conjunction phrases inherit the label of the conjuncts, (68) is predicted to be possible (Paillé 2022b: ch. 6). I leave for future work which of these two possibilities is preferable.

    A reviewer asks about an apparent contrast between the biclausal discourses discussed by authors like Bade (2016), and the monoclausal data discussed in this paper. With *and, also* is still preferred in biclausal discourses, but not monoclausal ones:

(69)   a.   Hiro sang and Miko ?(also) sang.

           b.   The flag is white and (also) green.

However, the fact that *also* is preferred even across conjoined clauses does not necessarily lead to the expectation that *also* would also be preferred across conjunctions of XPs smaller than clauses. For my purposes, all that matters is that *and* and *also* are, by themselves, enough to circumvent the local exhaustification of predicates. Besides, what is curious in (69) is (69a), not (69b): given that Exh is usually taken to scope at any *t*-type node, it should be possible for (69a) to have the LF 'Exh [Hiro sang and Miko sang],' in which case no additive would be obligatory. Bade's (2016) answer to this puzzle is to deny that the additive is obligatory; otherwise, one could try to rely on the presence of contrastive topics in the clauses to argue that they are in fact exhaustified locally, hence the need for an additive. Either way, these are issues for (69a), not (69b).[18]

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[18] I also note that the presence of *also* in (69b) seems to trigger a subtle pragmatic change; *also* might be forcing an LF with two conjoined clauses rather than adjectives ('the flag is white and ~~it it~~ also green'). If so, the paradigm in (69) could be described in terms of *also* being preferred if clauses are conjoined, with (69b) but not (69a) having the option of conjoining constituents smaller than clauses.

4.3 Predicate-exhaustification with thematic predicates

I now translate the above suggestion for lexical–conceptual uniqueness to thematic uniqueness. I start with PPs, then move on to DP arguments, since these raise their own puzzle around constituency.

4.3.1 Predicate-exhaustification with PPs

(70)–(71) give the basic idea of how predicate-exhaustification leads to thematic uniqueness; (70) involves distributed PPs and (71) VP-internal ones.

(70) a. #The letter for Hiro is for Miko.
     b. ⟦The letter [Pred-Exh$_{\text{ALT}}$ for Hiro] is [Pred-Exh$_{\text{ALT}}$ for Miko]⟧
       = 1 iff the letter (for Hiro & not for Miko & not for …) is (for Miko & not for Hiro & not for …).
       ⇒ contradiction

(71) a. #Hiro is eating with a fork with a spoon.
     b. ⟦Hiro is eating [Pred-Exh$_{\text{ALT}}$ with a fork] [Pred-Exh$_{\text{ALT}}$ with a spoon]⟧
       = 1 iff Hiro is eating (with a fork & not with a spoon & not with …) (with a spoon & not with a fork & not with …).
       ⇒ contradiction

On this view, thematic uniqueness violations are in fact semantic contradictions.

Let us go through the component parts of this approach. First, recall from section 4.1 that I took the data with *and* and *also* to show that thematic heads are lexically weak. The meaning of *with* is not (72a), but (72b) (where 'instrument' is non-exhaustive).

(72) ⟦with$_{\text{Instr}}$⟧
     a. $\neq \lambda x.\lambda e.\text{instrument}(e,x) \wedge \forall y[\text{instrument}(e,y) \rightarrow y \sqsubseteq x]$.
     b. $= \lambda x.\lambda e.\text{instrument}(e,x)$.

Second, it is worth making explicit the alternatives that Pred-Exh takes with thematic PPs (see section 5 for more discussion). In section 4.2, I took the Pred-Exh leading to lexical–conceptual uniqueness to take a set of alternatives obtained by replacing a predicate with other predicates from the same conceptual domain; (73) repeats (56).

(73) *Alternatives for predicate-exhaustified nouns and adjectives:*
     a. COLOUR TERMS: {green, red, white, …}
     b. DOG BREEDS: {poodle, labrador, husky, …}
     c. NATIONALITIES: {Chinese, Australian, Indian, …}
     d. etc.

With thematic PPs, in contrast, the set of alternatives is obtained by replacing the DP receiving the thematic role, without changing the preposition assigning it:

(74)   *Alternatives for predicate-exhaustified PPs:*
    a.   RECIPIENTS: {for Hiro, for Miko, for …}
    b.   INSTRUMENTS: {with a fork, with a spoon, with …}
    c.   etc.

PPs keeping the DP constant but with a different preposition are *not* alternatives for this effect—for example, if the asserted predicate is *for Hiro, with Hiro* or *by Hiro* are not alternatives. To see this, consider (75):

(75)   a poem by Hiro for Hiro

There is no deviance in (75), as there would be if *by Hiro* and *for Hiro* were alternatives for Pred-Exh. For some tentative discussion of what determines the nature of the alternatives with these different types of predicates, see section 5.

Just like the data with predicates of individuals in section 4.2, predicates of events can be shown to be exhaustified locally through Pred-Exh rather than propositional exhaustification. Pred-Exh in this case takes not an $\langle e, t \rangle$ predicate of individuals, but rather a $\langle v, t \rangle$ predicate of events, so it needs the type-flexible definition in (76) rather than the definition in (59).

(76)   For any P of type $\langle \alpha, t \rangle$, $[\![\text{Pred-Exh}_{\text{ALT}}(P)]\!] = \lambda m_\alpha . [\![P]\!](m) \wedge \forall P' \in \text{ALT}[P'$ is not entailed by $P \to [\![P']\!](m) = 0]$.

The obligatory locality of the exhaustivity operator with thematic PPs is seen rather easily with thematic-uniqueness violations. Consider again (71a), repeated in (77a), which I modelled in (71b) with a Pred-Exh operator on each *with*-PP. What if there was a global Exh instead, as in (77b)?

(77)   a. #Hiro is eating with a fork with a spoon.
     b. Exh_{ALT} [Hiro is eating with a fork with a spoon].

Clearly, Exh could negate neither *with a fork* nor *with a spoon*, both of which are entailed by its prejacent:

(78) $[\![(77b)]\!] = 1$ iff Hiro is eating with a fork & he is eating with a spoon & he is not eating with a knife.
    $\Rightarrow$ no contradiction

This makes predicates of events an ideal way to observe Pred-Exh. In (77a), both of the relevant predicates are adjoined to the VP, and even here they are strengthened irrespective of one another—much like lexical–conceptual uniqueness with adjectives can be observed even when they are stacked on a single noun:

(79)   #the white green flag

In both cases, and unlike distributed co-predications, there is no concern that the locality of Exh could be triggered by the predicates being distributed between the clause's subject and VP.

For completeness, I end this section by returning to the non-thematic uniqueness effect identified in section 2.2; (80) is repeated from (42).

(80)   a.   a book about cats #(and) about bicycles
       b.   a book on the table #(and) on the chair
            (on the intended meaning: the book is what is on the chair)
       c.   The book is longer than *The Kangaroo Notebook* #(and) than *Baron in the Trees*.

My explanation for (80) will now be predictable: a local Pred-Exh on each PP strengthens them.

(81)   ⟦These books [Exh$_{\text{ALT}}$ about cats] are [Exh$_{\text{ALT}}$ about bicycles]⟧

$$= 1 \text{ iff these books which are} \begin{pmatrix} \text{about cats } \& \\ \text{not about bicycles } \& \\ \text{not about } \ldots \end{pmatrix} \text{are} \begin{pmatrix} \text{about bicycles } \& \\ \text{not about cats } \& \\ \text{not about } \ldots \end{pmatrix}$$
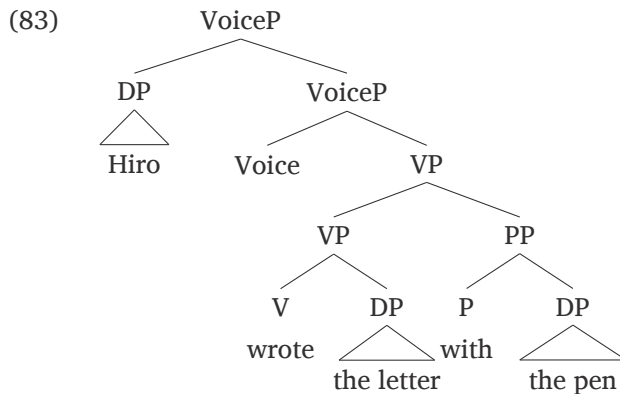
Thematic roles are not at play here; local exhaustification of PPs with alternatives obtained by replacing the preposition's complement is sufficient to create semantic deviance.

4.3.2 Predicate-exhaustification with free-standing DP arguments

I now turn to thematic uniqueness with DPs that are not introduced by a preposition—free-standing DPs like *Hiro* in (82).

(82)   Hiro wrote the letter with the pen.

I discuss these separately from PPs due to a difference in syntactic constituency. The DP *the pen* in (82) forms a constituent with its thematic-assigner *with*; this entire constituent is exhaustified as one predicate: [$_{\text{PP}}$ Pred-Exh$_{\text{ALT}}$ [$_{\text{PP}}$ with the pen]]. But *Hiro* in (82) does not form a syntactic constituent with Voice, the head assigning it the 'agent' thematic role (Kratzer 1996):

(83)

```
                    VoiceP
           ╱                 ╲
        DP                    VoiceP
        △               ╱            ╲
      Hiro          Voice             VP
                           ╱                ╲
                        VP                    PP
                    ╱        ╲            ╱        ╲
                  V           DP       P           DP
                wrote         △      with          △
                          the letter           the pen
```

How does Pred-Exh create the meaning that Hiro is the *only* agent? I am assuming consistency across the lexical field of thematic heads: they are all lexically weak, so Voice only means its specifier is *an* agent of the event.[19]

I offer two possibilities to make the DP in Spec-VoiceP the unique agent. The first is to claim that the smallest constituent containing Voice and the agent is exhaustified. That constituent is the entire VoiceP. The alternatives would be obtained by replacing the agent with alternative DPs. This must occur prior to the existential closure of the event variable (84); otherwise, there would be an overly strong entailment that no other events described with the same verb and non-agent DPs took place.

(84) ⟦Pred-Exh$_{\text{ALT}}$ [Hiro Voice wrote the letter with the pen]⟧

$$= \lambda e_v. \begin{cases} [\text{write}(e) \wedge \text{agent}(e,h) \wedge \text{theme}(e,l) \wedge \text{instrument}(e,p)] \wedge \\ \neg[\text{write}(e) \wedge \text{agent}(e,i) \wedge \text{theme}(e,l) \wedge \text{instrument}(e,p)] \wedge \\ \neg[\text{write}(e) \wedge \text{agent}(e,j) \wedge \text{theme}(e,l) \wedge \text{instrument}(e,p)] \wedge \ldots \end{cases}$$

Perhaps the reason that the alternatives involve different agents rather than changes to other parts of the VoiceP is that all the other constituents of VoiceP have already gone through their own predicate-exhaustification, and thereby been rendered inactive for the creation of alternatives.[20]

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[19] A more empirically-driven argument for Voice being weak would be the following, but unfortunately it is not conclusive. Consider (i) (cf. Dowty 1989: 99):

(i) *The Romans destroyed the city by the barbarians.

(i) attempts to give two agents to the destruction event, resulting in deviance (putting aside the irrelevant interpretation where the city was made by the barbarians). Unless there is a syntactic explanation for this, the problem must be due to a thematic uniqueness violation.

   However, this argument does not conclusively show that some constituent containing Voice in (i) undergoes exhaustification to make *the Romans* the only agent. After all, a contradiction is created even if only *by the barbarians* is exhaustified.

[20] In fact, nothing would go wrong if the alternatives also involved changes to other parts of the VoiceP. This is because predicate-exhaustification takes place below the existential-closure of the event variable. Hence, Pred-Exh can safely negate almost anything—even things that are true, since those things are still not part of the minimal event composed

Another possibility is to claim that thematic roles assigned to free-standing DPs are actually introduced internally to the DP, rather than by a clausal head. This is done by Coppock & Champollion (in progress: §11.2). On this view, thematic roles are always assigned by non-spinal heads; for our purposes, the syntax–semantics of argument DPs works identically to the syntax–semantics of PPs, since thematic heads sprout within DPs. Hence, in (82), at least the DP *Hiro* has an agentive head within it:

(85)   a.   [$_{DP}$ θ_{Ag} Hiro] wrote the letter with the pen.
      b. $\llbracket \theta_{Ag} \rrbracket = \lambda x_e.\lambda e_v.\text{agent}(e, x).$
      c. $\llbracket \theta_{Ag} \text{ Hiro} \rrbracket = \lambda e_v.\text{agent}(e, h).$

On this approach, any questions about constituency simply disappear; DPs can be predicate-exhaustified just like PPs.

4.4 Section conclusion

This section has argued that predicative uniqueness arises due to predicates obligatorily being locally exhaustified by a predicative Exh. This collapses a variety of cases where deviance arises from co-predications, whether thematic or not. A key signature of this exhaustification phenomenon—and presumably the reason thematic uniqueness was not previously taken to arise from strengthening—is due precisely to its locality: Pred-Exh can create contradictions even clause-internally, unlike the standard propositional Exh.

What consequences does this have for whether thematic roles are real or epiphenomenal (see fn. 3)? My theory does not require the existence of thematic roles as such; what it needs is a theory of the syntax–semantics where local Pred-Exh operators can scope below the event variable to strengthen the components of events irrespective of one another, thus potentially creating contradictions ('uniqueness violations'). A neo-Davidsonian semantics works very naturally with that theoretical requirement, not because it has thematic roles, but because it decomposes events enough for this local predicate-exhaustification to be possible. That being said, it is not clear how one could sufficiently decompose events without thematic roles, making it appealing to integrate non-epiphenomenal thematic roles in the theory.

5 Alternativehood for predicate-exhaustification

Section 4 sketched out a theory of strength in predication involving predicative Exh operators taking particular sets of alternatives: conceptually related predicates for lexical–conceptual uniqueness, and alternative participants for event-predicative uniqueness. But what determines the alternatives for Pred-Exh?

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of Hiro writing the letter with the pen. In principle, Pred-Exh could negate that Miko is reading a book, and the resulting sentence would be true even if Miko was indeed reading a book.

Clearly, a theory claiming that predicates are locally exhaustified must also claim that not all predicates are alternatives to all predicates; or, if they are all alternatives, a property of Exh like Innocent Exclusion (Fox 2007) needs to make sure they do not all get excluded (cf. Katzir 2013; 2014). Otherwise, (86) would negate that Hiro is a father, for example, since *student* would have *father* as an alternative.

(86)   Hiro is a student.

Either *father* is not an alternative to *student*, or it is an alternative that Exh does not exclude due to Innocent Exclusion.[21] In Paillé (2025a), I took the alternatives for lexical–conceptual uniqueness to be taxonomic sisters (but see §5.2 of that paper): *green/white* are alternatives due to both being kinds of colours, *fork/spoon* due to both being kinds of utensils, and so on. This would explain why *father* is not an alternative to *student* in (86).

This seems like an intuitive hypothesis for much of the data at hand. However, in Paillé 2023a, I argue that this is not the right notion. Rather, two predicates are alternatives if they contribute the same kind of information; it just happens that many taxonomic sisters do in fact provide the same kind of information. *Comedy* and *tragedy* both provide information about the genre of a text, *fork* and *spoon* about the form and function of an artifact, *red* and *green* about colour, and so on. To see that problems arise on the view that predicates must be taxonomic sisters to be alternatives for Pred-Exh, first notice that while *fork* and *spoon* are alternatives, the taxonomy they are part of must be larger than the set of utensils, given that they are also alternatives with other kinds of artifacts:

(87)   Some forks are ??(also) rulers.

So far so good; we could postulate a taxonomy of all artifacts. But with a bit of imagination, we can find that artifact predicates are also alternatives with some non-artifact predicates, including natural-kind predicates. Artifact/natural-kind hybrids are not easy to find in the real world (some might claim on philosophical grounds that they do not exist), so it is useful to turn to situations like dreams or bad outputs of generative AI:

(88)   a.   In my dream, my cat was #(also) a newspaper.
        b.   This camping photo is definitely AI. The tent is #(also) a boulder.

In both these cases, *also* is required on the intended 'hybrid' meaning, where the cat in (88a) is physically both a cat and a newspaper, rather than the cat having the mind of a cat and the form of a newspaper. Since *cat/newspaper, tent/boulder* are apparently alternatives for Pred-Exh, a putative ARTIFACT taxonomy is too limited to capture alternativehood. In contrast, the examples

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[21] See Paillé 2022b (ch. 4, §3, in particular §3.3) for critical discussion of the potential to use Innocent Exclusion to obtain data like (86).

in (88) can be made sense of if what matters is the kind of information contributed by a predicate. In (88), all the relevant predicates are contributing information about the physical form of an individual (among other things).

Being more explicit on what it means for predicates to contribute the same kind of information would involve a proper modelling of predicate meanings—which I take to lie outside the scope of this paper. For example, why are artifact predicates like *fork/ruler* alternatives for Pred-Exh, but not e.g. *knife/weapon*?

(89)   This knife is a weapon.

Intuitively, *knife/fork/ruler* are all contributing information about the prototypical form and intended function of an individual, while *weapon* is a different kind of artifact predicate, more transitory (a rock being used aggressively is only a weapon within that aggression event) and without a particular prototype pertaining to physical form (cf. Grimm & Levin 2017). Since *knife* is non-eventive while *weapon* is, these predicates contribute different kinds of information, and hence are not alternatives. I leave more explicit spelling-out of this for future work.

If the kind of information provided by a predicate is what determines alternativehood for the Pred-Exh leading to lexical–conceptual uniqueness, presumably the same principle is at play for the Pred-Exh leading to thematic uniqueness. What we need, then, is a theory for why *for Hiro* and *for Miko* are 'contributing the same kind of information.' This may seem obvious: they are both contributing information about the recipient of an event. What is not trivial is that other phrases that keep the asserted participant constant but change the thematic head are not alternatives for Pred-Exh, as argued in section 4.3 due to (90), repeated from (75).

(90)   a poem by Hiro for Hiro

Phrases like *for Hiro* and *by Hiro* are not alternatives for Pred-Exh, yet they do 'contribute the same kind of information' in the sense that they all contribute thematic information about Hiro. As such, future work will need to clarify the notion of 'the kind of information provided by a predicate' in a way that ensures that *for Hiro* and *for Miko* count as contributing the same kind of information, while *for Hiro* and *with Hiro* do not.

I end this section by returning to two apparent puzzles for thematic uniqueness mentioned in section 2.1. Both of these can now be understood as puzzles about alternativehood. The first puzzle is due to sentences with multiple locative or temporal phrases (Dowty (1989) credits Levin (1982) for this observation): events can have their time or place specified multiple times.

(91)   a.   Hiro arrived at 4 a.m. on a Tuesday in the first week of January in 1978 during a snowstorm.
        b.   Hiro wrote the book on a table in our living room in Portsmouth in southern Ohio in the United States.   (Dowty 1989: 122)

Dowty (1989) argues that the sentences in (91) are not counter-examples to thematic uniqueness because, for example, (91a) "does not specify that [Hiro] arrived at five times but rather at a single time which is partially identified by each of four indefinite descriptions" (Dowty 1989: 122). He contrasts (91a) with (92):

(92)   #Hiro worked on Monday on Tuesday.

There are two ways to integrate this insight into my proposal. The first is to take the alternatives for temporal or locative phrases not to include any and all phrases specifying place or time. The phrases in (91) take Pred-Exh operators which, due to the nature of the alternatives, simply do not end up creating any contradiction; in (91a), the repeated temporal phrases have alternatives like these:

(93)   a.   ALT(*at 4 a.m.*) = {at midnight, at 1a.m., at 2a.m., at …}
       b.   ALT(*on a Tuesday*) = {on a Monday, on a Tuesday, on a Wednesday, on …}
       c.   ALT(*in the first week of January*) = {in the first week of January, in the second week of January, …, in the fourth week of March, …, in …}
       d.   etc.

All the non-entailed predicative alternatives can in fact be excluded without this creating a contradiction. The second approach would rely on Innocent Exclusion (Fox 2007), the property of Exh whereby (informally put) it does not knowingly create contradictions. Consider the strengthening of *on a Tuesday*. Abstracting away (for the sake of argument) from the different prepositions, *on a Tuesday* might have other temporal phrases like *at 4 a.m.* as alternatives, contrary to the claim in (93). But phrases about anything other than weekdays are not innocently excludable: it cannot be that Hiro arrived at no time of day, or at no week of any month, and so on. Thus the Pred-Exh on *on a Tuesday* only excludes alternatives about other weekdays (cf. Katzir 2013; 2014). While this second approach avoids the stipulation about alternatives in (93), it does require Pred-Exh to 'know' that Hiro could not have arrived at no time of day, despite arguments by Magri (2009) that exhaustification does not take world knowledge into account.

The second puzzle comes from (21), repeated in (94).

(94)   Hiro is a student with brown hair with an expensive car.

Why is (94) not deviant, unlike co-predications of comitative and instrumental *with*-PPs? We can now understand this as a question about alternativehood: why are comitative *with*-PPs alternatives to one another, as are instrumental *with*-PPs, but not not possessive *with*-PPs like in (94)? While I do not have an answer to this question, let me point out that a variant of (94) with *to have* also does not require conjunctive material:[22]

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[22] This might boil down to the same observation, if *have* is a complex verb incorporating *with*; see Levinson 2011 for this claim, and Stassen 2009 (ch. 10) on languages whose equivalent to English *have* involves an overt *with*.

(95)   The student who has brown hair (??also) has an expensive car.

This is in contrast to many cases where a clause's VP has a near-twin in the clause's subject, and where conjunctive material is required:

(96)   The man who is hugging Hiro is #(also) hugging Miko.

Thus, there is a general puzzle about possessive *with* and *have*. Perhaps they are only alternatives if the complement of *with/have* is itself similar in meaning, or if having one and having the other somehow involve two similar kinds of possession.

6 Conclusion

Participants in events are assigned thematic roles, which specify the relation between the participant and the event. One of the features of this relation is that, in the basic case, it is impossible for more than one participant to bear the same thematic role. This paper has made two claims: first, that thematic uniqueness is a rather arbitrary part of a broader constraint of 'predicational uniqueness'; second, that this should be modelled in terms of ultra-local semantic strengthening.

I started by arguing that thematic uniqueness is a semantic phenomenon, since it persists even when the participants are adjuncts:

(97)   #Hiro is eating with a fork with a spoon.

Focusing on adjuncts makes it possible to appreciate that there exists a parallel to thematic uniqueness elsewhere in language. In particular, with 'distributed' bearers of a same thematic role (98a), the thematic uniqueness violation is highly reminiscent of contradiction data like (98b) discussed in Paillé (2024; 2025a):

(98)   a. #The letter for Hiro is for Miko.
         b. #The green flag is white.

In both cases, the uniqueness violation disappears in the presence of conjunctive vocabulary:

(99)   a. (i)   The letter for Hiro is (in fact) also for Miko.
             (ii)   The letter is for Hiro and for Miko.
         b. (i)   The green flag is (in fact) also white.
             (ii)   The flag is green and white.

This is motivation for a more general phenomenon of predicational uniqueness, which prevents the co-predication of two predicates from the same class, whether these are predicates of events or predicates of individuals.

These data also show that thematic uniqueness is not the result of the lexical meaning of heads assigning a thematic role. Rather, I suggested that predicational uniqueness generally stems from an exhaustivity operator. What formally unites predicational uniqueness effects is that the Exh operator in question is in all cases syntactically constrained. Not only do predicates make the presence of Exh obligatory, they also require Exh to be syntactically local to them. This is the reason we obtain 'uniqueness' effects sentence-internally, and it is also presumably the reason such uniqueness effects have not previously been taken to result from exhaustification.

Writing on propositional strengthening, Magri (2009) suggested that all proposition-type phrases are obligatorily exhaustified. To understand why predicates are obligatorily locally exhaustified, we can simply extend Magri's claim to predicative constituents of various kinds. After all, the spirit of Magri's proposal is that language exhaustifies all the nodes that it can. Of course, there remains the overarching architectural question of why language behaves in this way.

Modelling both thematic and lexical–conceptual uniqueness through Pred-Exh means that many more nodes are exhaustified than previously believed. Consider the rather simple sentence in (100).

(100) The drawer for forks is #(also) for spoons.

The new suggestion from this paper is that there are Pred-Exh operators on each PP. Putting this together with the claim in Paillé (2025a) that there are Pred-Exh operators on nouns and adjectives, we obtain:

(101)
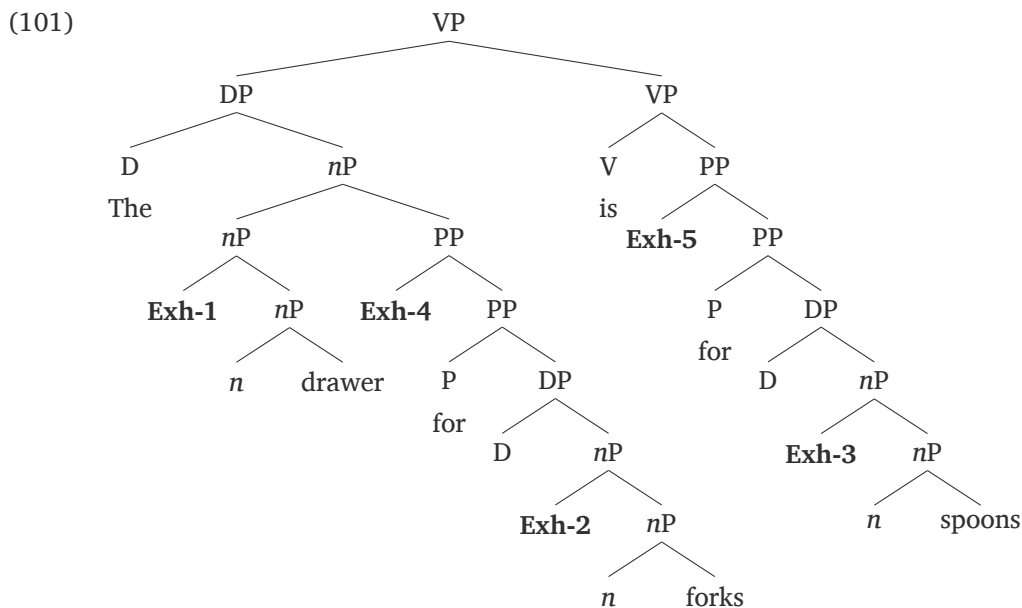
That is, the drawer is only a drawer (Exh-1) and not a combination of a drawer and something else; the forks and spoons are only forks and spoons (Exh-2, Exh-3) and not sporks;[23] and what is more, the forks are the only beneficiary of the drawer (Exh-4), as are the spoons (Exh-5), hence the contradiction in the sentence without *also*.

Going forward, what is the status of thematic uniqueness? Consider again (102), which has non-thematic PPs but is otherwise virtually identical to the kind of data motivating thematic uniqueness:

(102)   The book about cats is #(also) about bicycles.

(102) is particularly effective at highlighting how the notion of thematic uniqueness captures an arbitrary subset of the predicational uniqueness constraint: it is identical to the data motivating thematic uniqueness in everything except the presence of thematic roles.

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[23] Of course, with *also*, the sentence (100) invites an interpretation where sporks would also go in the drawer. This presumably arises from reasoning that it would be strange for the drawer to be for forks and spoons, but not for hybrids thereof. This does not mean that *fork* or *spoon* themselves are semantically interpreted as including sporks in (100). See Paillé 2025a: §7.

Abbreviations

F = feminine, PL = plural, REC = recipient, INSTR = instrument, AG = agent, TH = theme.

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The author has no competing interests to declare.

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