



We thought and thought, and eventually solved this: One predicate modifies the other

Kallull, Dalina

Roberts, Ian

(Citation)

Papers from the International Workshop on the Syntax of Predication and Modification
2024:53-70

(Issue Date)

2025-02-15

(Resource Type)

conference paper

(Version)

Version of Record

(JaLCD0I)

<https://doi.org/10.24546/0100492867>

(URL)

<https://hdl.handle.net/20.500.14094/0100492867>



We thought and thought, and eventually solved this: One predicate modifies the other*

Dalina Kallulli[†] and Ian Roberts[‡]

[†]University of Vienna and [‡]University of Cambridge

Abstract: In this paper, we discuss V_i - V_i verb reduplication patterns in several languages. We argue that these patterns are, in essential respects, structurally identical in all cases, but that interpretative differences arise as a function of the position of the compound in the clause, which varies significantly from language to language, partly as a function of differences in verb movement, which in certain cases is narrow-syntactic head movement, as we show. Crucially, one verb in a V_i - V_i reduplication modifies another, yielding an iterative and/or intensive predication.

Keywords: verb-reduplication, head-movement, intensification, Romance, German, Albanian, English, Mandarin

1. Introduction

Many languages have a V_i - V_i verb reduplication pattern, which depending on the language, can be full, as illustrated in (1) through (3) for Albanian, English and German (G), respectively, or partial, as illustrated in the examples in (4) and (5) for Italian and French, respectively.¹

- (1) *Lexova e lexova dhe s'kuptova gjë.* (Albanian)
 read.I and read.I and not'understood.I thing
 'I read and read and didn't understand a thing.'
- (2) *We thought and thought about this.* (English)
- (3) *Das Land kommt und kommt nicht aus der Schwächephase.* (G)
 the country comes and comes not out the weak phase
 'The country just won't come out of the weak phase.'

* This paper was presented at the International Workshop on the Syntax of Predication and Modification 2024 held at Nihon University on November 16th – 17th, 2024. We are grateful to the participants in this workshop, especially Patrick Brandt, Marcel den Dikken, Caroline Heycock and Mamoru Saito for their questions and extensive comments, to Tessa Adam, Daniel Buring, Hans-Martin Gärtner and Antonia Rothmayr for discussion of the German data and pointers to literature, and to Leonardo Russo Cardona for help with the Italian data. Kallulli's research for this paper was funded by the Austrian Science Fund (FWF) 10.55776/F1003, which is hereby gratefully acknowledged.

¹ The abbreviations used in the glosses of the examples are: GER (gerund), INF (infinitive), OCL (object clitic), P (past tense), PL (plural), PR (present tense), PRT (participle), S (singular).

- (4) *Lo leggo e rileggo sempre.* (Italian, Benincà and Cinque 1993)
 OCL read.I and reread.I always
 ‘I always read and reread it.’
- (5) *Jean le lit et relit sans cesse.* (French, Kayne 1975)
 Jean OCL reads and rereads without cease
 ‘John reads and rereads it constantly.’

Starting from these basic data, our proposal is that the patterns in (1) through (5) are, in essential respects, structurally identical in all cases, with the interpretative differences arising as a function of the position of the compound in the clause, which varies significantly from language to language, partly as a function of differences in verb movement, which, as we will show, is narrow-syntactic head movement. Crucially, one verb in a V_i - V_i reduplication modifies another, yielding an iterative and/or intensive predication.

2. V_i - V_i compounds: the specifics

In this section, we discuss in more detail the data presented in section 1 and flesh out our proposal in more depth. We start with the (partial) V_i - V_i reduplication structures in Italian and French, building on the seminal work of Benincà and Cinque (1993) who crucially argue for V-V coordination, and also the so-called “action nouns” in Italian (Thornton 2008), which provide further evidence for this analysis. We then turn to the V_i - V_i reduplication data in German, Albanian, Mandarin Chinese and English, and offer a unified syntactic analysis for all cases.

2.1. Italian and French

2.1.1. Verb reduplication (Benincà and Cinque 1993)

Benincà and Cinque (1993) argue convincingly that in examples like (6) below the two verbs form a single complex head (note that the two verbs in (6) involve only partial reduplication owing to the presence of the prefix *ri-/re-* (‘re-’)):

- (6) a. *Lo leggo e rileggo sempre.* (Italian)
 OCL read.I and reread.I always
 ‘I always read and reread it.’
- b. *Jean le lit et relit sans cesse.* (French)
 Jean OCL reads and rereads without cease
 ‘John reads and rereads it constantly.’

The interpretation in examples such as those in (6) is that of iterated action throughout (comparable to what we also find in English: *I always read and reread the same book*).

Benincà and Cinque (1993) show that the V-V reduplication patterns in (6) have the following properties. First, the V_i - V_i complex undergoes head movement in structures with gerunds and yes-no questions, as is shown in (7) for Italian:

- (7) a. *Leggendo e rileggendo Gianni sempre lo stesso libro ...*
 reading and rereading Gianni always the same book
 ‘(With) Gianni always reading and rereading the same book ...’

- b. *Leggi e rileggi sempre lo stesso libro?*
 read.youand reread.you always the same book
 ‘Do you always read and reread the same book?’

Secondly, the two verbs cannot have distinct tenses, or agreement, as shown in (8) for Italian:

- (8) a. **Lo leggevo e rileggo sempre tutto d’un fiato.*
 CL read.1S,P and reread.1S,PR always all of one breath
 b. **Lo leggiamo e rileggono sempre tutto d’un fiato.*
 CL read.1PL,PR and reread.3PL,PR always all of one breath

Thirdly, the two verbs cannot each have a separate (non-clitic) complement, as the Italian example in (9) shows:

- (9) **Lo leggo a Gianni e rileggo a Piero.*
 OCL read.I to Gianni and reread.I to Piero

We assign the structure in (10) to examples like (6):

- (10) [_{TP} *pro* [_T [_D *lo*] [_T [_v [_v *leggo*] *e* [_v *rileggo*]]] [_T T_{Pres}]]] ... *sempre* [_{VP} (*leggo* & *rileggo*) (*lo*)]]

In (10), the complex V raises to T over *sempre* ‘always’ (see Schifano 2018 for a more refined structure), with the (object) clitic *lo* left-adjoining to the [_T [_v V&V] T] complex. Both of these operations (i.e., verb movement and clitic movement) also apply with simple verbs (e.g., *lo leggo sempre* ‘I always read it’).

In (7), the [_T [_v V&V] T] complex raises to C (Aux-to-Comp in (7a); Q-formation in (7b)). Finally, examples such as (8) show that the V’s “share” a single T, and examples such as (9) show that V&V is a head.

2.1.2. Derived “action nouns” in Italian (Thornton 2008)

Italian also has a class of derived “action nouns” (Thornton 2008) of the form *fuggifuggi* (lit. ‘flee flee’, idiomatic ‘stampede’), *l’arraffa arraffa* (lit. ‘the grab grab’), *mangia mangia* (lit. ‘eat eat’) *pigiapigia* (lit. ‘push push’, idiomatic ‘stampede’), etc., as in (11).

- | | |
|--|--|
| (11) a. <i>fuggifuggi</i>
flee flee
‘stampede’ | b. <i>arraffa arraffa</i>
grab grab
‘grab’ |
| c. <i>mangia mangia</i>
eat eat
‘eat (metaphorically)’ | d. <i>pigiapigia</i>
push push
‘stampede’ |

We suggest that these forms consist of two (verbal) roots plus a theme vowel (-i/-a) embedded under little *n*. If the theme vowel is an exponent of little *v* (Calabrese 2019), then clearly the compound is little *v* embedded under little *n* rather than an acategorial

root.² As noted, the interpretation of these compounds is not always fully compositional, which goes to show that these formations are indeed heads, just as Benincà and Cinque (1993) argue for the V-V reduplication patterns in Romance, as discussed in the previous subsection. As is obvious from the examples, the interpretation of action nouns tends to be intensification, e.g., *fuggifuggi* ‘stampede’. Internally to Italian, then, we see that the interpretation of the compound depends on its structural position; the cases discussed by Benincà and Cinque (1993) clearly involve inflected verbs capable of moving to higher positions in the clause, as we have seen. These compounds have a characteristic aspectual interpretation, which is a function of their ability to move through the inflectional domain. The verbs forming the nominal compounds on the other hand, are embedded in the so-called lexical domain. The structure that we then assign to these action nouns is given in (12):

$$(12) [n [v [[V\&V] [v TV(-i/-a)]] n]$$

To conclude, internally to Italian, the interpretation of the compound depends on its structural position. The cases discussed by Benincà and Cinque (1993) seen in the previous subsection involve inflected verbs capable of moving to T and C, as we saw. These compounds have a characteristic aspectual interpretation, which is a function of their ability to move through the inflectional domain, as shown by the fact that the complex Verb moves across *sempre* ‘always’. The verbs forming the nominal compounds on the other hand, are embedded in the so-called lexical domain, *nP* in this case.

2.2. German

V_i-V_i compounds are also found in German, as was shown in (3), repeated here for ease of reference under (13);³ see also Fries (1996) and Engelberg (2022).

$$(13) \text{ Das Land kommt und kommt nicht aus der Schwächephase.} \\ \text{the country comes and comes not out the weak phase} \\ \text{‘The country just won’t come out of the weak phase.’}$$

Notice that the *V_i-V_i* compound in (13) is in V2 position, showing that, like in Italian, it is able to undergo head movement, as depicted in (14). In fact, as (15a) shows, the *V_i-V_i* compound in (13) cannot be V-final (note the contrast with (15b) in which the intensification semantics, which as we saw for Romance is typical of the *V_i-V_i* compound, is provided by the reduplication of the negation word in this case). Furthermore, in (13) this complex (verbal) head precedes the negator *nicht*. Notice also that the latter has scope over the entire complex head, as the interpretation is ‘The country just won’t come out of the weak phase’ and not ‘The country will and won’t come out of the weak phase’; this

² For evidence and detailed discussion on the fact that roots cannot possibly be exclusively acategorial, as maintained in extreme constructivist approaches such as Arad (2005), Borer (2005) et seq., see Kallulli (2021) and Rasin, Pesetsky and Preminger (2021).

³ This example is taken from the Austrian daily *Der Standard*, July 1st, 2024 (last accessed December 15th, 2024): <https://www.derstandard.at/story/3000000226368/die-heimische-wirtschaft-kommt-nicht-aus-der-krise-was-ist-da-los>.

Finally, it is worth pointing out that German and Dutch behave very differently with respect to V_i - V_i reduplication. As Marcel den Dikken (personal communication) points out to us, in Dutch, when the verb takes no particle or PP secondary predicate (i.e., something that cannot be removed from the VP), reduplication of the verb is fine, whereas in the presence of a particle or PP secondary predicate, it is impossible to reduplicate just the verb. Some attested examples of *komt en komt* ‘comes and comes’ reduplication from the internet, all featuring the verb all by itself, without a complement, and all provided to us by Marcel den Dikken, are given in (16) through (18) below. Crucially, however, as (19) shows, the Dutch analogue of our German example in (13) is ungrammatical.

- (16) *Het komt en komt maar ... ik word er ook soms depressief van*
it comes and comes but I get there also sometimes depressive of
- (17) *Het komt en komt maar hele hordes wandelen mijn kamer in*
it comes and comes but whole hordes walk my room into
- (18) *Hij belooft altijd verbetering maar dat komt en komt maar niet*
he promises always improvement but that comes and comes but not
- (19) **Het land komt en komt maar niet uit de problemen*
the country comes and comes but not out of the problems

Den Dikken’s “tentative conclusion about the Dutch state of affairs is that we are probably looking at some form of VP-reduplication, which can give rise to the impression of “bare” verb reduplication only in cases in which the VP can be emptied of everything besides the verb” (email message 15.12.24). As he reminds us, as necessary background to this, particles and PP secondary predicates in directional and resultative constructions cannot be extraposed or scrambled out of the VP, as shown in (20) and (21).

- (20) ... dat Jan <*op de plank> [_{VP} het <op de plank> heft gezet] <*op de plank>
that Jan on the shelf it on the shelf has put on the shelf
- (21) dat Jan <*neer> [_{VP} het <neer> heft gezet] <*neer>
that Jan down it down has put down

(potentially big) bucket, whereas in (vii) the verb *entleeren* entails a complete emptying of the bucket. Similar aspectual differences obtain in (viii) vs. (ix):

- (v) *Sie tanzten und tanzten wohl allzumal.*
they danced and danced well all-the-time
‘They danced and danced all the time.’
(Justinus Kerner: *Der Wassermann* (Borowsky/Werner (eds) 2004, p. 30)
[D-Ker-a-003], cited in Engelberg 2022: 47)
- (vi) *Sie leert und leert den Eimer.*
she empties and empties the bucket
‘She empties and empties the bucket.’
- (vii) *?/*Sie entleert und entleert den Eimer.*
she empties and empties the bucket
- (viii) *Sie strengt und strengt sich an.*
she strains and strains self on
‘She just strains and strains.’
- (ix) *?/*Sie überanstrengt und überanstrengt sich (bis sie umfällt / bis zum Umfallen).*
she overstrains and overstrains self (to she falls over / to falling over)

This is a noteworthy syntactic difference between two very closely related languages. It seems then that not all languages have V_i - V_i compounds of the type we are investigating here, although why these should be absent in Dutch remains a mystery.

2.3. Albanian

We started this paper with an example of V_i - V_i reduplication from Albanian, repeated below for ease of reference:

- (1) *Lexova e lexova dhe s'kuptova gjë.*
 read.I and read.I and not'understood.I thing
 'I read and read and didn't understand a thing.'

As can be seen from this example, Albanian seems to behave very similarly to the Romance languages discussed in section 2.1. As Benincà and Cinque (1993) observe for Italian and French, the same contexts of occurrence and restrictions with respect to tense and agreement obtain in Albanian too, as seen in (22), the exact counterpart of the Italian example in (6a), (23), where the V_i - V_i complex undergoes head movement in structures with gerunds and yes-no questions, and (24), where the two verbs cannot have distinct tenses, or agreement:

- (22) *E lexoj dhe rilexoj gjithnjë.*
 OCL read.I and reread.I always
 'I always read and reread it.'
- (23) a. *Duke (e) lexuar dhe (*e) rilexuar Beni të njëjtin libër ...*
 GER OCL read.PRT and OCL reread.PRT Ben AGR same book
 '(With) Ben reading and rereading the same book ...'
 b. *Lexon dhe rilexon gjithnjë të njëjtin libër?*
 read.you and reread.you always the same book
 'Do you always read and reread the same book?'
- (24) a. **E lexova dhe rilexoj gjithnjë me një frymë.*
 OCL read.1S,P and reread.1S,PR always with one breath
 b. **E lexojmë dhe rilexojnë gjithnjë me një frymë.*
 OCL read.1S,P and reread.1S,PR always with one breath

Likewise, the two verbs cannot each have a separate (non-clitic) complement, as the example in (25) shows:

- (25) **I shkruaj Benit dhe rishkruaj Gimit.*
 CL write.I Ben.DAT and rewrite.I Gim.DAT

As in the case of Italian, we assign the structure in (26) to examples like (22):

- (26) [_{TP} *pro* [_T [_D *e*]] [_T [_V [_V *lexoj*]] *dhe* [_V *rilexoj*]]] [_T T_{Pres}]] ... *gjithnjë* [_{VP} (*lexoj* & *rilexoj*) (*e*)]]

In (26), the complex V raises to T over *gjithnjë* 'always', with the (object) clitic *e* left-adjoining to the [_T [_V V&V] T] complex. As we saw for Italian, both of these operations

(i.e., verb movement and clitic movement) also apply with simple verbs (e.g., *e lexoj gjithnjë* ‘I always read it’).

In (23a), the analytic gerundive marker *duke* is first merged in C, the participial verb form raises to T, and the clitic adjoins to T just as in (26); Q-formation in (23b) causes the entire V_i - V_i compound to raise to C just like in Italian (and indeed German verb-second clauses). Finally, examples such as (24) show that the V’s “share” a single T, and examples such as (25) show that V&V is a head.

2.4. Mandarin Chinese

In Mandarin Chinese we observe the so-called “tentative reduplication” V_i - V_i pattern, which has independently been analysed as V-V compounding too (see Chen 2023):

- (27) a. *Ni kan ta.*
you see him.
b. *Ni kan kann ta.*
you see-see him.
‘You have a look at him.’

These examples are reminiscent of a cluster of verb reduplication patterns found in Mandarin, such as A-not-A questions (see Huang, Li and Li 2009):

- (28) *nǐ qù bú qù*
you go not go
‘Are you going?’

The structure of A-not-A questions has been much debated (see the references given in Huang, Li and Li), but one widely held analysis is that they involve V_i - V_i compounding. So here we see a further example of this construction, in a typologically and genetically very different language from the others discussed here and associated with a different semantics. Nevertheless, the V_i - V_i pattern is a constant.

2.5. English

English arguably also has V_i - V_i compounding. This is illustrated in (29):

- (29) a. We talked and talked.
b. We thought and thought.
c. We walked and walked.

This construction is characteristic of unergative intransitives, as we can see from the fact that the verbs in (29) satisfy all the diagnostics for unergatives:

- (30) *Cognate objects:*
a. He really talks the talk.
b. I thought a pleasant thought.
c. He really walks the walk.

- (31) The *way*-construction:
 a. We talked our way into the party.
 b. Bertie thought his way into a paradox.
 c. We walked our way across the precarious bridge.
- (32) *Out*-prefixation:
 a. John out-talked Bill.
 b. John out-thought Bill.
 c. Bilbo outwalked Frodo.
- (33) *Away*:
 a. John talked away.
 b. Bill thought away.
 c. Pete was walking away when he got tired.⁵

The construction is also possible with optional transitives, as shown in (34):

- (34) a. We read and read.
 b. We ate and ate.

However, in optional transitives they cannot appear with a direct object other than *it*:

- (35) a. *He read the book and read the book.
 b. He read (it) and read it.

This is consistent with the idea that *it* is deficient/clitic-like. In fact, Cardinaletti and Starke (1994, 1999) show that *it* is a weak pronoun on the basis of the fact that it cannot be coordinated and cannot be modified by focus elements such as *only*:

- (36) a. *It and the other one are nice. (Cardinaletti and Starke 1994: 42, note 1)
 b. *John has only seen IT. (Cardinaletti and Starke 1994: 49, note 10)

English differs from the Romance examples in (4) and (5), repeated here, in that *it* can be, but does not have to be, repeated, as indicated in (35b):

- (4) *Lo leggo e rileggo sempre.* (Italian, Benincà and Cinque 1993)
 OCL read.I and reread.I always
 ‘I always read and reread it.’
- (5) *Jean le lit et relit sans cesse.* (French, Kayne 1975)
 Jean OCL reads and rereads without cease
 ‘John reads and rereads it constantly.’

This contrast reflects the fact that *v* is the target for optional enclisis of *it* in English while T is the target for obligatory proclisis of *lo/le* in (4) and (5). So the structure of the compound verb in (35b) is (37):

⁵ In *walk away*, *away* naturally has the literal path interpretation rather than the intensifier interpretation which is salient in (33a,b). However, if contextualised, as (33c) attempts to do, the intensifier interpretation is available.

(37) ... [_{VP} [_V [_V V&V] *it*] ...

Where *it* is repeated, we take it to be enclitic to V, shown in (38):

(38) ... [_{VP} [_V [V-*it* & V-*it*]] ...

Together, (37) and (38) account for the impossibility of (39):

(39) *We read it and read.

Here, *it* cannot be attached to the whole compound as in (37) and, assuming that multiple enclisis must be “across-the-board”, (39) cannot have the structure in (40):

(40) * ... [_{VP} [_V [V-*it* & V]] ...

Compare (10), repeated here, which is the structure we proposed for (4)/(6) in Section 2.1.1:

(10) [_{TP} *pro* [_T [_D *lo*]] [_T [_V [_V *leggo*] *e* [_V *rileggo*]]] [_T T_{Pres}]] ... *sempre* [_{VP} (*leggo* & *rileggo*) (*lo*)]]

Strikingly, in English, *V_i-V_i* cannot be negated or questioned:

- (41) a. *We didn't read and read (it).
 b. *Did you read and read (it)?

We take these examples to indicate that English *V_i-V_i* compounds are incompatible with *do*-support (but see below for a proviso). In turn, we take this to mean that *V_i-V_i* compounds require Affix-Hopping, which we attribute to the requirement that the verb must be connected to the aspectual field by Affix-Hopping in order to receive the required iterative and/or intensive interpretation. The deviance of the examples in (41) is thus a further consequence of the well-known absence of Verb-movement into the inflectional field in English (Emonds 1978, Pollock 1989).

The proviso to the generalisation that English *V_i-V_i* compounds are incompatible with *do*-support concerns VP-ellipsis and VP-fronting, where *do*-support is compatible with *V_i-V_i* compounds, as seen in (42):

- (42) a. John worked and worked and Bill did ~~worked and worked~~ too.
 b. We expected John to work and work, and work and work he did (work and work)!

However, these cases fall under Lasnik's (1995) observation that Affix-Hopping in the first conjunct is compatible with VP-ellipsis in the second conjunct:

(43) Emily sang beautifully at the recital and her sister did too.

Here we see that past tense marking has applied in the first conjunct giving rise to the past form *sang*, while in the second conjunct *do* is inserted for past-tense marking since

VP-ellipsis has removed the overt verb. So in this example there is Affix Hopping in one conjunct but not in the other. In (42a) the presence of *did* shows that Tense does not undergo Affix Hopping in the second conjunct, but we can maintain that, since the elided VP in the second conjunct must be licensed as a copy of the VP in the first conjunct, the relevant aspectual features will be associated with the copied VP. The same analysis applies to the copy of the fronted VP in (42b).⁶ Aspectual material can undergo Affix Hopping independently of Tense as shown by examples such as the following:

- (44) a. Emily has sung beautifully at the recital and her sister has ~~sung~~ beautifully too.
 b. Emily is singing beautifully these days and her sister is ~~singing~~ beautifully too.

Examples like (42) are comparable, with the difference that the aspectual marking is non-overt in the first conjunct too.

Why can examples like (41) not be saved by covert Affix-Hopping of the kind that applies in (42)? The reason is that there is a head intervening between T (which is raised to C in (41b)) and the verb in (41). If Affix-Hopping is downward head-movement, then this is a case of the Head Movement Constraint (HMC); see McCloskey (1996) for another such case in Irish. We take this head to be a Pol head, hosting Neg and Q, on the edge of the lower phase. This head also hosts strong assertion (or verum focus) features which trigger *do*-support in examples like (45):

- (45) John DID (so) read the book.

So here and in (41) *do*-support is triggered since Affix-Hopping cannot apply for locality reasons: where the Pol head is present, the HMC prevents it. In the VP-ellipsis and VP-fronting cases in (42), on the other hand, the Pol head is not present and the application of Affix Hopping of T is bled, by ellipsis in (42a) and copy-deletion in (42b), but the aspectual affixes can attach to the verb, and this is supported by (44).

However, examples like (46) present a problem for this analysis:

- (46) a. Has John eaten the apple?
 b. John hasn't eaten the apple.
 (47) a. Is John eating the apple?
 b. John isn't eating the apple.

Here it is clear that aspectual affixes can be “hopped” onto the Verb in negation and inversion contexts. If so, then why can the abstract aspectual affixes we have proposed to

⁶ The V_i - V_i compound in (42b) is non-finite. This is not a problem as we know independently that non-finite verbs in English can have aspectual marking, and this carries over to V_i - V_i compounds:

- (i) To have read and read and still not understood anything is frustrating.
 (ii) To be reading and reading and not understanding anything is frustrating.

These examples show that Affix Hopping (and associated copying) applies to V_i - V_i compounds.

license V_i - V_i compounds similarly not undergo Affix Hopping here, which would make the examples in (41) grammatical?

To answer this question, we need to clarify our assumptions about the nature of the aspectual participles. First, we take the perfect participle (of main verbs, but not auxiliary *been*) to be the passive participle of main verbs, and as such merged in Voice. There is morphological motivation for identifying these participles, since they never show distinct forms. Following Kallulli and Roberts (2024a), we take it that where Voice has an Accusative feature, the clause must be active. In perfects, *have* introduces the Accusative feature, which Voice inherits, thereby making the clause active (see Haider and Rindler-Schjerve (1987:1041) for a similar idea, which they referred to as “deblocking”). Second, we assume that the phase at whose edge the Pol head containing Neg, Q and “strong” assertion features is located is not vP but ProgP (see Harwood 2013 for extensive evidence that ProgP is a phase). Third, we assume that the aspectual features licensing the V_i - V_i compound are merged higher than ProgP. Hence Pol blocks Affix Hopping of these features in (41) but not in (42) (or (i) and (ii) of note 5). Neither is Affix Hopping of progressive *-ing* blocked in (47). In (46), the same may apply to the participial *-en* feature, but we do not exclude the possibility that V moves to Voice in English, forming the perfect/passive participle.

Caroline Heycock (personal communication) draws our attention to the following apparent counterexamples to the claim that V_i - V_i compounds resist *do*-support:

- (48) a. Do you just read and read all day without ever going out?
b. Why do they run and run and never slow down?
c. Why do you talk and talk and never actually DO anything?
(49) a. We don't just read and read all day; sometimes we go out.
b. They don't just run and run; sometimes they slow down.
c. I don't just talk and talk; sometimes I actually do something.

Leaving aside the *why*-questions in (48b,c) for now (see below), the presence of *just* seems to be crucial to these examples. Compare (50) with (49):

- (50) We didn't ??(just) eat and eat, we also drank.

Just can appear anywhere in the auxiliary sequence:⁷

- (51) a. We have just eaten and eaten.
b. We are just eating and eating.
c. They are just adored and adored.
d. We have been just adored and adored.
e. We have just been adored and adored.
f. We have just been eating and eating.
g. We have been just eating and eating.
h. We have been being just adored and adored.
i. We have been just being adored and adored.

⁷ Here the sequence *just been* favours the very-recent-past interpretation, which is not relevant in the present context.

So *just* can't possibly block Affix Hopping; if we analyse it as a non-head then the account of *do*-support based on the Head Movement Constraint given above will explain this.

Contracted negation is also possible in all the examples in (42):

- (52) a. We haven't just eaten and eaten, we also drank.
 b. We aren't just eating and eating, we're also drinking.
 c. They aren't just adored and adored, they're also admired.
 d. We haven't been just adored and adored, we've also been admired.
 e. We haven't just been adored and adored, we've also been admired.
 f. We haven't just been eating and eating, we've also been drinking.
 g. We haven't been just eating and eating, we've also been drinking.
 h. We haven't been being just adored and adored, we've also been being admired.
 i. We haven't been just being adored and adored, we've also been being admired.

One possibility for analysing these facts, consistent with the analysis above, would be to treat *not* as directly negating *just*, that is, in a constituent [*not just*], with subsequent movement and contraction to the finite auxiliary.

Support for this comes from the fact that *just* can also appear, albeit a little marginally in some cases, between the subject and the finite auxiliary, where the auxiliary is not *do*:

- (53) a. I just can't get enough.
 b. ?We just haven't eaten and eaten.

Here we clearly have the opposite scope of *just* and negation. But here, *do* is not possible:

- (54) ?*We just didn't eat and eat, ...

The contrast between (54) and (49) can be explained if *not* raises from [*not just*] in (49): such raising is clearly impossible in (54) since the putative [*not just*] does not c-command the position of *n't* here. If the examples in (49), (51) and (52) are derived in this way, then the generalisation and analysis in the text can be maintained in these cases.⁸

The *why*-questions in (48) have maximally wide scope for *why*, which scopes over both conjuncts. Here we can maintain, following Rizzi (1990, 2001), Shlonsky and Soare (2011) and the papers in Soare (2021) that *why* is first-merged in the left periphery. In such cases, the trigger for *do*-support may be located higher than in other types of interrogative, and hence Affix Hopping of the aspectual features is not blocked.

This concludes our discussion of English. The fact that V_i - V_i compounding interacts with Affix Hopping and *do*-support confirms our general claim in this paper that the

⁸ Caroline Heycock (personal communication) draws our attention to examples like (i), which do not fall under the account of negated clauses with V_i - V_i in English:

(i) I know you hate garden work and you think I'm being unreasonable in how much time I spend out there, but if you don't dig and dig all day, you'll never get it the way you want it.

It seems that further work remains to be done on this topic.

properties of these compounds in a given language are largely determined by independent parameters regulating verb-movement and associated phenomena: the deviance of the examples in (41) is thus a further consequence of the well-known absence of Verb-movement into the inflectional field in English (Emonds 1978, Pollock 1989).

2.6. Restructuring and V_i - V_i compounds⁹

Here we look at the possibility of the formation of V_i - V_i compounds where V_i is a complex verb formed by the combination of a restructuring verb and a lexical verb. We will see that Japanese causatives contrast with Italian restructuring verbs as regards this possibility, a difference we attribute to the fact that Japanese causatives involve head movement of the lexical verb to combine with the restructuring trigger (the causative *sase*) while Italian infinitives do not morphosyntactically combine with restructuring verbs. We will use v to indicate the restructuring verb and V to indicate the lexical verb throughout.

Looking first at Japanese, what we see is that there appear to be V_i - V_i compounds, as in examples such as the following:

- (55) *Kangae-te, kangae-te, sore-demo wakar-ana-i*
 think-GER think-GER it-even understand-not-PR
 ‘I thought and thought but even then I don’t understand.’

Causative verbs marked with the restructuring trigger *sase* can also appear in the following construction:

- (56) *musuko-ni seisyo-o yom-ase-te, yom-ase-te,*
 son-DAT bible-ACC read-CAUS-GER read-CAUS-GER
benkyoo-sase-ta
 study-CAUS-P
 ‘I made my son read and read the bible, and I made him study it.’

We take *sase* to be a verb with a vP^* (i.e. a fully transitive vP ; see Chomsky 2001) as its complement, as in (57), the structure for the second conjunct of (56):

- (57) [_{TP} SU [[_{v^*P} [_{VP} [_{v^*P} IO [[_{VP} DO *benkyoos*] v^*]] *sase*]] *ta*]]

Here SU is the Causer subject of *sase*, which raises from Spec v^*P to SpecTP. The lexical verb *benkyoos* (“study”) raises through the lower v^* and forms a complex head with *sase*; this can be seen from the fact that there is a general phonological rule of Japanese which deletes the initial consonant of the second verb in a complex verb V_1+V_2 , if V_1 ends with a consonant and V_2 begins with a consonant. Here the initial /s/ of *sase* deletes following this rule. We see the same rule in operation in both occurrences of *yom-ase-te* in the V_i - V_i compound in (56). Hence here we have a V_i - V_i compound where both Vs are complex verbs of the form $v+V$. The compound thus has the form in (58):

⁹ Thanks to Mamoru Saito (personal communication) for raising this question and for invaluable help with the Japanese examples, and to Leonardo Russo Cardona (personal communication) for the judgements on the Italian data.

(58) [_v v+V & v+V]

In (56), each complex verb is also marked with the gerundive suffix *-te*.

In Italian, taking *volere* ('to want') as a restructuring verb, we find the following paradigm with proclisis:

- (59) i. *Lo voglio leggere e rileggere sempre.*
 OCL want.I read.INF and reread.INF always
 'I always want to read and reread it.'
- ii. *Lo voglio leggere e lo voglio rileggere.*
 OCL want.I read.INF and OCL want.I reread-INF
 'I want to read and reread it.'
- iii. **Lo voglio leggere e voglio rileggere.*
 OCL want.I read.INF and want.I reread.INF

In (59i) the clitic *lo* "climbs" to the restructuring *v* and the two lexical infinitives form a compound. Here the restructuring trigger is outside the compound. In (59ii), there is no compound and there are two separate cases of "across-the-board" clitic-climbing in each conjunct. The crucial case for comparison with the Japanese data above is (59iii): here *lo* has climbed and attached proclitically to a putative [*v+V* & *v+V*] compound. The ungrammaticality of the result shows that the restructuring trigger cannot be inside the compound. This contrasts directly with what we observe with the Japanese compounds in (56).

Turning now to enclisis, the relevant examples are:

- (60) i. *Mi ritrovo a voler-lo leggere e rileggere.*
 myself find.I C want.INF-OCL read.INF and reread.INF
 'I find myself wanting to read and reread it.'
- ii. *Mi ritrovo a voler legger-lo e rilegger-lo.*
 myself find.I C want.INFread.INF-OCL and reread.INF-OCL
 'I find myself wanting to read and reread it.'
- iii. ?**Mi ritrovo a voler legger e voler rilegger-lo.*
 myself find.I C want.INFread.INF and want.INFreread.INF-OCL
- iv. *Mi ritrovo a voler-lo leggere e voler-lo rileggere.*
 myself find.I C want.INF-OCL read.INF and want.INF-OCL reread.INF
 'I find myself wanting to read and reread it.'
- v. **Mi ritrovo a voler leggere e voler-lo rileggere.*
 myself find.I C want.INFread.INF and want.INF-OCL reread.INF

In (60i), there is enclisis of *lo* to the restructuring *v*, which is outside of the compound formed by the two lexical infinitives. This is the enclisis analogue of (59i). In (60ii), there is no compound: *lo* encliticises independently to each infinitive across the board. In (60iii) we see that enclisis to a putative [*v+V* & *v+V*] compound is ungrammatical; this is the enclisis analogue to (59iii). In (60iv) we have the clitic-climbing counterpart to (60ii), with separate enclisis of *lo* to each occurrence of the restructuring *v*: here there is no compound. Finally, (60v) involves ill-formed enclisis in just one conjunct; in violation of the "across-the-board" requirement, in contrast with (60iv). There is no compound here.

We see that Japanese and Italian differ in the possibility of V_i - V_i compounds where each V_i is complex containing a restructuring verb and a lexical verb. Japanese allows these, as (56) shows, while Italian does not, as the data in (59iii) and (60iii) show. We can account for this difference quite straightforwardly: in Japanese the lexical verb forms a complex head with the causative *sase*, while in Italian the lexical infinitive does not incorporate with the restructuring verb *volere* ('to want'), which we take to represent the class of restructuring verbs. The lack of incorporation in Italian restructuring is shown by the fact that the clitic can intervene between the restructuring verb, to which it has "climbed", and the infinitive in (60iv). We saw above that there is phonological evidence for incorporation in Japanese.

3. Conclusion

In this paper, we have offered a uniform process of V_i - V_i compounding which gives rise to similar interpretations across a range of languages, showing that the V_i - V_i complex occupies different positions across at least English (v), German (C), Japanese (causative v) and Albanian/Italian (the inflectional field), reflecting independent parameters of verb movement. Most importantly, we have demonstrated that since V_i - V_i must be the input to the C-I interface, both the compounding and verb movement must be narrow syntactic (Roberts 2010, Lechner 2006). If head movement is a reflex of the presence of a defective Goal, as Roberts (2010) argues, and Agree intrinsically involves redundancy of features (see Kallulli and Roberts 2024b), then our study of V_i - V_i compounds contributes to the ongoing typology of redundant and deficient operations in language instigated by Onea et al. (2023).

References

- Arad, Maya. 2005. *Roots and Patterns: Hebrew Morpho-syntax*. Springer.
- Benincà, Paola and Guglielmo Cinque. 1993. Su alcune differenze fra enclisi e proclisi. In *Omaggio a Gianfranco Folena*, 2313–2326. Padova: Editoriale Programma.
- Borer, Hagit. 2005. *Structuring Sense*. Oxford: Oxford University Press.
- Calabrese, Andrea. 2019. *Morpho-Phonological Investigations: A Theory of PF. From Syntax to Phonology in Sanskrit and Italian Verbal Systems*. Ms., University of Connecticut.
- Cardinaletti, Anna and Michael Starke. 1994. The typology of structural dependency: on the three grammatical classes. *University of Venice Working Papers in Linguistics* 4.2, 41–109.
- Cardinaletti, Anna and Michal Starke. 1999. The typology of structural dependency: a case study of three classes of pronouns. In Henk van Riemsdijk (ed.) *Clitics in the Languages of Europe*, 145–233. Berlin: De Gruyter.
- Chen, Chaoyi. 2023. Mandarin verbal reduplication and the one-delimitation principle. *Proceedings of the Linguistic Society of America* 8(1), 5521. <https://doi.org/10.3765/plsa.v8i1.5521>.
- Chomsky, Noam. 2001. Derivation by Phase. In Michael Kenstowicz (ed.), *Ken Hale: A Life in Language*, 1–52. Cambridge, Mass: MIT Press.
- Emonds, Joseph. 1978. The verbal complex V'-V in French. *Linguistic Inquiry* 9, 151–175.

- Engelberg, Stefan. 2022. *Wir sind, wir sind zur Stelle – Die Syntax, Semantik und Pragmatik rhetorischer Wiederholungsfiguren: Anadiplose und Geminatio in Gedichten*. IDSopen Online-only-Publikationen des Leibniz-Institut für Deutsche Sprache, Band 4. Mannheim: IDS-Verlag.
- Fries, Norbert. 1996. Grammatik und Emotionen. *Sprache und Pragmatik* 38, 1–39.
- Haider, Hubert and Rositta Rindler-Schjerve. 1987. The parameter of auxiliary selection: Italian-German contrasts. *Linguistics* 25, 1029–1055.
- Harwood, William. 2013. *Being Progressive is Just a Phase: Dividing the Functional Hierarchy*. University of Ghent PhD Dissertation.
- Holmberg, Anders. 2016. *The Syntax of Yes and No*. Oxford: Oxford University Press.
- Huang, C.-T. James, Audrey Li and Yafei Li. 2009. *The Syntax of Chinese*. Cambridge: Cambridge University Press.
- Kallulli, Dalina. 2021. Voice morphology (mis)behaving itself. 2021. In Bárány, András, Theresa Biberauer, Jamie Douglas and Sten Vikner (eds.) *Syntactic Architecture and its Consequences III: Inside Syntax*, 3–22. Language Science Press.
- Kallulli, Dalina and Ian Roberts. 2024a. On the relation between Voice and Case: an Agree-based approach. lingbuzz/008426.
- Kallulli, Dalina and Ian Roberts. 2024b. Parameters: Redundancy and Deficiency. Talk given at the University of Vienna, December 12th.
- Kayne, Richard. 1975. *French Syntax*. Cambridge, Mass: MIT Press.
- Lasnik, Howard. 1995. Verbal morphology: Syntactic Structures meets the Minimalist Program. In Paula Kempchinsky and Hector Campos (eds.) *Evolution and Revolution in Linguistic Theory: Essays in Honor of Carlos Otero*, 251–275. Georgetown: Georgetown University Press.
- Lechner, Winfried. 2006. An interpretive effect of head movement. In Mara Frascarelli (ed.) *Phases of Interpretation*, 45–70. Mouton.
- Martins, Anna M. 2007. Double realization of verbal copies in European Portuguese emphatic affirmation. In Norbert Corver and Jairo Nunes (eds.) *The Copy Theory of Movement*, 77–118. Benjamins.
- McCloskey, James. 1996. The scope of verb-movement in Irish. *Natural Language and Linguistic Theory* 14, 47–104.
- Onea, Edgar, Boban Arsenijevic, Daniel Büring, Katharina Felka, Stefan Heidinger, Dalina Kallulli, Eva-Maria Remberger, Albert Wall and Susanne Wurmbrand. 2023. *Language Between Redundancy and Deficiency*. Special Research Area / Spezialforschungsbereich (SFB) Project Proposal funded by the Austrian Science Fund (FWF) 10.55776/F1003. (<https://www.fwf.ac.at/en/research-radar/10.55776/F1003>).
- Pollock, Jean-Yves. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20, 365–424.
- Rasin, Ezer, Omer Preminger and David Pesetsky. 2021. A re-evaluation of Arad’s argument for roots. In *Proceedings of the 39th West Coast Conference on Formal Linguistics (WCCFL 39)*, 382–392. Somerville, MA: Cascadilla Press.
- Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, MA: MIT Press.
- Rizzi, Luigi. 2001. Relativized minimality effects. In Mark Baltin and Chris Collins (eds.), *The Handbook of Contemporary Syntactic Theory*, 89–110. Oxford: Blackwell.
- Roberts, Ian. 2010. *Agreement and Head Movement: Clitics, Incorporation, and Defective Goals*. Cambridge, MA: MIT Press.

Schifano, Norma. 2018. *Verb Movement in Romance: A Comparative Study*. Oxford: Oxford University Press.

Shlonsky, Ur and Gabriela Soare. 2011. Where's 'Why'? *Linguistic Inquiry* 42, 651–669.

Soare, Gabriela. 2021. *Why is 'Why' Unique?* Berlin: de Gruyter.