Top-down versus bottom-up approaches to aspect: the case of the Dutch prepositional progressive

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Top-Down Versus Bottom-Up Approaches to Aspect: The Case of the Dutch Prepositional Progressive

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Progressive constructions in Germanic are usually studied as progressive constructions—that is, exclusively so. I characterize this as a top-down approach to aspect, which, I argue, harbors the risk of overlooking relevant language-specific structures that are similar in form and meaning. This paper, therefore, advocates taking a bottom-up approach. Based on a case study of the prepositional progressive in Dutch (*aan het*-progressive), I claim that this approach is of added empirical and theoretical value. Drawing on construction-based theories, the relevant patterns—dubbed *situational constructions*—are analyzed in terms of horizontal constructional links.*

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1. Introduction.

Research into progressive viewpoint aspect in Germanic usually proceeds in a top-down fashion. That is, the crosslinguistic concept *progressive aspect* serves as a vantage point from which one or more (cross)linguistic forms taken to be instantiations of it are described, analyzed, compared, and so on. Examples of progressive forms in the Germanic languages studied in this way include the English V-*ing* progressive (Ramchand 2018, chapter 2), the *am*-Progressiv in certain varieties of German (Krause 2002), pseudo-coordination in Norwegian, Swedish, and German (Tonne 2007, Blensenius 2015, Proske, this issue), the *aan die*-progressief in Afrikaans (Breed & van Huyssteen 2015, Wierenga 2022), and the Dutch *aan het*-progressief (Boogaart 1991; Lemmens 2005, 2015; Booij 2010, chapter 6). There are also studies that draw comparisons between progressives from these languages in various combinations (Boogaart 1999, chapter 5; Felser 2000; Van Pottelberge 2004, 2007; Behrens et al. 2013; Cavirani-Pots 2020; Wierenga & Breed 2021; Okabe 2023).

This is clearly a valid way of studying (progressive) aspect. However, this approach also harbors a certain risk: Examining a language-specific structure only in its capacity as an expression of one conceptual category may hide from view similar forms that do not instantiate the conceptual category under study. The risk is therefore that a form would be studied in isolation rather than in connection with related constructions, based on its place within a language-specific context. One way to avoid this problem—one that I advocate here—is to complement top-down treatments with a bottom-up approach. In the context of this study, such a bottom-up approach would specifically take into account structurally similar yet nonprogressive aspectual constructions.

Let me illustrate this point with the English V-*ing* progressive.[1] There is a vast body of work on present participles licensed by the progressive auxiliary *be*, as in *Rosie was eating*, but comparatively little on alternative

[1] A similar example is the posture verbs meaning 'stand' in Dutch (*staan*), German (*stehen*), and Afrikaans (*staan*), which are used not only in progressive but also in prospective constructions (see Wierenga 2022; Bogaards 2023; Fleischhauer, this issue; Bogaards & Fleischhauer, forthcoming).

aspectual auxiliaries used in this pattern, such as *start*, *get*, *keep (on)*, *stop*, and *finish*, as in *Rosie started/got/kept (on)/stopped/ finished eating*, even though they, too, select present participles and—while not progressive—likewise encode the subject's involvement in the situation denoted by the participle.[2]

To be sure, this does not invalidate studying *be* + V-*ing* as a dedicated progressive construction. However, such an approach does not address the question of how *be* V-*ing* relates to *start/get/keep (on)/stop/ finish* V-*ing*. Importantly, this type of question is not just empirically but also theoretically relevant against the backdrop of construction-based theories of language (see Goldberg 1995, Verhagen 2005, Hoffman & Trousdale 2013, Boogaart et al. 2014, Hilpert 2014, Diessel 2019, among many others), which model linguistic knowledge as a network of constructions, that is, symbolic pairings of form and meaning. A current debate in Construction Grammar (henceforth CxG; Goldberg 1995 and subsequent work) concerns the types of relations that exist among constructions within the constructional network. Specifically, it has been argued that so-called vertical relations (that is, inheritance links between constructions at different levels of abstraction)—which traditionally received most attention—are not sufficient to capture the generalizations that make up mental grammars, and that "horizontal" relations (that is, associations between constructions at the same abstraction level) are also required (for example, Van de Velde 2014, Audring 2019, Diessel 2019, chapter 10, Sommerer & Smirnova 2020). In the case of progressives in Germanic, defining one's research object primarily or exclusively in terms of the top-down concept *progressive* may lead to empirical and theoretical gaps: Under this approach, the horizontal relations between these progressive constructions and similar (but not necessarily progressive in the traditional sense) patterns may be overlooked.[3]

[2] These constructions contrast with sentences such as *Rosie got her to eat something* where it is the object of the auxiliary that is involved in the situation denoted by the participle. These types of (causative) constructions are discussed in section 4.4.

[3] As one of the anonymous reviewers rightly points out, there are two similar spatial metaphors at play here, which need to be strictly separated. First, the vertical and horizontal relations are a standard metaphor for gradual differences in abstraction within the constructional model of linguistic knowledge. Second, the top-down and bottom-up approaches to aspect that I am contrasting here

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To substantiate the general claim that a bottom-up approach is of added empirical and theoretical value to top-down studies of (progressive) aspect, this paper presents a case study conducted within the CxG framework. The study examines the Dutch pattern known as the *aan het*-progressive, or prepositional progressive (see, among others, Lemmens 2015 and Bogaards et al. 2022). This construction is illustrated in 1.[4]

(1) *aan het* V_{INF} *zijn* (*aan het*-progressive)

Jordy **is aan het zwemmen**.
Jordy be.3SG on the swim.INF
'Jordy is swimming.'

The construction in 1 consists of the constituent *aan het* V_{INF} headed by the preposition *aan* 'on' combined with the matrix verb *zijn* 'be'.[5] It expresses that the situation denoted by the infinitive (here: *zwemmen* 'swim') is ongoing. This paper aims to show that this pattern shares crucial properties with certain other patterns built around *aan*-constituents, which differ from the *aan het*-progressive primarily with respect to the matrix verb or the variable element: The *aan het*-ingressives (Bogaards et al. 2022) in 2a combine with the matrix verbs *gaan* 'go' or *slaan* 'hit' rather than

concern the "direction" of study: starting from the top—that is, from a (cross)linguistic category, or starting from the bottom—that is, from a language-specific construction. Although 'top-down' and 'bottom-up' appeal to verticality, they are not limited to vertical relations in terms of the first metaphor. I therefore agree with the reviewer that the metaphors should not be mixed: the vertical/horizontal relations pertain exclusively to theory (that is, the CxG language model), whereas the bottom-up/top-down approaches only concern method (that is, the methodological point of departure).

[4] In addition to abbreviations set forth in the Leipzig glossing rules, the following abbreviations are used: DIM=diminutive; EMP=emphatic; FOR=formal pronoun; PTCL=particle; STEM=verbal stem.

[5] Due to its syntactic behavior, it is not evident that *aan het* V_{INF} is actually a PP; *prepositional progressive* is a term used in the literature based on its prima facie analysis as a PP. Some authors have analyzed *aan het* V_{INF} as AspP (IJbema 2003), as a form of verbal inflection (Smits 1987) or as some other type of functional projection (Bogaards et al. 2022). Therefore, I remain neutral on the syntactic category of this constituent.

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zijn, and the patterns in 2b,c select a variable verb stem and noun, respectively, rather than an infinitive.

(2) a. *aan het* V_{INF} *gaan/slaan* (*aan het*-ingressive)

Jordy gaat/slaat aan het zwemmen.
Jordy go.3SG/hit.3SG on the swim.INF
'Jordy starts swimming.'

b. *aan de* V_{STEM}[6]

De saus is **aan de kook**.
the sauce be.3SG on the boil.STEM
'The sauce is boiling.'

c. *aan* D N

Peter is **aan de drugs**.
Peter be.3SG on the drugs
'Peter is using drugs. / Peter uses drugs.'

Similarities in both the form and meaning of 1 and 2a–c complicate the idea of a dedicated, standalone or self-contained Dutch progressive. The main research question of this paper is therefore how the patterns exemplified by 1 and 2 are related from a constructionist point of view. Based on several semantic and syntactic similarities and contrasts, I argue that the *aan het*-progressive is a member of a broader category of prepositional aspectual constructions connected by horizontal (but not vertical) links.

The structure of the paper is as follows: Section 2 reviews previous work on *aan het* V_{INF} *zijn* as a progressive construction. In section 3, I lay down the analytical framework by discussing CxG and its concepts of constructional families and relations. Next, section 4 broadens the empirical scope of the study of *aan het* V_{INF} *zijn* by taking a bottom-up approach to prepositional aspectual constructions in Dutch. The observations made using this approach are discussed in section 5, which

[6] For reasons of exposition, the matrix verb *zijn* 'be' is not included in the name of the constructions in 2b,c: In this case, the focus is not on the matrix verb but on the variable element. For detailed discussion, see section 4.1.

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presents a novel analysis of these constructions in terms of their mutual links. Finally, section 6 concludes the paper.

2. The *Aan Het*-Progressive.

The Dutch construction known as the *aan het*-progressive, or the prepositional progressive (for example, Lemmens 2015, Bogaards et al. 2022) consists of a constituent *aan het* V_{INF} paired with the matrix verb *zijn* 'be'. It presents the situation denoted by the variable infinitive as dynamic and ongoing, with the subject of *zijn* construed as the logical subject of the infinitive. An example of the construction is given in 3.[7]

(3) Het zou wel eens kunnen dat ons klimaat sneller
it could.3SG PTCL once can.INF that our climate quicker

aan het veranderen is dan we dachten.
on the change.INF be.3SG than we thought.1PL

'It might just be the case that our climate is changing quicker than we thought.' (WR-P-E-G-0000008216)

In the introduction, I claimed that this construction has been dealt with mainly using a top-down approach to (progressive) aspect. By this I mean that it is a priori treated as a progressive construction and is analyzed or compared to other constructions only in that capacity. For example, Boogaart (1991) and Van Pottelberge (2007) contrast the *aan het*-progressive with the default nonprogressive form in Dutch, that is, the simple present/past. Lemmens (2005, 2015), Beekhuizen (2010, chapter 6), Behrens et al. (2013), and Anthonissen et al. (2019) compare this construction with other progressive forms, most notably the Dutch posture verb progressive, as in *Rosie zit te eten* 'Rosie is eating' lit. 'Rosie sits to eat'. Finally, Boogaart (1999), Felser (2000), Van Pottelberge (2004, 2007), Behrens et al. (2013), and Wierenga & Breed (2021) compare it to progressive forms from other Germanic languages (namely, Afrikaans, English, German, Norwegian, and Swedish). Notable findings from this top-down-oriented work are that the Dutch *aan het*-progressive i) exhibits

[7] Unless otherwise indicated, attestations are from the SoNaR corpus of written Dutch. The code between square brackets is the Document ID. If no ID is provided, the sentence is a constructed example.

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a high degree of grammaticalization compared to progressives in German, Norwegian, and Swedish (Van Pottelberge 2007, Behrens et al. 2013), ii) may denote a situation stretching over an extended period of time so that it covers multiple separate instantiations of that same situation (Vismans 1982, Lemmens 2015), iii) does not allow a habitual interpretation (Boogaart 1999), iv) may take on discourse-organizational functions (Boogaart 1991), and v) has lower (inter)subjective potential than the posture verb progressive (Anthonissen et al. 2019).

I should point out, however, that there is some notable work that goes beyond examining *aan het* V_{INF} *zijn* as an isolated progressive construction, which the present study takes as a starting point. For example, Bogaards et al. (2022) compare the *aan het*-progressive to the ingressive variants with *gaan* 'go' or *slaan* 'hit' as the matrix verb, as in 2a. They conclude that these are two different syntactic constructions and situate the *aan het*-progressive higher on a synchronic lexical-to-functional cline than the *aan het*-ingressive (that is, the former is more grammaticalized).[8] Broekhuis et al. (2015:153) note the semantic similarity between the *aan het*-progressive and the verbal stem pattern in 2b.

Booij (2010:163–165) offers a construction-based analysis of both the *aan het*-progressive and its ingressive counterpart with *slaan*. He formalizes the connection between the *aan het*-progressive form and meaning as in 4a, and the ingressive with *slaan* as in 4b (from Booij 2010:164).

(4) a. $<[(\text{NP/PP}_j)\ \textit{aan het}\ V_i\text{-INF}]_k \quad \leftrightarrow \quad [\text{PROG}\ [(\text{ARG}_j)\ \text{PRED}_i]_m]_k>$

b. $<[[\textit{aan het}\ V_i\text{-INF}]_m\ [\textit{slaan}]_j]_k \quad \leftrightarrow \quad [\text{INGR}_j\ [\text{PROG}\ [\text{PRED}_i]_m]_k]>$

The schemata in 4 specify form-meaning links through coindexation of formal slots and sequences with semantic content (indices *i-m* in subscript). This notation captures the fact that each construction projects a different aspectual viewpoint (PROG/INGR) onto the situation denoted by the infinitive (PRED). Another well-known difference between these constructions is that the progressive but not the ingressive can optionally select an internal argument (see section 4.5). Booij (2010) accounts for

[8] Details of this account are included in the analysis in section 4.5.

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this contrast by appealing to a general transitive schema [(ARGUMENT) PRED] in 4a, not present in 4b.[9]

In what follows, I build further on the accounts cited in this section by drawing on the concept of horizontal relations in CxG. In particular, building on Booij's (2010) analysis, the present study examines how the formalizations in 4—as well as the examples in 2b,c—are related within the constructional network. Booij (2010:164) qualifies the *aan het*-ingressives in 4b as "subconstructions" of 4a, linking 4b to 4a vertically through instantiation. Note that one consequence of Booij's approach is that ingressivity in 4b operates on progressivity, because it inherits the PROG-semantics of 4a. This relation potentially introduces a conceptual problem, given that these types of aspect express diametrically opposed viewpoints: Progressivity defocuses a situation's boundaries (Behrens et al. 2013:98), whereas ingressivity focuses its initial boundary (see Xiao & McEnery 2004, section 5.3). Hence [INGR[PROG[PRED]]] in 4b entails taking a situation and defocusing its boundaries, only to then (re)focus one of them—a somewhat roundabout procedure.[10] In my view, this particular outcome of Booij's analysis reflects the top-down approach that starts from the notion *progressive* (and the form that is assumed to be tied to this notion). The fact that Booij (2010) includes PROG in the conceptual definition of an ingressive construction is characteristic of this type of approach. In section 4, I put forward an alternative to the relation between 4a and 4b as analyzed by Booij (2010).

3. Constructional Networks and Horizontal Links.

Construction-based approaches to language—most prominently CxG—model linguistic knowledge as symbolic pairings of form and meaning

[9] In 4a, PRED is coindexed with a slot for an NP/PP because Dutch has transitive verbs with both nominal and prepositional objects.

[10] As noted by one of the reviewers, there are CxG frameworks that could deal with the relation between the Dutch *aan het*-progressive and -ingressives in terms of the representation [INGR[PROG[…]]] without this being roundabout, most prominently Michaelis's (2004) approach to aspectual coercion. More specifically, a matrix verb such as *slaan* 'hit' in 4b could be analyzed as a type-shifting operator modulating the aspectual properties of 4a from progressive to ingressive (see Michaelis 2004:7). In this paper, I provide an alternative perspective that does not appeal to coercion or type-shift.

called constructions organized in a taxonomic network (sometimes referred to as "the Construction"; for example, Verhagen 2005:211, Van de Velde 2014:145). Constructions occupy a position in the network defined by their relations to other constructions (Diessel 2019:200). Together they form so-called construction families (ibid., 199). One way of organizing constructions is by vertical relations, from concrete to gradually more abstract linguistic patterns. To illustrate how this system works, Hilpert (2014:58) gives the example of the fully lexically specified idiom *face the music* with the noncompositional meaning 'accept responsibility'. This idiom is one instantiation of the transitive verb *face* + OBJ, which in turn generalizes upward to the maximally schematic English transitive construction V OBJ. Vertical relations are thus token-to-type and type-to-token links, where *token* and *type* are relative terms: The expression *face the music* is a token that instantiates the type *the transitive verb* face + *OBJ*, which itself is a token that instantiates the type *V OBJ*.

As has been pointed out frequently in recent years, vertical relations are not sufficient to capture the associations between constructions (see, among others, Van de Velde 2014, Audring 2019, Diessel 2019, Sommerer & Smirnova 2020).[11] If there are similarities between constructions but no productive overarching construction they generalize to, these links cannot be modeled by appealing to abstraction. Instead, such constructions operate at the same level of schematicity without projecting upward to a more abstract (common) representation. Different terms are in circulation for this type of links between constructions, including "syntactic paradigms" (Van de Velde 2014), "sister relations" (Audring 2019), and "horizontal relations" (Van de Velde 2014, Diessel 2019, Sommerer & Smirnova 2020). As noted by Van de Velde (2014:141), horizontal relations "have been somewhat neglected in comparison with the vertical relations," particularly at the syntactic level.

According to Diessel's (2019:200) analysis of German, horizontal relations are defined by similarities and differences between constructions. As an illustrative example, he discusses copular clauses and stative passives in German, which are not linked vertically either to the same schema or to each other and yet exhibit considerable similarity. In Dutch,

[11] Diessel (2019:202–214) provides an extensive overview of experimental evidence in favor of the concept of horizontal relations.

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copular clauses and stative passives both consist of a subject, the copula/auxiliary *zijn* 'be', and a complement: an adjective in the former and a participle in the latter, that is, SUBJ *zijn* ADJ/PTCP (I am using Diessel's 2019:200 notation). So, although *de lamp is aan* 'the lamp is on' (copular) and *de lamp is aangezet* 'the lamp has been turned on' (passive) are instantiations of different constructions, they are alike formally (syntagms) and semantically (resultant states). Diessel thus argues that constructions such as SUBJ *zijn* ADJ/PTCP are defined not just by vertical links to more general/specific schemata but also by mutual horizontal relations. These relations can be viewed in terms of the syntactic and semantic similarities and differences between the constructions in question. The next two sections analyze the *aan het*-progressive and similar patterns in these terms to establish the horizontal links between them.

4. A Bottom-Up Approach.

4.1. The Constructions.

In his work on the Dutch progressives, Lemmens (2005, 2015) terms the *aan het*-progressive—that is, *aan het* V_{INF} *zijn* in 5a—the "prepositional progressive". This term highlights the fact that the preposition *aan* 'on' is the distinctive characteristic of the construction, as opposed to the Dutch posture verb progressive. If this language-specific form (rather than the top-down notion *progressive*) is taken as a starting point, it turns out that the construction also occurs with matrix verbs other than *zijn*—for instance, *gaan* 'go', as in 5b. Furthermore, the slot occupied by an infinitive can be filled by other forms too: a verbal stem, such as *wandel* 'stroll' in 5c (Ebeling 2006:112, Broekhuis et al. 2015:153, Booij & Audring 2018:220–223), or a noun, such as *bier* 'beer' in 5d (Boogaart 1999:169, Ebeling 2006:259, Lemmens 2015:8).[12]

(5) a. *aan het* V_{INF} *zijn*

Ik	**ben**	ook	een	boek	**aan**	**het**	**schrijven**
I	be.1SG	also	a	book	on	the	write.INF

[12] Although the verbs *gaat* 'goes' and *ben* 'am' in 5c,d are part of the pattern, they may combine with different matrix verbs, as discussed in section 4.3. Therefore, *aan de* V_{STEM} and *aan* D N are the more abstract constructions in this case. These patterns also occur without a matrix verb.

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dat in het najaar klaar moet zijn.
that in the fall ready must.3SG be.INF

'I'm also writing a book that's due in the fall.'
(WR-P-P-H-0000082206)

b. *aan het* V_{INF} *gaan/slaan*

Vanaf het midden van de jaren '90 **ging**
from the middle of the years '90 went.3SG

de rente **aan het dalen**.
the interest on the fall.INF

'From the mid-90s onwards, the interest rates started falling.'
(WR-P-P-H-0000082206)

c. *aan de* V_{STEM}

Met dit programma kunt u voorkomen dat
with this program can.2SG you.SG.FOR prevent.INF that

uw kat op uw toetsenbord
your.SG.FOR cat on your.SG.FOR keyboard

aan de wandel gaat.
on the stroll.STEM go.3SG

'With this computer program, you can prevent your cat from taking a stroll on your keyboard.' (WR-P-E-A-0006453522)

d. *aan* D N

Ben nu **aan het bier** in Paard van Troje
be.1SG now on the beer in Horse of Troy

maar wijntje klinkt ook goed.
but wine.DIM sound.3SG also good

'I'm having beer right now at [the bar called] Horse of Troy but a glass of wine also sounds good.' (WR-P-E-L-0000000230)

The position I defend here is that Dutch has a constructional family of seemingly prepositional patterns, each of which encodes a particular type of viewpoint aspect. Starting out not from their aspectual meaning (the

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top-down approach) but from their form, one can see that these structures consist of the preposition *aan* 'on', a definite article, *het/de*, and a variable slot that can be filled by an infinitive, a verbal stem or a noun. The matrix verb in these constructions is optional (Van Pottelberge 2004:50, Bogaards et al. 2022). A schematic representation of these constructions is given in 6.

(6) *aan* D X (V)

It is not evident a priori whether the constructions in 5 generalize vertically to a schema such as in 6; there is also another possibility, namely, that they are linked horizontally, as "a set of alternating forms with related meaning differences" (Van de Velde 2014:149). I argue that the latter is, indeed, the case.

4.2. Aan-*Constructions Have Situational Rather Than Object Reference.* A crucial property shared by the examples in 5, regardless of the matrix verb, is their denotation: They all "receive a non-locational interpretation" (Booij 2010:153). In other words, they share situational reference. This nonlocational interpretation contrasts with the locational meaning of *aan*, namely, a spatial relation of contact between two entities, such that one "sticks to" the other at the area of contact (Beliën 2002:201), as illustrated in 7 (from Beliën 2002:207).

(7) het schilderij **aan** de muur
'the painting on the wall'

In 7, *aan* locates the painting on the wall. More generally, the complement of *aan*, *de muur* 'the wall', is construed as a locational landmark that refers to a specific object—a first-order entity (Lyons 1977:442–444) and a case of object-reference (Bierwisch 2011:336–338). By contrast, the examples in 5 encode not locations but situations.[13] Their situational reference is derived from the element in slot X (for example, *aan het bier* 'having a beer' lit. 'on the beer'). There is one difference in this respect between *aan het* V_{INF} and *aan de* V_{STEM}/*aan* D N: As Booij & Audring (2018) point out,

[13] One reviewer wondered whether there was a metaphorical link between location and situation. I would suggest that it is an example of the "from space to time" metaphor (for example, Haspelmath 1997).

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the latter (but not the former; see Boogaart 1999:185) can also be interpreted habitually, as in *aan het bier* meaning 'in the habit of drinking beer'.

In the case of an infinitive or a verb stem, the variable element itself has situational reference; but for nonprocess nouns such as *bier* 'beer', a key question is how situational reference is derived. Ebeling (2006:112) and Booij & Audring (2018:220) point out that this reference emerges through metonymic extension: *aan* DET N refers to a situation "in which the object denoted by the noun plays a central role" (Booij & Audring 2018:220). Under a metonymic interpretation, the element in slot X does not denote one particular object. Rather, this slot hosts second-order entities (Lyons 1977) with situational or event-reference (Bierwisch 2011): *Aan het bier* comes to denote an event of drinking beer, which may or may not be habitual. This secondary interpretation falls within Bierwisch's definition of this type of reference as "entities that instantiate propositions and are subject to temporal identification" (2011:338). So rather than joining two first-order entities in a spatial relationship, situational *aan* introduces a second-order entity that can be predicated of an individual. Given that this property is shared by these particular phrases headed by *aan*, from now on I refer to this set of patterns as situational *aan*-constructions. Their situational denotation is contingent on several prerequisites, which are discussed next.

4.3. Aan-*Constructions Do Not Exhibit Behavior Typical of PPs.*
The previous section outlined a semantic distinction between regular locational PPs and the *aan*-constructions under investigation, which receive a situational interpretation. There are also at least two syntactic properties that set these situational patterns apart from locational ones. First, in locational PPs, the definite article may be replaced by any eligible determiner, and the noun may be modified. Taking 7 as an example, the definite article *de* in *de muur* 'the wall' can be substituted by an emphatic or an indefinite article or by a demonstrative, possessive, indefinite or distributive pronoun, as shown in 8a. Likewise, the noun may be modified adjectivally or prepositionally, as shown in 8b.

(8) Locational: *aan de muur* 'on the wall'

a. Het schilderij hangt aan <**de**> <**dé**> <**een**> <**die**>
the painting hang.3SG on the the.EMP a that

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<**m'n**> <**geen**> <**elke**> muur.
my no every wall

'The painting hangs on the/THE/a/that/my/no/every wall.'

b. Het schilderij hangt aan de **<grote>** **<achter->**
the painting hang.3SG on the big behind

muur **<van de woonkamer>**.
wall of the living.room

'The painting hangs on the big/back/living room wall.'

In contrast, the D and X slots in 6 are remarkably rigid: Unlike locational PPs, situational PPs do not allow the definite article to be replaced by any other determiner, and the variable element may not be modified. None of the modifications acceptable in 8 are possible in the situational constructions in 9.

(9) Situational: *aan het bier* 'having beer'

a. Peter is aan **<het>** **<*hét>** **<*een>** **<*dat>**
Peter be.3SG on the the.EMP a that

<*m'n> **<*geen>** **<*elk>** bier.
my no every beer

b. Peter is aan het **<*lekkere>** bier
Peter be.3SG on the good.tasting beer

<*van z'n vriendin>.
of his girlfriend

'Peter is having beer.'

The rigidity of the D and X slots is also observed in *aan het* V_{INF}/*aan de* V_{STEM}. It is thus this particular constructional family—consisting of *aan het* V_{INF}, *aan de* V_{STEM} and *aan* D N—that is tied to situational reference; if V_{INF}/V_{STEM}/N (that is, X) is modified or *het/de* (that is, D) is altered, the form-meaning pairing is lost. This similarity in behavior is expected if situational *aan*-constructions constitute a constructional family.

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Second, situational *aan*-constructions diverge from regular PPs in not allowing R-EXTRACTION, that is, relativization of the complement of the preposition. R-extraction is typically associated with PPs in Dutch (see Broekhuis 2013:258–267 and references cited there), but it is not acceptable with situational *aan*-constructions, as demonstrated in 10. In 10a, *de muur* 'the wall' can be relativized with the R-pronoun *waar* 'where'. In contrast, situational *aan*-constructions do not allow R-extraction, as shown in 10b.

(10) a. Locational: *aan de muur* 'on the wall'

de muur **waar** het schilderij **aan** hangt
the wall where the painting on hang.3SG
'the wall that the painting hangs on'

b. Situational: *aan het zwemmen* 'swimming'
aan de wandel 'taking a stroll'
aan het bier 'having beer'

<*het zwemmen> <*de wandel> <*het bier>
the swim.INF the stroll.STEM the beer

waar Peter aan is
where Peter on be.3SG

(Intended: 'the swimming/strolling/beer drinking Peter is doing')

These two differences between situational *aan*-constructions and locational PPs suggest that the former are not PPs, despite seemingly being built around a preposition (see Bogaards et al. 2022 for a proposal on the syntactic category of *aan*-constructions). At the same time, the similarities between *aan het* V_{INF}, *aan de* V_{STEM}, and *aan* D N support their status as a constructional family. However, there are also differences, which are discussed next.

4.4. Aan-*Constructions Are Restricted to Certain Matrix Verbs.*
Situational aan-constructions usually combine with some matrix verb, as shown in 5. When they do, they select verbs from the same limited pool, unlike locational PPs. The infinitival pattern *aan het* V_{INF} combines with a larger number of different verbs than *aan de* V_{STEM}/aan D N: There are 12 core verbs that are found with *aan het* V_{INF}. It has been observed that

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these verbs can be distinguished along two dimensions: i) progressive versus ingressive viewpoint, and ii) (non)causativity (Haeseryn et al. 1997:1048–1054; Van Pottelberge 2004:27–51; Booij 2010:146–168; Bogaards 2020:62–91, 2022:6–7; Boogaart & Bogaards 2023). Table 1 lists all 12 core verbs.[14]

	progressive	**ingressive**
noncausative	1. *zijn* 'be' 2. *blijven* 'stay'	5. *gaan* 'go' 6. *komen* 'come' 7. *slaan* 'hit' 8. *(ge)raken* 'get'
causative	3. *hebben* 'have' 4. *houden* 'keep'	9. *brengen* 'bring' 10. *zetten* 'put' 11. *maken* 'make' 12. *krijgen* 'obtain'

Table 1. Matrix verbs that occur with *aan het* V_{INF}.

This observation is unidirectional: Locational *aan*-PPs are not barred from occurring with the verbs in table 1, but their situational counterparts are restricted to this verb pool. To illustrate, the locational PP from 7 may be combined with *houden* 'keep', *krijgen* 'obtain', and *zijn* 'be' from table 1, but also with other verbs, such as *zich bevinden* 'be situated', *kleven* 'stick', and *prijken* 'adorn', as shown in 11. Situational *aan het bier* 'having beer' in 12 is limited to the first three. Again, the combinatorial patterns in 12 apply to *aan het* V_{INF} and *aan de* V_{STEM} as well.

(11) Locational: *aan de muur* 'on the wall'

a. Deze spijker **houdt** het schilderij **aan de muur**.
this nail keep.3SG the painting on the wall
'This nail keeps the painting on the wall.'

b. Zonder te boren **krijg** je het schilderij niet
without to drill.INF obtain.2SG you the painting not

[14] To keep the discussion focused, more marginal cases such as modals/copulas were not included; see Van Pottelberge 2004:36–37, 49–50 and Bogaards 2020:66–71 for discussion of these verbs.

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aan de muur.
on the wall

'Without drilling, you won't get the painting on the wall.'

c. Het schilderij **<is>** **<bevindt zich>** **<kleeft>**
the painting be.3SG situate.3SG REFL stick.3SG

<prijkt> **aan de muur**.
adorn.3SG on the wall

'The painting is on/is situated on/sticks to/adorns the wall.'

(12) Situational: *aan het bier* 'having beer' lit. 'on the beer'

a. Z'n alcoholverslaving **houdt** Peter **aan het bier**.
his alcohol.addiction keep.3SG Peter on the beer
'His addiction to alcohol keeps Peter drinking beer.'

b. Peter wil nuchter blijven, maar z'n vrienden
Peter want.3SG sober stay.INF but his friends

krijgen hem toch aan het bier.
obtain.3PL him PTCL on the beer

'Peter wants to stay sober, but his friends get him to have a beer anyway.'

c. Peter **<is>** **<*bevindt zich>** **<*kleeft>** **<*prijkt>**
Peter be.3SG situate.3SG REFL stick.3SG adorn.3SG

aan het bier.
on the beer

'Peter is having beer.'

As observed before, not all matrix verbs in table 1 combine with *aan de* V_{STEM}/*aan* D N. For example, *slaan* 'hit' and *maken* 'make' in 13a and 13b, respectively, yield ungrammatical results.

(13) a. Peter **sloeg** **<*aan de wandel>** **<*aan het bier>**.
Peter hit.3SG on the stroll.STEM on the beer
Intended: 'Peter started taking a stroll/drinking beer.'

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b. Z'n vrienden **maakten** Peter **<*aan de wandel>**
his friends made.3PL Peter on the stroll.STEM

<*aan het bier>.
on the beer

Intended: 'His friends got Peter to take a stroll/drink beer.'

To get a better empirical handle on the combinatorial tendencies of *aan de* V_{STEM}/*aan* D N with the matrix verbs in table 1, queries were conducted in the SoNaR corpus of written Dutch. A set of 10 common types of *aan de* V_{STEM} and *aan* D N (based on corpus data from SoNaR in Bogaards 2020) were selected, as shown in 14.

(14) a. Attested types of *aan de* V_{STEM} (Bogaards 2020:94)

aan de praat 'talking/working', *aan de kook* 'boiling', *aan de wandel* 'taking a stroll', *aan de zuip* 'guzzling (alcohol)', *aan de poets* 'cleaning up', *aan de babbel* 'chatting', *aan de schrijf* 'writing', *aan de leg* 'laying (eggs)', *aan de opruim* 'cleaning up', *aan de typ* 'typing'

b. Attested types of *aan* D N (Bogaards 2020:102)

aan de drank 'drinking', *aan de drugs* 'using drugs', *aan de wijn* 'drinking wine', *aan het bier* 'drinking beer', *aan de studie* 'studying', *aan de champagne* 'drinking champagne', *aan de scriptie* 'working on a thesis', *aan de speed* 'using speed', *aan de sushi* 'having sushi'

Tokens were then extracted with a finite verb directly preceding or following these *aan*-sequences. If the token in question behaved like a situational *aan*-construction (in the ways outlined in sections 4.2 and 4.3), then the finite verb was lemmatized. Table 2 shows the core matrix verbs that combine with the types of *aan de* V_{STEM} and *aan* D N in 14, ordered by absolute frequency. As expected, *maken* 'make' and *slaan* 'hit' are absent from table 2. Moreover, *zetten* 'put' does not combine with either pattern, and *krijgen*, *komen*, and *houden* are not attested with *aan* D N. Table 2 also contains one matrix verb that does select *aan* D N but is not present in table 1: the posture verb *zitten* 'sit'. For *aan* D N, there seems to be free variation between *zitten* and *zijn*, as shown in 15.

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***aan de* V$_{STEM}$**			***aan* D N**		
matrix verb		***n***	**matrix verb**		***n***
brengen	‘bring’	155	*zijn*	‘be’	109
(ge)raken	‘get’	75	*zitten*	‘sit’	105
krijgen	‘obtain’	57	*(ge)raken*	‘get’	68
zijn	‘be’	37	*gaan*	‘go’	19
houden	‘keep’	27	*blijven*	‘stay’	1
gaan	‘go’	10	*brengen*	‘bring’	1
komen	‘come’	3			
blijven	‘stay’	2			
hebben	‘have’	2			

Table 2. Matrix verbs that combine with each of the patterns in 14 (based on the data from SoNaR).

(15) a. Ook een kind dat 40 uur per week **aan de studie**
also a child that 40 hour per week on the study

zit kan in mijn ogen best een paar uur
sit.3SG can.3SG in my eyes best a couple hour

per week werken.
per week work.INF

‘Even a kid who’s studying 40 hours a week should in my eyes be able to work a couple of hours a week.’

(WR-P-E-G-0000002167)

b. als het een zij-instromer betreft die
if it a lateral.entry.teacher concern.3SG that

tegelijkertijd nog **aan de studie is**
at.the.same.time still on the study be.3SG

‘if it concerns a lateral entry teacher who’s still studying at the same time’ (WR-P-E-A-0004821669)

In sum, situational *aan*-constructions are only compatible with a limited number of matrix verbs, with some extra matrix verbs tied specifically to *aan het* V$_{INF}$ and *aan* D N. Based on these data, there is not one generalization that captures the properties of the slot for the matrix verb in

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6, as each of the three situational *aan*-constructions imposes its own restrictions.

4.5. Objects and High Particles Are Only Allowed with the Progressive. The final property discussed here is a contrast between *aan het* V_{INF} on the one hand and *aan de* V_{STEM}/*aan* D N on the other. Bogaards et al. (2022) show that progressive *aan het* V_{INF} *zijn* and ingressive *aan het* V_{INF} *gaan/slaan* differ with respect to the possibility of direct objects and the placement of verbal particles (for example, *op* 'up' in *opruimen* 'clean up'). This is demonstrated in 16 and 17 (from Bogaards et al. 2022:9). In 17a, *opruimen* cannot license the direct object *z'n kamer* 'his room', and in 17b, the verbal particle *op* can only be right next to *ruimen*.

(16) *aan het* V_{INF} *zijn*

a. dat Peter (**z'n kamer**) aan het opruimen is
that Peter his room on the clean.up.INF be.3SG
'that Peter's cleaning up (his room)'

b. dat Peter <**op**> aan het <**op**> ruimen is
that Peter up on the up clean.INF be.3SG
'that Peter's cleaning up'

(17) *aan het* V_{INF} *gaan/slaan*

a. dat Peter (***z'n kamer**) aan het opruimen gaat/slaat
that Peter his room on the clean.up.INF go.3SG/hit.3SG
'that Peter starts cleaning up (his room)'

b. dat Peter <***op**> aan het <**op**> ruimen gaat/slaat
that Peter up on the up clean.INF go.3SG/hit.3SG
'that Peter starts cleaning up'

The contrast between 16 and 17 leads Bogaards et al. (2022) to conclude that *aan het* V_{INF} *zijn* is a separate construction from *aan het* V_{INF} *gaan/slaan*; there are optional positions available for one object and one particle to the left of *aan het*—that is, (OBJ) (PTCL) *aan het* V_{INF} *zijn*—in contrast to the other type of *aan het* V_{INF} without those slots.

Looking at *aan de* V_{STEM} *zijn/gaan*, there is no such contrast: *zijn* and *gaan* behave the same with regard to objects and particles. To illustrate,

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18a contains the particle verb *opruimen*. Sentence 18b shows that no matter which verb is used—*gaan* or *zijn*—there cannot be an object (*m'n kamer* 'my room') or high particle (**op aan de ruim*). The construction *aan* D N patterns with *aan de* V_{STEM} in not exhibiting these contrasts because its variable element is not verbal.

(18) *aan de* V_{STEM}

a. Dat houdt in dat ik morgen **aan de opruim**
that hold.3SG in that I tomorrow on the clean.up.STEM

ga!
go.1SG

'That means that I'll start cleaning up tomorrow!'
(WR-P-E-A-0005201898)

b. dat ik morgen **(*m'n kamer)** **<*op>** aan de **<op>**
that I tomorrow my room up on the up

ruim ga/ben
clean.STEM go.1SG/be.1SG

'that I'll start/be cleaning up tomorrow'

There is now enough input for a constructional account of situational *aan*-constructions outlined in the next section.

5. A Family of Situational *Aan*-Constructions.

The previous section laid out relevant similarities and differences between *aan het* V_{INF}, *aan de* V_{STEM}, and *aan* D N. Starting out with the general meaning, these *aan*-constructions share situational reference. Borrowing Booij & Audring's characterization of *aan de* V_{STEM} as "involved in the […] action [V_{STEM}]" (2018:223), the patterns' denotation can be defined as in 19. For *aan de* V_{STEM}/*aan* D N, but not *aan het* V_{INF}, this involvement can be habitual. For *aan* D N, the derivation of situational reference from N is specified as metonymic.

(19) a. *aan het* V_{INF} ↔ involved in situation denoted by V_{INF}

b. *aan de* V_{STEM} ↔ involved in (habitual) situation denoted by V_{STEM}

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c. *aan* D N ↔ involved in (habitual) situation metonymically derived from N

The patterns in 19 differ from locational *aan*-PPs in several syntactic respects: The determiner *het/de* may not be substituted with another determiner, the variable element V_{INF}/V_{STEM}/N may not be modified, and the *aan*-constituent does not allow R-extraction. Moreover, the optional matrix verb V is restricted to a closed set, which varies according to construction. These matrix verbs contribute either a progressive or an ingressive aspectual viewpoint. The restrictions are listed in 20.

(20) a. D{*de,het*} may not be substituted
b. X{V_{INF},V_{STEM},N} may not be modified
c. *aan* D X is incompatible with R-extraction
d. (V){*zijn,blijven,gaan,(ge)raken,brengen*}
d.1. If X=V_{INF},(V){+*hebben,houden,komen,krijgen,slaan,maken*}
d.2. If X=V_{STEM},(V){+*hebben,houden,komen,krijgen*}
d.3. If X=N, (V){+*zitten*}
e. Viewpoint{Progressive,Ingressive}

With *aan het* V_{INF}, the matrix verb determines whether there are positions for a direct object and a verbal particle to the left of *aan*. These positions are only allowed with *zijn*. Moreover, they are never available in the *aan de* V_{STEM} and *aan* D N constructions. Following Bogaards et al. (2022), I therefore assume that there are two syntactic constructions with an infinitival slot: one with *zijn* and one with another matrix verb, as shown in 21. The constructions *aan de* V_{STEM} and *aan* D N pattern with 21b regardless of their matrix verb. In *aan het* V_{INF} *zijn* on the one hand, and *aan de* V_{STEM} and *aan* D N on the other, the verb *zijn* thus does not have the same status: The verb *zijn* licenses the OBJ- and PTCL-slots in 21a in the former but not in the latter. Therefore, there is no single element *V* that would generalize over all three constructions. Property 20d must therefore be reformulated as 22d.

(21) a. (OBJ) (PTCL) *aan het* V_{INF} (*zijn*)
b. *aan het* V_{INF} ($V_{d.2}$)

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(22) d. (V)

d.1. If X=V_{INF}, (V){*zijn*}

d.2. If X=V_{INF}, (V){*blijven,gaan,(ge)raken,brengen,hebben, houden,komen,krijgen,slaan,maken*}

d.3. If X=V_{STEM}, (V){*zijn,blijven,gaan,(ge)raken,brengen, hebben,houden,komen,krijgen*}

d.4. If X=N, (V){*zijn,zitten,blijven,gaan,(ge)raken,brengen*}

Taken together, the descriptions in 19–21 constitute a bundle of formal and functional properties defining a family of situational *aan*-constructions in Dutch, which the *aan het*-progressive is a member of. Based on these descriptions, the question arises as to how these constructions are related. Specifically, is there an overarching schema *aan* D X linking these constructions vertically (see 6), and/or are they connected horizontally?

The similarities in 20a–c suggest that, minimally, horizontal relations are needed to account for the properties shared by these constructions. Given the contrast between 21a, 21b, and 22d, I take the position here that an additional generalization along the lines of 6 is not warranted. For speakers to know which matrix verbs in 22d go with which patterns, these combinations must be stored separately, particularly considering the structural contrast in 21. These complex relations are better captured by horizontal links that would connect the shared matrix verbs in 22d, the semantics in 21, and the structural restrictions in 20a–c. Figure 1 visualizes the family of situational *aan*-constructions as conceptualized presently.[15] Subscripts a–d (for example, d.1 in $V_{d.1}$) index the specific formal properties bundled in 20a–c and 22d. Subscript *e* indexes the viewpoint-aspectual semantics schematized in 20e.

[15] As one of the reviewers rightly emphasizes, figure 1 only makes claims about the synchronic links between these constructions, not their diachronic development.

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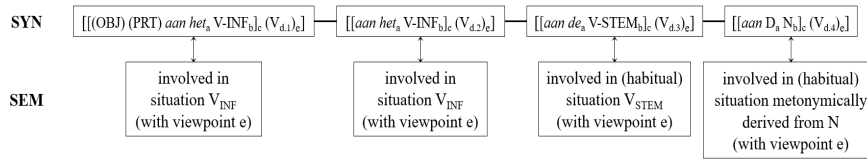

Figure 1. A family of situational *aan*-constructions (indices refer to 20a–c,e and 22d).

Figure 1 postulates a larger family of *aan*-constructions than previously assumed (for example, in Booij 2010, Lemmens 2015), and, in my view, one that is also placed on a broader empirical footing—which is something gained by adding a bottom-up approach to the mostly top-down treatment of (progressive) aspect.

6. Conclusion.

This paper has advocated a bottom-up approach to constructions expressing (progressive) viewpoint aspect, in addition to more traditional, top-down treatments. In particular, I have drawn attention to the predominance of top-down approaches in the study of progressive constructions in Germanic and claimed that this could cause related (but not progressive) language-specific structures to be overlooked. The proposed approach is cast within construction-based theories of language, drawing on the concept of horizontal links.

To support my claim, I took a bottom-up approach to the Dutch *aan het*-progressive. The main insight gained from this case study is that this pattern is not an isolated aspectual construction but a member of a family of aspectual constructions all featuring the preposition *aan* ‘on’. All of the constructions have situational rather than locational meaning, and share a number of crucial formal properties as well. Based on several differences between these constructions (habituality, metonymy, matrix verbs, and positions for objects/particles), I argued that a vertical generalization over them is not warranted, and that they would be better accounted for using horizontal links. On a theoretical level, this case study provides evidence for the idea that horizontal links can be a better fit for the data than abstraction.

An appropriate closing observation for further research is that situational reference is not limited to the preposition *aan* ‘on’ in Dutch. There are myriad examples of other apparent PPs that receive this type of

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interpretation, including *in de war zijn* 'be confused' lit. 'be in the tangle', *op hol slaan* 'run wild' lit. 'hit on run', *van start gaan* 'commence' lit. 'go from start', and many more. I hope to have argued convincingly that a relevant next step would be to extend the approach developed here to these patterns—and to (progressive) aspectual constructions in other (Germanic) languages.

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