

Article

The Emergence of the Descriptive Perception Verb Construction in Dutch: Syntactic and Semantic Developments

Marjolein Poortvliet ^{1,2} 

¹ Department of Linguistics, Faculty of Arts, Charles University, 116 38 Prague, Czech Republic; marjolein.poortvliet@ff.cuni.cz

² Faculty of Linguistics, Phonology and Phonetics, University of Oxford, Oxford OX2 6GG, UK

Abstract

This article traces the syntactic and semantic development of the Descriptive Perception Verb Construction from Early Middle Dutch to present-day Dutch. The Dutch Descriptive Perception Verb Construction takes the simplified form [SUB]_{STIM} V PRED], e.g., *Hij klinkt moe* ‘He sounds tired’, where the subject is the STIMULUS of the perceptual event and the verb is followed by a predicative complement, e.g., an adjective. In its verb slot, this construction has one of the five Dutch descriptive perception verbs: *eruitzien* ‘look’, *klinken* ‘sound’, *voelen* ‘feel’, *ruiken* ‘smell’, and *smaken* ‘taste’. In this article, I show that while there are two attested initial stages (i.e., the transitive construction and the intransitive construction) with two distinct bridging contexts enabling the emergence of this construction, the endpoint is the same: the constructionalization of the new Descriptive Perception Verb Construction. This new construction allows for the coercion of an implicit proposition, which expresses factivity, subjectivity and whose verb marks direct evidence. I hypothesize that over time the requirement to mark factivity is loosened for all verbs, and the marking of direct evidence is lost for *eruitzien* and *klinken*, indicating that these two verbs are further ahead in the semantic development of the Descriptive Perception Verb Construction.

Keywords: perception; semantics; syntax; Dutch; constructionalization; evidentiality; subjectivity; factivity; paradigms; Construction Grammar

1. Introduction

Most, if not all, of the world’s languages have descriptive perception verbs in their repertoire to describe sensory experiences (Viberg, 1983). In Dutch, the descriptive perception verbs that are used for the five sensory modalities (i.e., vision, hearing, touch, smell, taste) are *eruitzien* ‘look’, *klinken* ‘sound’, *voelen* ‘feel’, *ruiken* ‘smell’, and *smaken* ‘taste’, as shown in (1).¹



Academic Editors: Marlies Jansengers and Renata Enghels

Received: 18 December 2025

Revised: 20 March 2026

Accepted: 27 March 2026

Published: 28 May 2026

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- | | | | | | | |
|-----|----|---|-------------------------|--------------------------|-------------------|---------------------|
| (1) | a. | De kamer
the room.SUBJ _{STIM}
'The room looks nice.' | ziet
looks | er
PART | mooi
nice.PRED | uit.
PART |
| | b. | De man
the man.SUBJ _{STIM}
'The man sounds French.' | klinkt
sounds | Frans.
French.PRED | | |
| | c. | Het kleed
the rug.SUBJ _{STIM}
'The rug feels soft.' | voelt
feels | zacht.
soft.PRED | | |
| | d. | De kaas
the cheese.SUBJ _{STIM}
'The cheese smells disgusting.' | ruikt
smells | vies.
disgusting.PRED | | |
| | e. | De soep
the soup.SUBJ _{STIM}
'The soup tastes spicy.' | smaakt
tastes | pittig.
spicy.PRED | | |

The examples in (1) show the basic syntactic construction the Dutch descriptive verbs appear in, consisting of a STIMULUS subject, a descriptive perception verb and a predicative complement. I will refer to this construction as the *Descriptive Perception Verb Construction*, which takes the simplified form as in (2), which shows the three slots: the STIMULUS subject slot, the verb slot and the predicative complement slot.

- (2) [SUBJ_{STIM} V PRED]

This template is reminiscent of the (simplified) form of the Copular Construction as in (3a). Copular *seem* (in 3b) and copular *remain* (in 3c), just like the descriptive perception verbs (in 1), all go into the V-slot of their construction, taking a subject and a predicative complement.

- | | | | | |
|-----|----|---|-----------------------|----------------------|
| (3) | a. | [SUBJ V PRED] | | |
| | b. | De hond
the dog.SUBJ
'The dog seems sweet.' | lijkt
seems | lief.
sweet.PRED |
| | c. | De man
the man.SUBJ
'The man became angry.' | werd
became | angry.
angry.PRED |

Copular Constructions such as those in (3) have been shown to have emerged through grammaticalization (or copularization, see [Petré, 2012](#)) in many languages (e.g., [Diewald & Smirnova, 2010](#) on German, [De Haan, 2007](#) on Dutch, [Petré, 2012](#) and [Van Gelderen, 2015](#) on English, [Whitt, 2015, 2018](#) on English and German, [Lauwers & Duée, 2011](#) on French and Spanish, [Camilleri & Sadler, 2019](#) on vernacular Arabic, and [Jalava, 2017](#) on Uralic Nenets).

It is surprising that the Descriptive Perception Verb Construction has not received any attention (in Dutch in particular, but also more generally), given its similarity to the much-discussed Copular Construction. Some studies have looked at individual Dutch descriptive perception verbs (e.g., [Poortvliet, 2017a](#) and [Holierhoek, 1978](#) on *klinken* 'sound', [Faber et al., 2022](#) on *eruitzien dat/alsof* 'look like'); however, these are not concerned with constructional changes. Based on the similarity of the Descriptive Perception Verb Construction with the Copular Construction, the latter of which is known to have emerged over time as a result of grammaticalization/copularization, this article asks whether the Dutch Descriptive Perception Verb Construction has emerged over time and, if so, how?

These questions are discussed from a Diachronic Construction Grammar perspective, which means that instead of taking a verb-focused grammaticalization approach, I will

focus on the emergence of the Descriptive Perception Verb Construction as a whole, i.e., its *constructionalization*. As Traugott (2022, p. 40) states, we can only talk about constructionalization when there are changes in both a construction's form and meaning. I will therefore focus in this article on structural changes and semantic changes separately, and present the following results, based on Dutch dictionary data from the 12th to the 20th century:

- (i) In terms of **form**, there are two developmental paths: (i) from a transitive construction to the Descriptive Perception Verb Construction (for *eruitzien*); (ii) from an intransitive construction to the Descriptive Perception Verb Construction (for *klinken* and *ruiken*). The data for the verbs *smaken* and *voelen* do not provide a clear path.
- (ii) In terms of **meaning**, the emergence of the Descriptive Perception Verb Construction allows for an implicit proposition to be coerced that allows for an (direct) evidential reading, in line with Boye (2010, 2012), Whitt (2018), and Poortvliet (2017a), that also marks subjectivity and factivity. The verbs are then hypothesized (following Gisborne (1998)) to slowly have lost or be in the process of losing these strict semantic readings.

The article is structured as follows: Section 2 provides the background for the current study by discussing the perception verbs in more depth, introducing the theoretical framework and posing the study's research questions. Section 3 presents the materials and methods used in this study and explains the methodological decisions I have taken. Section 4 presents the results, discussed per verb. Section 5 then turns to the syntactic changes (changes in form) in the constructionalization from transitive/intransitive construction to the Descriptive Perception Verb Construction. This is followed by Section 6, which looks into the semantic changes (changes in meaning). Section 7 ties the findings together in a discussion of the constructionalization of the Descriptive Perception Verb Construction. Section 8 concludes the study.

2. Background

2.1. Perception Verbs

Viberg (2001, p. 1294) states that “[t]he primary function of perception in humans is to recognize and identify objects and events and their spatial and temporal arrangements and to provide the environmental input for the construction of a model or cognitive representation of the external world”. As such, perception plays a vital role in our understanding of the external world, and this importance is reflected linguistically in the world's languages: Viberg (1983) found that all of the 53 languages (spanning 13 language families) have linguistic means to express all the meanings in what he refers to as the *basic paradigm* of the perception verbs. This paradigm consists of a ‘clearly structured lexical semantic field’ comprising the interaction of the five sense modalities (vision, hearing, touch, smell, taste) and three semantic components (cognitive, active, descriptive). This means there are 15 possible meanings. This basic paradigm is shown in Table 1, in which I use the terms *cognitive perception verbs*, *active perception verbs* and *descriptive perception verbs*, following Rogers (1971).²

The three semantic components are split into two classes: the experiencer-based (cognitive and active) verbs and the phenomenon-based (descriptive) verbs. These classes differ from each other by the subject they take. The experiencer-based verbs appear with subjects that represent an animate being that has a certain mental experience, whether this is more active or cognitive in nature. As such, the subject is the EXPERIENCER of the perceptual event. This is different from the phenomenon-based verbs, which take at their subject the thing experienced or perceived. This subject is referred to as the STIMULUS.³

Table 1. Basic paradigm of perception verbs (Viberg, 1983), exemplified using English verbs.

	Experiencer-Based		Phenomenon-Based
	Cognitive	Active	Descriptive
Vision	<i>see</i>	<i>look</i>	<i>look</i>
Hearing	<i>hear</i>	<i>listen</i>	<i>sound</i>
Touch	<i>feel</i>	<i>feel</i>	<i>feel</i>
Smell	<i>smell</i>	<i>smell</i>	<i>smell</i>
Taste	<i>taste</i>	<i>taste</i>	<i>taste</i>

Given the vital role the perception verbs play in the world’s languages, it is not surprising that there is a long history of studies of this set of verbs. Besides general enquiries into language and perception (e.g., Gruber, 1967; Miller & Johnson-Laird, 1976; Caballero & Paradis, 2023), there is a wide range of literature from typological studies (e.g., Viberg, 1983, 2001; Dik & Hengeveld, 1991; Norcliffe & Majid, 2024) to language-specific case studies (e.g., Van Putten, 2020) and from syntactic (Rogers, 1971, 1972, 1974; Van der Meer, 1994; Toivonen, 2021) to semantic (Sweetser, 1990; Evans & Wilkins, 2000; Enghels, 2007; Asudeh & Rad, 2023). Recently, there has been increasing interest in the perception verbs from a diachronic perspective (Poortvliet, 2017a, 2017b; Jansegers, 2017; Strik-Lievers, 2021; Faber et al., 2022; Phan, 2026) and from a cognitive angle (San Roque et al., 2018; Strik-Lievers & De Felice, 2019).

2.2. Dutch Descriptive Perception Verbs

This article is concerned with the descriptive perception verbs in Dutch. The full paradigm of Dutch descriptive perception verbs is given in Table 2.⁴ Listed in the righthand column are the five verbs under discussion in this article: the descriptive perception verbs *eruitzien* ‘look’, *klinken* ‘sound’, *voelen* ‘feel’, *ruiken* ‘smell’, and *smaken* ‘taste’.

Table 2. Basic paradigm of the Dutch perception verbs.

	Experiencer-Based		Phenomenon-Based
	Cognitive	Active	Descriptive
Vision	<i>zien</i> ‘to see’	<i>kijken</i> ‘to look’	<i>eruitzien</i> ‘to look’
Hearing	<i>horen</i> ‘to hear’	<i>luisteren</i> ‘to listen’	<i>klinken</i> ‘to sound’
Touch	<i>voelen</i> ‘to feel’	<i>voelen</i> ‘to feel’	<i>voelen</i> ‘to feel’
Smell	<i>ruiken</i> ‘to smell’	<i>ruiken</i> ‘to smell’	<i>ruiken</i> ‘to smell’
Taste	<i>proeven</i> ‘to taste’	<i>proeven</i> ‘to taste’	<i>smaken</i> ‘to taste’

One example each of the cognitive, active and descriptive construction for VISION in Dutch is given in (4). Here, the EXPERIENCE and STIMULUS roles are marked to highlight the difference between the cognitive and active perception verbs (taking an EXPERIENCER as their subject and a STIMULUS object) and the descriptive perception verbs (taking a STIMULUS as their subject). Note that all perceptual events have an EXPERIENCER (the one perceiving) and a STIMULUS (the entity perceived). Even though it might seem as if the construction in (4c) has no EXPERIENCER, it is semantically still there, just not syntactically realized, and the speaker is defaulted to be the EXPERIENCER.

(4)	a.	Bob	ziet	de	kamer.		<i>Cognitive</i>	
		Bob.SUBJ _{EXP}	sees	the	room.OBJ _{STIM}			
		'Bob sees the room.'						
	b.	Bob	kijkt	naar	de hond.		<i>Active</i>	
		Bob.SUBJ _{EXP}	looks	at	the dog.OBJ _{STIM}			
		'The man sounds French.'						
	c.	De hond	ziet	er	lief	uit.	<i>Descriptive</i>	
		the dog.SUBJ _{STIM}	looks	PART	sweet.PRED	PART		
		'The dog looks sweet.'						

The descriptive perception verbs stand out further in that they require a predicative complement, as shown in (4c), where the predicative adjective is *lief* 'sweet'.⁵ This construction is further referred to as the Descriptive Perception Verb Construction. Its predicative complement can also take the form of a prepositional complement headed by *alsof* 'like' (5) or a prepositional complement headed by *als/zoals* 'like' (6).⁶ In this article, I will limit my focus on the Descriptive Perception Verb Construction with adjectival complements.

(5)	Dat	meisje	klinkt	[alsof	ze	aardig	is].	
	that	girl.SUBJ _{STIM}	sounds	[like	she	nice	is].PRED	
		'That girl sounds like she is nice.'						
(6)	Die	hoest	klinkt	[als	een	kikker].		
	that	cough.SUBJ _{STIM}	sounds	[like	a	frog].PRED		
		'That cough sounds like a frog.'						

Besides its unique syntax, the Descriptive Perception Verb Construction stands out because of its semantics. First of all, the Descriptive Perception Verb Construction in Dutch expresses subjectivity, since the default EXPERIENCER is the speaker. This is different from English, in which a *to-X* phrase can be added. Since this is not a possibility in Dutch, the EXPERIENCER role defaults to the speaker, marking a Descriptive Perception Verb Construction as coming from the speaker and therefore highly subjective.⁷ Furthermore, the Descriptive Perception Verb Construction marks the speaker's source of information for the proposition they are making through the use of the perception verb in terms of sense modality and directness. For instance, in (4c), the proposition stated is that the dog seems sweet, based on the way it looks to the speaker, whereas in (5), the proposition states that the girl seems nice, based on the way she sounds to the speaker.

2.3. Theoretical Framework

Two of the Dutch descriptive perception verbs and their diachronic development have been studied individually (i.e., Poortvliet, 2017a and Holierhoek, 1978 on *klinken* 'sound', Faber et al., 2022 on the construction *eruitzien dat* 'look like').⁸ In these studies, the verb/construction meanings are traced over time. Even though they give us important information about the individual trajectory of these verbs, they are not concerned with the larger, more abstract, construction that all descriptive perception verbs find themselves in or the network of constructions they are part of. Rather, in this article, I will take a constructional approach, as focusing on the construction rather than on an individual verb allows for a more unified account both within the set of descriptive perception verbs (i.e., highlighting similarities across various verbs that can appear in the V-slot of the Descriptive Perception Verb Construction) and also beyond, namely within the Copular Construction (i.e., highlighting similarities across verbs that can appear in the V-slot of the Copular Construction).

Having given a simplified form above of the Descriptive Perception Verb Construction as, in (2), here, I propose the full representation in (7), based on Petré (2012).

(7) Representation of the Descriptive Perception Verb Construction

SubjNP _{NOM}	DpV	SuBJCompXP _(NOM)	(XP)
STIMULUS	EVIDENTIAL	PROPERTY	EXPERIENCER
ACT OF PREDICATION			

This is a pairing of form (top row) and meaning (bottom row). In terms of form, this representation of the Descriptive Perception Verb Construction consists of three obligatory slots: the [NP_{NOM}] slot with subjects in nominative case, the descriptive perception verb slot [DpV] as a subtype of the copular verb slot [CopV] and the [XP_{NOM}] slot for either an AdjP or PP. Then there is an optional syntactic slot {XP} for a *to*-X phrase to allow for syntactically expressed EXPERIENCERS, like in English. In terms of meaning, the subject is the STIMULUS, the verb adds evidentiality, and the complement is non-eventive and denotes a property. As mentioned before, even though the EXPERIENCER of a perceptual event is perhaps not syntactically realized, it is always semantically present. A verb can be considered a descriptive perception verb if they have the appropriate semantics and morphosyntax to fit in the descriptive perception verb slot of a Descriptive Perception Verb Construction.

Even though this article will not be concerned with the Copular Construction and how it theoretically relates to the Descriptive Perception Verb Construction (a fruitful topic for future research), it is interesting to note that the structure in (7) is reminiscent of that of the Copular Construction, see (8) from [Petré \(2012\)](#).⁹

(8) Representation of the Copular Construction

SubjNP _{NOM}	CopV	SuBJCompXP _(NOM)
NON-AGENT	PROCESS	{PROPERTY CLASS}
ACT OF PREDICATION		

This similarity between the descriptive perception verbs and the copular verbs has long been noted in passing: the descriptive perception verbs have been referred to as *copulative verbs* by [Lees \(1960\)](#) and put into the same syntactic group of copular verbs such as *seem* and *become* by [Chomsky \(1965\)](#). [Breckenridge \(2007\)](#) and [Gisborne \(1998\)](#) both state that the construction [XP *looks* ADJ] can be compared to copular [XP *is* ADJ]. Other scholars who have likened the descriptive perception verbs to copular verbs are, e.g., [Hatcher \(1943\)](#), [Bald \(1972\)](#), and [Kuzar \(2012\)](#).

This article will show that, also diachronically, the descriptive perception verbs and copular verbs can be seen as sharing similarities. As mentioned above, the grammaticalization of copular verbs has received quite some attention and has shown that many of our present-day copular verbs have developed out of lexical verbs. For instance, Dutch lexical intransitive verb *schijnen* ‘shine’ (9a) developed into copular *schijnen* ‘seem’ (9b, both from [De Haan, 2007](#)), a change presumed to have occurred around 1350–1500 ([Van der Horst, 2008](#)). Here, we see a change from *schijnen* as a lexical verb in combination with an adverb in (9a) developing into a copular verb of appearance requiring a predicative complement (in 9b, the adjective *heiligh* ‘holy’).

- (9) a. Die maene **scheen** scone ende clare
 the moon shone bright and clear
 ‘The moon shone bright and clear.’
 No source (1320–1330)
- b. Nonne die ooc heiligh **scinen**
 Nuns who also holy seem
 ‘Nuns who appear holy as well.’
 No source

Diewald and Smirnova (2010) show a similar developmental path from German intransitive lexical *sheinen* ‘shine’ to copular *scheinen* ‘seem’. Van Gelderen (2015) discusses a similar diachronic change from intransitive lexical *remain* ‘to stay behind’ to copular *remain* ‘to stay’ in English. Petré (2012) presents the diachronic process from intransitive lexical *become* ‘arrive’ and *wax* ‘grow’ into copular *become* and *wax* both meaning ‘become’.

2.4. Research Questions

Based on the structural similarities between the Copular Construction and the Descriptive Perception Verb Construction and the fact that the Copular Construction has been shown to have grammaticalized, copularized or constructionalized over time, not only in Dutch but in many of the world’s languages, the main research question I pose in this article is:

- Is the Descriptive Perception Verb Construction the result of constructionalization?
 This can be split into two sub-questions:
- What changes to form have occurred during the diachronic development of the Descriptive Perception Verb Construction?
- What changes to meaning have occurred during the diachronic development of the Descriptive Perception Verb Construction?

3. Materials and Methods

The materials for this study are the historical dictionaries provided by *De Geïntegreerde Taalbank*.¹⁰ These dictionaries are:

- The Old Dutch dictionary (500–1200, with around 9000 entries);
- The Early Middle Dutch dictionary (1200–1300, with around 25,000 entries);
- The Middle Dutch dictionary (1250–1550, with around 62,000 entries);
- The Dictionary of the Dutch Language (1500–1976, with around 95,000 entries), henceforth referred to as the Modern Dutch dictionary.

These dictionaries were constructed based on the use of Dutch found in texts from the specific time periods. As such, they are very valuable in our understanding of Dutch used (at least textually) from the Early Middle stages onwards. Each dictionary entry gives detailed information on the entry’s spelling, part of speech, pronunciation, inflection, etymology, compositions and derivations, and, most importantly, for each keyword, a wide range of examples is given, including idiomatic uses.

The verbs under discussion are the five main descriptive perception verbs *eruitzien* ‘look’, *klinken* ‘sound’, *voelen* ‘feel’, *ruiken* ‘smell’, and *smaken* ‘taste’, i.e., what Viberg (1983) would call the verbs on the basic level of the perception verb paradigm. For each of these verbs, I performed a standard search under the “Modern Nederlands trefwoord” option using the present-day Dutch spelling of the verb, which then looks through all possible spellings of the verb in any of the historical dictionaries. For *eruitzien*, I searched for *zien*, as *eruitzien* and *uitzien* did not yield any results. For *voelen*, I also included *aanvoelen*.

In order to control for the fact that the verbs might not have been in use in their present-day forms, I also performed a reverse-search. This means I searched for the verb as being part of the definition under the “Woord in betekenis” option. For example, I reverse-searched all entry words that have the meaning *voelen*, which returned verbs such as Old Dutch *gihebben*, or Early Middle Dutch *beseffen*, *payen*, *tasten*.

For the study, the following questions were asked:

- When was the Descriptive Perception Verb Construction attested for each of the five verbs (i.e., in the construction [SUB]_{STIM} V PRED)?
- How were the verbs that fill the V-slot of the Descriptive Perception Verb Construction used (syntactically and semantically) before found in this construction?

A notable shortcoming in using these dictionaries as material is that they were created by different editors, and therefore, inconsistencies could exist between the various dictionaries. Furthermore, the dictionaries are man-made, and therefore, the categorization and labelling of words are not foolproof. Therefore, all labelling and examples have been thoroughly scrutinized, and where ambiguous as to the labelling, this is discussed. In addition to the historical dictionaries, a number of online corpora were consulted, namely the *Corpus Gysseling*, *Brieven als Buit*, *Ceneton*, *Coussé’s Compilation Corpus Historical Dutch*, in addition to texts from the *Digitale Bibliotheek voor de Nederlandse Letteren* (Digital Library for the Dutch Humanities).¹¹ Unfortunately, the Descriptive Perception Verb Construction is very subjective and informal in nature and therefore not frequently found in historic texts. The few instances of the Descriptive Perception Verb Construction found in the above corpora were all very similar to the examples from the dictionaries, both in terms of the timeline and the usage of the verbs. As such, these attestations did not contribute anything unique, and therefore, I decided to keep the data to those from the online dictionaries. In addition, the number of instances from these many texts and corpora was too low to allow for any quantitative analysis. The preferred material for a study such as the current one would be one online corpus, syntactically annotated, spanning all possible centuries, multi-genre, with all search options necessary for large-scale systematic research available (e.g., lemma, part-of-speech). However, as of yet, no such corpus exists for Dutch, and therefore, for now, the results as found in the four dictionaries will have to do. Below, I discuss the results for each verb.

4. Results

4.1. *eruitzien*

The Old Dutch and Early Middle Dutch dictionaries do not list any entries for *eruitzien* or with the meaning of descriptive ‘look’.¹² The only instance of *zien* is that of the cognitive perception verb meaning, e.g., ‘to experience with the eyes’, ‘to note’, and ‘to be able to see’, ‘to look’. It is in the Middle Dutch dictionary that examples are given of *ruitzien* ‘look’ as a descriptive perception verb, clearly marked by its use in combination with a predicative adjective denoting a quality. An example is given in (10), from the 14th century, with the predicative adjective *lelic* ‘ugly’, where *eruitzien* still appears without its particles *er* and *uit*. Other examples contained the adjectives *druckelic* ‘depressed’ and *chierlike* ‘elegant’. These elements are interpreted as adjectival, since they specify a quality of the subject. I say ‘interpreted’ here, as the dictionary does not specify yet what to call this post-verbal element.

- (10) Lelic **zagen** dese twee
 ugly looked these two
 ‘These two looked ugly.’
 (*Gruuthuuse-Handschrift*, Anonymous, ca. 1395)

Evidence that this is really a case of *zien* used like *eruitzien* ‘look’ comes from cases in which it is used comparatively and followed by a prepositional phrase headed by *als(e)* ‘like’, followed by a noun (see 11).

- (11) (Hi hadde) open nesegeten, scumenden mont, ende
 he had open nostrils foaming mouth and

 so **sach** hij als een jachhont
 so looked he like a hunting.dog
 ‘He had open nostrils, a foaming mouth, and he looked like a
 hunting dog’
 (*Spiegel Historiae, Van Maerlant, 1301–1325*)

The Modern Dutch dictionary is the first dictionary to specify that *eruitzien* requires a predicative complement, usually in the form of an adjective, and that this complement expresses the impression of the subject on the speaker, as in (12) and (13). Note that there are instances where the particle *eruit* is used, as (13) shows, alongside instances of sentences without this particle (12).

- (12) Schep water met uw hant, al **ziet** het wat bemorst
 scoop water with your hand even looks it somewhat dirty
 ‘Scoop the water with your hand, even though it looks somewhat dirty.’
 (*Joseph in Dothan: Treurspel, Vondel 1640*)
- (13) Nou **zieje** ‘r schoon **uit**
 now look.you PART beautifulPART
 ‘Now you look beautiful.’
 (*Vechter, Angelkot, 1679*)

The number of attestations of *eruitzien* in the Descriptive Perception Verb Construction, per century, is given in Table 3.

Table 3. Number of attestations of *eruitzien* in the Descriptive Perception Verb Construction (DPVC) per century.

	1100– 1199	1200– 1299	1300– 1399	1400– 1499	1500– 1599	1600– 1699	1700– 1799	1800– 1899	1900– 1999
DPVC	-	-	3	-	1	8	7	22	8

4.2. *klinken*

Of the five descriptive perception verbs, only the diachronic development of *klinken* has received some attention (Holierhoek, 1978; Poortvliet, 2017a). Holierhoek shows that *klinken* meant ‘to give a clear sound, to resound’ in (Early) Middle Dutch, used intransitively and not with a predicative complement. The earliest example of the verb in this use was found in the dictionary dates from 1285, given in (14). Here, the post-verbal element *clare* ‘clear’ is stated by the Early Middle Dutch dictionary to be an adverb, indicating that the construction in (14) is that consisting of an intransitive verb in combination with an adverb.¹³

- (14) Om+datcoper **clinket** clare
 so+that copper sounds clearly
 ‘So that copper resounds clearly.’
 (*Rijmbijbel, Van Maerlant, 1285*)

Throughout Middle Dutch, the verb *klinken* is still used intransitively, both with the meaning ‘to resound’ and, as the Middle Dutch dictionary specifies, with the additional meaning ‘to give off a clanging sound’. It is also attested as a transitive verb meaning ‘to chime’ or ‘to make something give off sound’, usually combined with bells as direct object (see 15).

- (15) Bij nachtridders ende bij avondtroncken die achter den hove de
with nightsylphs and with evening.ghosts who behind the court the

belle **cloncken**

bells chimed

‘With night sylphs and evening ghosts who chimed the bells behind court.’

(*Rijmbijbel, Van Maerlant, 1285*)

The Early Modern Dutch dictionary starts to specify *klinken* as used in combination with a ‘specification of a quality’, and examples are found from the 17th century onwards, see (16) and (17). Even though the dictionary does not state whether these specifications are adverbs or adjectives, I assume them to be adjectives based on the interpretation that they give an evaluation of the subject.

- (16) laetende de trompetten lustich **klincken**
letting the trumpets pleasant sound

‘Letting the trumpets sound pleasant.’

(*Begin ende Voortgangh van de VOC, 1646*)

- (17) Hoe pedantsch dit ook **klinken** mag
how pedantic this also sound may

‘How pedantic this may sound.’

(*De Denker, 1764*)

The original meaning of *klinken* as found in Early Middle Dutch, i.e., ‘to give a clear sound’, has over the course of the 14th to 16th century bleached to simply mean ‘to sound’ (Poortvliet, 2017a). Losing the specification of the ‘clarity’ of the sound affected the semantic types of items *klinken* could appear with. For instance, whereas in Middle Dutch only subjects that had the characteristic of sounding clearly could be used (e.g., weapons, metals), the loss of the specification of the clarity of the sound meant that a larger pool of subjects could appear in subject position, albeit still limited to subjects that give off a sound, e.g., a voice, a scream, a howl, or buzzing. This bleaching continued to the point at which *klinken* could appear with subjects that do not necessarily make a sound, as is the case of *het voorstel* ‘the proposal’ in (18). Here, the adjective *vreemd* ‘strange’ is semantically not directly linked to the sound of the subject *het voorstel* ‘the proposal’ but rather indirectly to the sound of someone telling the speaker about this proposal.

- (18) Ik ontveinzemij echter niet dat het voorstel enigszins vreemd
I disguise REFL however not that the proposal somewhat strange

klinken zal

sound will

‘I do not disguise however that the proposal will sound somewhat strange.’

(*Ambtsbrieven van A.R. Falck, 1824*)

The number of attestations of *klinken* in the intransitive construction, ambiguous constructions and the Descriptive Perception Verb Construction, per century, is given in Table 4.

Table 4. Number of attestations of *klinken* in intransitive constructions, ambiguous constructions and Descriptive Perception Verb Constructions (DPVC) per century.

	1100– 1199	1200– 1299	1300– 1399	1400– 1499	1500– 1599	1600– 1699	1700– 1799	1800– 1899	1900– 1999
Intransitive	-	1	3	3	11	4	1	16	10
Ambiguous	-	-	-	-	2	-	-	1	-
DPVC	-	-	-	-	-	2	1	14	8

4.3. *voelen*

Until the 20th century, the verb *voelen* ‘feel’ is only found as cognitive perception verb (see 19) or active perception verb (20), but the latter only after the Middle Dutch period, as the dictionary specifically states.

- (19) **Voel/ voel** mitje hand/ je zelt waeratje seggen/ dat mijn
 feel feel with.your hand you shall actually say that my

 hiele lijf als een Etna brandt
 whole body as an Etna burns
 ‘Feel/feel with your hand, you shall actually say that my whole body burns like
 the Etna.’
 (*Klucht van de Gestoorde Vreught, Elzevier, 1664*)

- (20) Ic **voel** in mijn maghe humore, daer om eet ic
 I feel in my stomach fluids there for eat I

 ghern licht spise
 often light meals
 ‘I feel in my stomach fluids, therefore I eat often small meals.’
 (*Reinaert II, 1451–1500*)

It is only in the Modern Dutch dictionary that we find examples of the descriptive perception usage of *voelen*, albeit only a few. An example from the 20th century is given in (21).

- (21) ie slikte zwaar, z’n keel **voelde** droog
 he swallowed heavily his throat felt dry
 He swallowed heavily, his throat felt dry.’
 (*Mensen uit ‘n stil stadje, Smeding-Van Wije, 1920*)

The entry in the Modern Dutch dictionary states that *voelen* can be used as ‘to feel/to experience’ with a predicative complement and a body part as the subject but that this usage is found only in literary genres, which could explain its limited presence in the data.

Another verb that was found with the meaning of descriptive ‘feel’ is *tasten*, see (22). Even though this verb is no longer used as a descriptive perception verb, this example was found in the early 19th century and indicates that *tasten* was used instead of present-day *voelen*. However, similar to *voelen*, the examples of *tasten* are too sparse to conclude anything meaningful.

(22) Als de huid hard is en men de beenen sterk
 if the skin hard is and one the bones strongly
 door de spieren heen bemerkt, dan zegt men hij **tast** schraal
 through the muscles PART notices then says one he feels skinny
 hij is bonkig
 he is bony
 ‘If the skin is hard and one notices the bones through the muscles, then says one he feels
 skinny, he is bony.’
 (*Natuurlyke historie van Holland, Berkhey, 1805*)

Later, at the turn of the 19th century, there are examples of *voelen* which, even though not all with a reflexive pronoun, are reflexive uses of the verb, see (23). The dictionary states that this use was not used in Middle Dutch but only arose through influence of French *se sentir*. This use of the descriptive verb is slightly different from the standard use, in that the speaker is both the STIMULUS and the EXPERIENCER. These uses are therefore left out of the discussion and are left for future research.

(23) Ik zelf **voel** zoo vreemd. Ik kan 't niet beschrijven.
 I self feel so strange. I can it not describe
 ‘I feel so strange. I can’t describe it.’
 (*Dagboek, Van Eeden, 1895*)

The number of attestations of *voelen* and *tasten* in the Descriptive Perception Verb Construction, per century, is given in Table 5.

Table 5. Number of attestations of *voelen/tasten* in Descriptive Perception Verb Constructions per century.

	1100– 1199	1200– 1299	1300– 1399	1400– 1499	1500– 1599	1600– 1699	1700– 1799	1800– 1899	1900– 1999
VOELEN	-	-	-	-	-	-	-	-	2
TASTEN	-	-	-	-	-	-	-	1	-

4.4. ruiken

The Old Dutch dictionary states that the descriptive perception verb *ruiken* ‘smell’ has originated from the intransitive Old Dutch verb *riekan* meaning ‘to spread smoke’. There is limited evidence for this meaning; the only example that is given in the Old Dutch dictionary is shown in (24).

(24) **Riechonsulun**
 they.will.spread.smoke
 ‘They will spread smoke’
 (*Die altmittel- und altniederfränkischen Psalmen und Glossen. Quak, A. 901–1000*)

In the Early Middle Dutch period, the meaning changes to ‘to give off a smell’. This change means that the aspect of smoke was lost, which has as a result that the subject is no longer restricted to entities that give off smoke but that any smell spreading subject could be used. Hence, we see subjects like *adem* ‘breath’, *crut* ‘herb/spice’, and *drec* ‘feces’. The Early Middle Dutch dictionary specifies that this use was often found with an adverb, of which the most commonly found adverbs were *wel* ‘well’, *qualike* ‘badly’ and *soete* ‘sweet’ (and any variation on the spelling of these). Examples are given in (25) and (26).¹⁴

(25) Wel menech crut dat soete roec
 surely many spice that pleasantly smelled
 ‘Surely many spices that gave off a smell in a pleasant way.’
 (*Sente Lutgart (K), Van Affligem, 1265–1270*)

(26) ende dat rieket utermaten wel
 and that smells extremely well
 ‘And that gives off a smell in a good way’
 (*Der Naturen Bloeme (D), Van Maerland, 1287*)

In this time period, some intransitive uses without any post-verbal elements are still found, as shown in (27) and (28), with (27) to mean ‘to give off a smell (metaphorically)’ and (28) using *ruiken* as ‘to smell badly’.

(27) Dese ootmoedicheit die ruket
 This humility that smells
 ‘This humility that smells (gives off a smell)’
 (*Hooglied, 1340–1360*)

(28) Die Percen hadden verloren vele meer liede dan die
 Those Persians had lost many more people than the
 Grieken, so dat die lucht begonde rieken
 Greeks, so that the air started smell
 ‘Those Percians had many more people than the Greeks, so that the air began to smell (badly).’
 (*Alexanders Geesten, Van Maerlant, 1390–1410*)

The Early Middle Dutch and Middle Dutch period also see the combination with comparative complements headed by *als* ‘like’ *na* ‘of’, e.g., like a laurel tree, of cinnamon. It is only in the Modern Dutch dictionary that the verb *ruiken* is said to be used with the specification of a certain quality, still leaving it unspecified as to whether this element can only be an adverb, as was the case for the previous dictionaries. Some examples already from the 17th century contain clear adjectival and not adverbial elements. An example is (29), in which *heilzaam* ‘beneficial’ and *gezont* ‘healthy’ are not easily interpretable as adverbs of manner but are much more likely saying something about the subject *de lucht* ‘the smell’. We also find for the first time *ruiken* in combination with subjects and specifications that are not inherently linked to smell, such as, for instance, *die schande* ‘that disgrace’ in (30), indicating some level of semantic bleaching.

(29) De lucht van kruit en bloem rieckt heilzaam
 The smell of herb and flower smells beneficial
 en gezond
 and healthy
 ‘The smell of herbs and flowers smells healthy and beneficial.’
 (*De werken van Vondel, Vondel, 1964*)

(30) Die schandewaer te groot, en sou te leelijck ruicken
 That disgrace was too big, and would too bad smell
 ‘That disgrace was too big, and would smell too bad.’
 (*Gedichten, P.C. Hooft, 1615*)

In the Modern Dutch dictionary, the intransitive use of descriptive *ruiken* is listed as having two (opposite) meanings: it is either used as ‘to smell pleasant’ (also found in

Middle Dutch) or as ‘to smell bad’ (found in Middle Dutch with the particle *op*). Only the latter implied adjectival meaning has survived to present-day Dutch, for which the form *rieken* is also found. The number of attestations of *ruiken* in the Descriptive Perception Verb Construction, per century, is given in Table 6.

Table 6. Number of attestations of *ruiken* in intransitive constructions, ambiguous constructions, and Descriptive Perception Verb Constructions (DPVC) per century.

	1100– 1199	1200– 1299	1300– 1399	1400– 1499	1500– 1599	1600– 1699	1700– 1799	1800– 1899	1900– 1999
Intransitive	-	11	9	9	4	11	2	2	-
Ambiguous	-	-	-	1	-	2	3	1	-
DPVC	-	-	-	-	-	2	1	12	4

4.5. *smaken*

From the Early Middle Dutch dictionary onwards, *smaken* is listed as having the meaning ‘to have a certain taste’, suggesting a descriptive use of the verb. However, none of the early entries specify that this usage should be used with an adjective, as it does in later dictionaries. In the Early Middle Dutch dictionary, we find examples of the verb *smaken* being used with elements that appear to be adverbs, such as *wel* ‘well’ in (31), *anders* ‘differently’ in (32), and *met goeder wise* ‘in a good way’ in (33).

(31) (Elanden) hebben vleesch dat sere wel **smact**
 elks have meat that very well tastes
 ‘(Elks) have meat that tastes very well.’
 (*Der Naturen Bloeme (D)*, Van Maerlant, 1287)

(32) Daer sijn gerechttet die pulmente die anders **smaken**
 there are prepared those mashes that differently taste
 ‘There are prepared mashes that taste differently.’
 (*Sente Lutgart (K)*, Van Affigem, 1265–1270)

(33) Met wine ghesoden sijn saet jof zijn pulver gestroit in spise
 With wine boiled his seed or his powder sprinkled in food

 doetse **smaken** met goeder wise
 makes.them taste with good manner
 ‘His seeds boiled with wine or his powder sprinkled in food, it makes it taste good/in a good way’
 (*Der Naturen Bloeme (D)*, Van Maerlant, 1287)

The crucial evidence that is lacking for us to confidently analyze the verb *smaken* as an intransitive verb, at this stage, is the use without any post-verbal element, as was found for *ruiken* and *klinken*. In other words, both *ruiken* and *klinken* appear without even an adverb before they start to appear in combination with a predicative adjective. Since *smaken* is always used with some post-verbal element that can be seen as ambiguous between an adverb or adjective, we cannot say that these early examples are without a doubt intransitive uses of *smaken*. All examples of *smaken* have some post-verbal element that is ambiguous between being adverbial or adjectival. The Middle Dutch Dictionary provides more ambiguous examples from which we still cannot conclude that the descriptive construction with an adjectival complement has emerged. For instance, in (34), the element *soet* ‘sweet’ could be an adjective, but its spelling, i.e., without the adverbial *-e* marking, could also

be the result of rhyming restrictions in order to rhyme with *bloet* in the second part of the sentence.

- (34) Die beenre **smaken** so soet, want het is half morch ende bloet
 those bones taste so sweet because it is half marrow and blood
 ‘Those bones taste so sweet, because it is half marrow and blood.’
 (*Van den Vos Reynaerde, Willem die Madocke maecte, 1401–1410*)

The Early Modern Dutch and Modern Dutch examples suggest a more copular-like use of *smaken*, as examples with clear adverbs like *wel* ‘well’ are no longer found. Rather, the post-verbal elements appear to specify a quality of the subject rather than the verb, such as *liefelijck* ‘lovely’ in (35) and *suikerachtig* ‘sugary’ in (36). Note that in (36), the descriptive verb *ruiken* also appears with an adjectival complement, making it even more likely that the verb *smaken* here is also used with an adjectival complement.

- (35) Gedenck hoe liefelijck het binnenste moet **smacken**
 think how lovely the inside shall taste
 ‘Think how lovely the inside shall taste.’
 (*De werken van Vondel, 1663–1674*)

- (36) Het sap [...] is nu helder, groenachtig graauw, schuimig,
 the juice is now clear greenish gray foamy

smaakt zuiver suikerachtig en **riekt** aangenaam
 tastes pure sugary and smells pleasant
 ‘The juice [...] is now clear, greenish gray, foamy, tastes purely sugary and smells pleasant.’
 (*Nederlands Handelsmagazijn, 1843*)

The number of attestations of *smaken* in the Descriptive Perception Verb Construction, per century, is given in Table 7.

Table 7. Number of attestations of *smaken* in intransitive constructions, ambiguous constructions, and Descriptive Perception Verb Constructions (DPVC) per century.

	1100– 1199	1200– 1299	1300– 1399	1400– 1499	1500– 1599	1600– 1699	1700– 1799	1800– 1899	1900– 1999
Intransitive	-	4	2	2	-	1	1	-	-
Ambiguous	-	1	-	3	3	1	1	1	-
DPVC	-	-	-	-	-	1	1	1	2

4.6. Conclusion

The data from the Dutch historical dictionaries suggest that the Descriptive Perception Verb Construction, as used in present-day Dutch, was not present in earlier stages of Dutch but emerged over time. The data suggest that Descriptive Perception Verb Construction was first attested for *eruitzien*, which emerged in the 14th century, followed by *klinken*, *ruiken*, and *smaken* around the 17th century (earlier ambiguous cases are found, but it is the 17th century when we can see clear instances of adjectival complements). The examples of *voelen* in a Descriptive Perception Verb Construction date only back to the Modern Dutch period and appear to represent an outlier for which more data is needed, and if indeed only found later, this requires an explanation. See Table 8 for an overview of these findings. The relative order of attestation for each verb in the Descriptive Perception Verb Construction is given in (37), which will be discussed in more detail in the discussion in Section 7.

Table 8. Timeline of the Dutch perception verbs appearing in the Descriptive Perception Verb Construction.

	1100– 1199	1200– 1299	1300– 1399	1400– 1499	1500– 1599	1600– 1699	1700– 1799	1800– 1899	1900– 1999
<i>eruitzien</i>			x	_____					
<i>klinken</i>						x	_____		
<i>voelen</i>								x	_____
<i>ruiken</i>						x	_____		
<i>smaken</i>						x	_____		

(37) sight > {sound, smell taste} > touch

5. Syntactic Development

The findings discussed above present two constructionalization paths into the Descriptive Perception Verb Construction:

(i) *Transitive Construction* → *Descriptive Perception Verb Construction*

The first path is that of a transitive construction with a cognitive perception verb with an EXPERIENCER subject and a STIMULUS direct object to a Descriptive Perception Verb Construction, a process in which the subject changes from being an EXPERIENCER subject to being a STIMULUS subject, and the direct object falls away. This path is found for *eruitzien* ‘look’.

(ii) *Intransitive Construction* → *Descriptive Perception Verb Construction*

The second path is that of an intransitive construction with a STIMULUS subject (often appearing with an adverb) to a Descriptive Perception Verb Construction requiring a predicative complement (while still taking a STIMULUS subject). This path is found for *klinken* ‘sound’ and *ruiken* ‘smell’.

Below, I discuss these two constructionalization processes and the bridging contexts proposed that enabled them.

5.1. The Syntactic Development of *eruitzien*

The dictionaries indicate that around the 14th century the descriptive perception verb (*eruit*)*zien* emerged in the Descriptive Perception Verb Construction, which takes a STIMULUS subject and requires a predicative adjective (as in 10, repeated here in 38) and (39), here hypothesized to have emerged from the cognitive *zien* (as in 40), which takes an EXPERIENCER subject and a STIMULUS direct object.

(38) Lelic **zagen** dese twee
 ugly.PRED looked these two.STIM
 ‘These two looked ugly.’
 (*Gruuthuuse-Handschrift, Anonymous, ca. 1395*)

(39) die druckelic **zag**
 who.STIM depressed.PRED looked
 ‘Who looked depressed.’
 (*Anonymous, 1340–1360*)

(40) Ny **sie** ic mijn kind thobias
 now see I.EXP my child Tobias.STIM
 ‘Now I see my child Tobias.’
 (*Rijmbijbel, 1285*)

If this development from cognitive to descriptive use is indeed what happened, the question that arises is: how did speakers of Dutch make the seemingly large jump from a transitive construction to the Descriptive Perception Verb Construction? I hypothesize here, based on data on the cognitive *zien* from the 14th century, that there is a crucial syntactic step that could have enabled this leap: the *modal passive construction* (Hoekstra & Moortgat, 1979). This has overlap with Lasnik and Fiengo's (1974) Object Deletion or Jackendoff's (1975) notion of *tough* movement, both referring to constructions in which the syntactic subject of the main verb is logically the object of an embedded non-finite verb. The modal passive construction takes the verb *zijn* with *te* (note: not *om te*), an infinitive and often a predicate (referred to as a *tough* predicate). It has a modal meaning 'is possible to, can be'. Take the example of the modal passive construction from the Middle Dutch dictionary, as shown in (41), with *clare* as the predicate. Here, the meaning is that they could see the earlier-mentioned *so grod licht ende sulke scine* 'such big light and such shine' so clearly that no one could handle it. This is much like Hoekstra and Moortgat's example in (42) (their example 48, 1979:152).

(41) Het was te **siene** so clare, dat niemen mochte ghedoghen
 this was to see so clearly that no-one could tolerate
 'It was so brightly visible, that no one could tolerate it.'
 (*Rijmbijbel*, 1321)

(42) Dat boek was gemakkelijk te lezen
 that book was easy to read
 'That book was easy to read.'

Similar constructions from Middle Dutch, which could have helped in the enabling from transitive construction to Descriptive Perception Verb Construction, but which are not quite modal passives, are given in (43) and (44). They are different from the modal passive construction in (41) in that there is no modal reading. However, structurally, they are very similar, and they share the fact that they take a syntactic subject that is logically the object of the non-finite verb. Their idiosyncratic behavior has been discussed extensively in the syntactic literature and even constitutes its own construction type, namely the *pretty*-construction (Hicks, 2009), with its adjective used to mark the *pretty* classes of adjectives (Schäfer, 2021). The prototypical construction used in discussion of the *pretty*-construction or the *pretty* classes of adjectives is given in (45). I will refer to the constructions in (43) and (44) as being instances of the *pretty*-construction.

(43) Te **siene** was hi bequame
 to seen was he pleasant
 'He was pleasant to look at.'
 (*Die Rose, Van Aken*, 1301–1325)

(44) hi was an te **siene** bequame
 he was PART to see pleasant
 'He was pleasant to look at.'
 (*Württembergische Landesbibliothek Ms. Poët. et Philos. fol. 22*, 1390–1410)

(45) Mary is pretty to look at.

In both the modal passive construction in (41) and the *pretty*-constructions in (43) and (44), the cognitive verb *zien* appears in a construction in which the STIMULUS object becomes the STIMULUS subject. It is then a relatively small step from *was te siene* 'was to see' to the descriptive *zag* 'looked', with the STIMULUS subject and the post-verbal element already in place. I propose that this STIMULUS subject construction is what Diewald (2006)

refers to as the critical context: the stage in a process of change that triggers grammaticalization/constructionalization. It is “a highly marked construction [...] characterized by multiple structural and semantic opacity, thus inviting several alternative interpretations, among them the new grammatical meaning.” (2006:1–2) or is also referred to as bridging context (Heine, 2002), which gives “rise to an inference in favour of a new meaning” so that the “target meaning [is] foregrounded” (Heine, 2002, p. 86).

There are three processes that happen during this bridging context, as Barron (1997, p. 8) lists in her discussion of the development of perception verbs (such as *see, sehen*) into raising verbs (such as *seem, aussehen*), here listed in amended order:¹⁵

- (46) (i) Suppression of the perceiver argument though detransitivisation;
- (ii) The presence of secondary predication (clausal or adjectival);
- (iii) Cognitive shift from a physical to a mental process.

The first process, i.e., detransitivisation, entails that the original two-place predicate verb *zien* becomes used as a one-place predicate. Barron claims that this process often involves detransitivizing affixation: an affix on the perception verb marking this verb as ‘not transitive’. And indeed, for the Dutch descriptive verb *eruitzien*, the particle *eruit* can be understood as detransitivizing affixation, similar to that found in Zulu, Japanese and German (see Barron, 1997, p. 6). Supporting evidence for this hypothesis comes from the fact that the early uses of *eruitzien* in the Descriptive Perception Verb Construction are still in the form *zien* without the affix *eruit*. The second condition states that the development into a Descriptive Perception Verb Construction presupposes the presence of secondary predication, whether clausal or adjectival. This condition is satisfied by the presence of post-verbal elements that are depictive adjectives, which are well known to be open to interpretation as secondary predicates (Himmelmann & Schultze-Berndt, 2006). In the examples in (41) and (43)–(44), these are *clare* and *bequame*. The third condition states that there is a shift from a physical to a mental process, which correlates with the presence vs absence of an EXPERIENCER. The presence of an EXPERIENCER in a perceptual event puts the focus on the physical perception of someone or something, whereas when this EXPERIENCER is missing (as it is in the bridging construction), the focus is rather on the internal impression given to the perceiver in the perceptual event.

The stages in this hypothesized development from the transitive construction with *zien* to the Descriptive Perception Verb Construction with *eruitzien* are presented in Table 9.

Table 9. Stages in the constructionalization of *eruitzien*.

Stage	Construction	Verb Meaning	Structure
I	Transitive construction	‘to see’	SUBJ V OBJ
II	Bridging context: STIMULUS subject construction	‘to be seen’	SUBJ V PRED
III	Descriptive perception verb construction	‘to look’	SUBJ V PRED

5.2. The Syntactic Development of *klinken* and *ruiken*

A different origin is proposed for *klinken* ‘sound’ and *ruiken* ‘smell’, as they have developed from the intransitive *klinken* ‘to give off a clanging sound’ and *ruiken* ‘to give off smoke’, respectively. For both verbs, I argue that the bridging context is the construction consisting of an intransitive verb in combination with an adverb. This post-verbal element is often morphologically ambiguous between adjective and adverb, which allows for reanalysis of the adverb as a predicative adjective. This is a well-known process in the history of English and German copular verbs (Van Gelderen, 2015; Diewald & Smirnova, 2010). Consider the English verb *remain*, for example. Before it was a copular verb, *remain* was used intransitively with the meaning ‘to stay behind’ and appeared with adverbs.

From the Middle English period onwards, the typical adverbial *-e* marker was no longer present, and adverbs came to look similar to adjectives, causing ambiguity, see, for instance, (47) (taken from Van Gelderen, 2015, p. 296). Here, it is not clear whether *sick* is an adverb or an adjective: “*remains* [...] *sick* could mean ‘stay behind in a sick way’, with *sick* being an adverb, or ‘continues to be sick’, with *sick* being an adjective. This process is expected to occur with an intransitive verb, as they ‘rarely remain without some kind of adverbial’ (Van Gelderen, 2015, p. 296).

(47) Since which she was removed to Kimbolton, where she **remains** now sick.t
(Henry VIII, Shakespeare, 1623)

A similar ambiguity is proposed to have occurred in Dutch. For *klinken*, for instance, this reanalysis would mean that a phrase like (48), i.e., *bellen, die lude cloncken*, can be interpreted as ‘bells that sounded, loudly’ (i.e., the resounding of the bells was loud) or as ‘bells that sounded loud’ (i.e., the sound of the bells was loud).

(48) dat si bellen droeghen, die lude cloncken waer
that they bells carried that loud(ly) sounded where

si ghinghen.
they went
‘That they carried bells that sounded loud(ly) where they went.’
(Gedichten van Willem van Hildegasberch, 1475–1485)

Similarly, for *ruiken*, in a sentence such as (49) it is unclear whether the post-verbal element *soete* ‘sweet/sweetly/pleasantly’ is used to modify the verb (‘to give of a smell, pleasantly) or the subject (‘to smell sweet’).

(49) Sijn vel dat rieket harde soete
his skin that smells very sweet(ly)
‘His skin that gives off an air sweetly/smells sweet.’
(Parthonopeus van Bloys, 1376–1400)

The overview in Table 10 shows the three stages in the constructionalization from intransitive to the Descriptive Perception Verb Construction.

Table 10. Stages in the constructionalization of *klinken* and *ruiken*.

Stage	Construction	Verb Meaning	Structure
I	Intransitive construction	‘to give off a clanging sound/smoke’	SUBJ V
II	Bridging context: intransitive construction with ambiguous post-verbal element	‘to give off a sound/smell’	SUBJ V ADJ/ADV
III	Descriptive perception verb construction	‘to sound/smell’	SUBJ V PRED

5.3. The Case of *smaken* and *voelen*

The historic data propose a clear constructionalization path for *eruitzien*, *klinken* and *ruiken*, leaving *smaken* and *voelen* without an obvious trajectory. In the case of *voelen*, there is not enough data to speculate on its developmental path. In the case of *smaken*, the historical dictionaries and all the provided examples indicate that the post-verbal elements that *smaken* appears with are adverbs, which suggests that the verb is used intransitively. This suggests that the developmental path of *smaken* is like that of *klinken* and *ruiken*, i.e., from an intransitive construction with an adverb to a Descriptive Perception Verb Construction, which takes a predicative complement. However, there is a lack of examples of *smaken* on its own without any post-verbal specifications (i.e., used intransitively), which makes

it harder to discern whether this verb once was indeed just an intransitive verb such as *klinken* and *ruikken*.

6. Semantic Development

The discussion above about the changes in form shows that, regardless of the specifics of the syntactic development, the endpoint for all descriptive perception verbs is syntactically the same: they all end up as verbs in the Descriptive Perception Verb Construction. This syntactic change goes hand in hand with big semantic shifts. I will first discuss the semantics of the constructionalized Descriptive Perception Verb Construction and then look into its diachronic path, as Gisborne hypothesizes a diachronic order to the changes in meaning in the Descriptive Perception Verb Construction.

6.1. Propositions, Scope and Evidentiality

The newly required predicative adjective in the Descriptive Perception Verb Construction brings about important semantic changes due to fact that this predicative adjective now allows a proposition to be ‘coerced’, even if it is not overtly expressed. I follow [Boye \(2012\)](#) here, who moves away from the distinction of evidentiality as either grammatical ([Aikhenvald, 2004](#)) or lexical ([Chafe & Nichols, 1986](#)) and argues instead that evidential markers are those that have scope over propositions. Boye argues that a proposition, which has to be present for an evidential to take scope over it, can either be overtly expressed or coerced: “even when epistemic expressions [including evidential expressions] have less than a propositional construction in their semantic scope, their epistemic meanings are interpreted as having a proposition as their scope” ([Boye, 2012, 250ff.](#)).

It is this notion of coercion that is crucial for our analysis of evidentiality in the Dutch Descriptive Perception Verb Construction. Following [Whitt \(2018\)](#) for the German copular *scheinen* ‘seem’, I argue that Dutch descriptive perception verbs coerce an implicit proposition when they appear with a predicative adjective. Consider the Dutch descriptive perception verb constructions in (50) and (51). Even though at first sight there appears to be no secondary proposition in these constructions, this is indeed there but implicit. For this, I assume that the descriptive perception verbs have as their core meaning ‘seem, based on the STIMULUS’ look/sound/touch/smell/taste’. For instance, (50a) can be rephrased as (50b), which can be rephrased as (50c), with the implicit secondary proposition being the part in brackets, i.e., [*the girl is sweet*]. The same goes for (51a), rephrased as (51b), which contains the implicit proposition [*the girl is sweet*], as in (51c).

- (50) a. Het meisje **klinkt** lief.
 the girl sounds sweet
 ‘The girl sounds sweet.
 ≈ The girl seems to be sweet, based on
 her sound.
 ≈ I infer that [*the girl is sweet*] based on
 the girl’s sound.
- (51) a. Het meisje **ziet er** lief **uit**.
 the girl looks PART sweet PART
 ‘The girl looks sweet.’
 ≈ The girl seems to be sweet, based on her looks.
 ≈ I infer that [*the girl is sweet*], based on the
 girl’s looks.

In other words, in (50a) there is not just the auditory effect of the girl on the speaker but also an impression by the girl on the speaker. That is, the girl’s voice or way of speaking

is projecting the appearance of sweetness on the speaker. The same goes for (51a), in which something about the way the girl looks (e.g., clothes or face) or is behaving is projecting the appearance of sweetness on the speaker.

In these Descriptive Perception Verb Constructions, the descriptive perception verb, diluted to its core meaning ‘seem, based on the STIMULUS’ look/sound/touch/smell/taste’ now has scope over an entire proposition and thus is free to serve an evidential function. As such, it marks both the directness of evidence that the speaker bases their proposition on and also which sense modality was used to obtain this information.

Evidentiality is the linguistic marking of the source of information, evidence, or justification for a proposition (e.g., Bybee, 1985; Anderson, 1986; Palmer, 1986; Willett, 1988; Aikhenvald, 2004). Evidentials not only mark that there is a source of information but usually also mark what kind of evidence there is. Many different kinds of evidence are marked in the world’s languages, as presented by Willett (1988) in Figure 1. The main distinction lies in direct versus indirect evidence. Direct evidentials can be used in situations in which the speaker was present at the described event. Indirect evidence, on the other hand, implies that the speaker did not have direct access to the event described in the proposition but had access to other kinds of information, be it through reasoning or hearsay. In the implicit coerced propositions of (50)–(51), the descriptive perception verbs do not only mark that there is evidence but that this evidence was obtained directly, i.e., through the EXPERIENCER/speaker themselves.

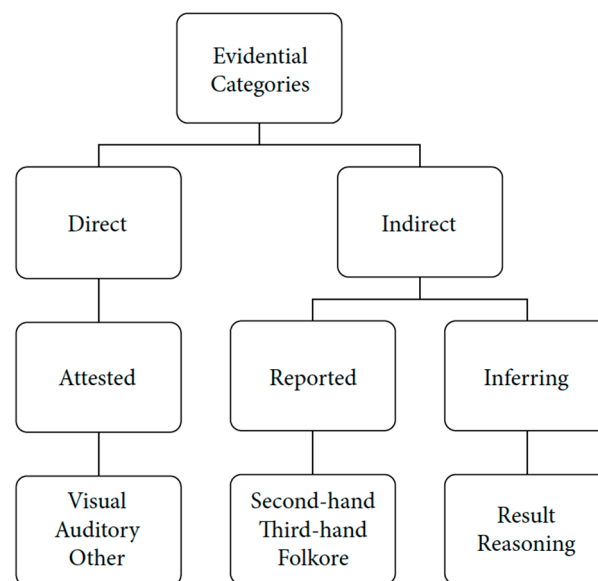


Figure 1. Taxonomy of evidential categories (Willett, 1988, p. 57).

Having established that the emergence of the required adjective can coerce a proposition for which the descriptive perception verbs serve as an evidential marker, we need to further discuss the semantics of the proposition. In the examples in (50)–(51) above, the implied proposition was given to be ‘seems, based on sensory evidence’. Gisborne (1998) adds nuance when he proposes that there are actually two possible readings of this proposition: ‘is, based on sensory evidence’ and ‘seems, based on sensory evidence’. This difference is context-dependent and relies on the choice of verb and adjective used. Gisborne refers to the first reading, i.e., ‘is, based on sensory evidence’, as the *attributory* reading (also referred to as *phenomenal* by Rudolph, 2017). The term *attributory* is based on the observation that the adjective “behaves semantically very like attributive modification” (2010:249). For instance, in (52a), the adjective *prachtig* ‘lovely’ modifies *klinkt* ‘sounds’ rather than being predicated of *de muziek* ‘the music’; Gisborne argues it is the sound of the

music that is lovely and not the music itself. As such, the subject *de muziek* is not related to the proposition.

(52) Attributory Reading

a. De muziek **klinkt** prachtig.
the music sounds lovely
'The music sounds lovely.'

b. De taart **smaakt** verrukkelijk.
the cake tastes delicious
'The cake tastes delicious'

This is then different from the second type of proposition that can be coerced, which is 'seems, based on sensory evidence', and is called the *evidential* reading (or epistemic reading, see Rudolph, 2017). The evidential reading differs from the attributory reading in that the subjects in evidential reading constructions are directly semantically related to the proposition. For instance, in (53b), it is the milk that seems fresh, not the smell of the milk. Note that both the attributory reading and the evidential control reading mark direct evidence.

(53) Evidential Reading (control)

a. De man **klinkt** buitenlands.
the man sounds foreign
'The man sounds foreign.'

b. De melk **ruikt** vers.
the milk smells fresh
'The milk smells fresh.'

Gisborne further divides the evidential reading into two sub-readings: the control and the raising reading. This distinction is based on the relationship between the subject and the source of evidence of the proposition. In the control evidential reading above (see 53), the subject is the STIMULUS and provides the direct source of evidence, whereas in the raising reading (see 54 below), the STIMULUS is something other than the subject, and the source of evidence is indirect (e.g., hearsay). So, for both Descriptive Perception Verb Constructions in (54) (i.e., *het weer klinkt goed/ziet er goed uit*), it is not *het weer* 'the weather' that is perceived, but *het weerbericht* the weather forecast'.

(54) Evidential Reading (raising)

a. Ik heb het weerbericht gezien en het weer
I have the weather.forecast seen and the weather

voor morgen **ziet** er goed uit.
for tomorrow sees PART good PART
'I have seen the weather forecast and tomorrow's weather looks good.'

b. Ik heb het weerbericht gezien en het weer
I have the weather.forecast seen and the weather

voor morgen **klinkt** goed.
for tomorrow sees good
'I have seen the weather forecast and tomorrow's weather sounds good.'

6.2. Tests

Gisborne offers two tests to distinguish between the attributory (e.g., ‘is, based on sensory evidence’) and evidential (control or raising) reading (e.g., ‘seems, based on sensory evidence’).¹⁶ The first tests factivity: if a construction can appear with the phrase . . . , *but X isn’t*, it is non-factive and receives the evidential reading, see (55).

- (55) a. ?? De muziek **klinkt** prachtig, maar is het niet. *attributory*
 the music sounds lovely, but is it not
- b. De man **klinkt** buitenlands, maar hij is het niet. *evidential*
 the man sounds foreign but he is it not
 ‘The man sounds foreign, but he isn’t.’

The second test is whether the construction can be paraphrased by an *as if*-construction: if the construction can be paraphrased, it receives the evidential reading, see (56).

- (56) a. *De muziek **klinkt** alsof het prachtig is. *attributory*
 the music sounds as.if it lovely is
- b. De man **klinkt** alsof hij buitenlands is. *evidential*
 the man sounds as.if he foreign is
 ‘The man sounds as if he is foreign.’

Note that in some cases, a construction can be ambiguous between an evidential reading and an attributory reading, and neither of Gisborne’s tests can determine which reading is intended, see (57), which is ambiguous between the readings in (58).

(57) Mary **sounds** nice

- (58) a. Mary has a nice sound *attributory*
 b. Mary sounds like she is a nice person *evidential (control)*
 c. (From your story) it sounds as if Mary *evidential (raising)*
 is nice

6.3. Subjectivity

Lastly, the Descriptive Perception Verb Construction marks subjectivity. Subjectivity is understood as the “relationship to the speaker and the speaker’s beliefs and attitudes” (Traugott, 2010, p. 29); an utterance is considered subjective “if the issuer presents it as being strictly his/her own responsibility” (Nuyts, 2006, p. 14). There is an obvious change in subjectivity in the constructionalized Descriptive Perception Verb Construction: from the moment the construction emerges, i.e., with a predicative adjective, the speaker becomes a linguistically marked participant in the discourse, as it is the speaker’s evaluation that is expressed by the implicit proposition, and it is the speaker’s evidence that is marked by the descriptive perception verb. This subjectivity is not overtly marked: in Dutch, the speaker is (usually) not a syntactically realized argument of the verb but is still a semantic argument (i.e., the EXPERIENCER). This means that without any indication who the EXPERIENCER is in the examples in (59) repeated from (1), all evaluations are implied to be from the speaker.

- (59) a. De kamer **ziet** er mooi uit.
 the room.SUBJ_{STIM} looks PART nice.PRED PART
 ‘The room looks nice.’
- b. De man **klinkt** Frans.
 the man.SUBJ_{STIM} sounds French.PRED
 ‘The man sounds French.’
- c. Het kleed **voelt** zacht.
 the rug.SUBJ_{STIM} feels soft.PRED
 ‘The rug feels soft.’
- d. De kaas **ruikt** vies.
 the cheese.SUBJ_{STIM} smells disgusting.PRED
 ‘The cheese smells disgusting.’
- e. De soep **smaakt** pittig.
 the soup.SUBJ_{STIM} tastes spicy.PRED
 ‘The soup tastes spicy.’

6.4. Diachronic Path

Having discussed the evidential, subjective and (non-)factive nature of the present-day Dutch Descriptive Perception Verb Construction, let us now turn to the diachronic changes in the semantics of this construction. Gisborne hypothesizes a diachronic order to the emergence of the various readings, stating that the attributory reading emerges first, followed by the evidential control reading, and finally the evidential raising reading. Using Gisborne’s tests to distinguish between the attributory and the evidential reading on the Dutch historic data, it seems that for *eruitzien*, *klinken* and *voelen/tasten*, the attributory reading was indeed found before the evidential reading.¹⁷ Attributory readings are found for *eruitzien* as early as the Descriptive Perception Verb Construction emerges, in the 14th century, see (60), which cannot be negated or appear with an *alsof* ‘as if’-construction. The evidential control (61) and raising (62) readings are found from the 18th century onwards, which can appear with an *as if*-construction or can be negated.¹⁸

- (60) So chierlike **sach** hi tier tijt
 so elegant looked he in.the time
 ‘So elegant he looked then.’
 (*Spiegel Historiae, Van Maerlant, 1301–1325*)

- (61) Het geroep dat de in discussie zijnde bill **’er** te
 The shouting that the in discussion being bill there too
 democratisch’ **uitziet** is ijdel
 democratic looks is vain
 ‘The claims that the bill under discussion is ‘too democratic’ is in vain.’
 (*Brieven van A.R. Falck, 1831*)

- (62) het **ziet er** **uit,** dat ik my moest schaamen als er
 it looks PART PART that I me must shame if there
 eens een knap Mensch inkwam,
 once a handsome person entered
 ‘it looks like I should be ashamed of myself if a handsome person would
 ever enter.’
 (*Historie van den Heer Willem Leevend, Deken & Wolff, 1785*)

For *klinken*, the attributory readings are found from the 17th century onwards (63), whereas the evidential readings are found from the 19th century onwards (64 for the control reading, 65 for the raising reading).

- (63) laetende de trompetten lustich **klincken**
 letting the trumpets pleasant sound
 'Letting the trumpets sound pleasant.'
 (*Begin ende Voortgangh van de VOC, 1646*)
- (64) Het **klinkt** eenigszins zonderling
 it sounds somewhat strange
 'It sounds somewhat strange.'
 (*De Voetbal-Scheidsrechter, Groothoff, 1909*)
- (65) Die zaal **klinkt** hel
 the room sounds glaring
 'The room sounds glaring.'
 (*Idioticon van het Antwerpsch dialect, Cornelissen and Veroliet, 1898–1903*)

For *voelen/tasten* the attributory reading is found from the 19th century onwards, see (66), and the evidential control reading is from the 20th century onwards, see (67).

- (66) Als de huid hard is en men de beenen sterk
 if the skin hard is and one the bones strongly

 door de spieren heen bemerkt, dan zegt men hij **tast** schraal
 through the muscles PART notices then says one he feels skinny

 hij is bonkig
 he is bony
 'If the skin is hard and one notices the bones through the muscles, then says one he feels skinny, he is bony.'
 (*Natuurlyke historie van Holland, Berkhey, 1805*)
- (67) ie slikte zwaar, z'n keel **voelde** droog
 he swallowed heavily his throat felt dry
 'He swallowed heavily, his throat felt dry'
 (*Mensen uit 'n stil stadje, Smeding-Van Wijje, 1920*)

For *ruiken*, the attributory reading (68) and the evidential control reading (69) are found from the early 17th century onwards. Interestingly, some instances of the evidential raising reading can also be found from this time onwards, albeit figuratively. See, for instance (70), in which the *schande* 'disgrace' is said to smell bad.

- (68) Jou stanck van Moskeljaat **Ruyckme** wat te vuns en quaat
 your smell of musk smells.me bit too moldy and bad
 'Your smell of musk smells me a bit too moldy and bad.'
 (*Tafereel van de belacchende werelt, Van de Venne, 1635*)
- (69) De lucht van kruit en bloem **riecht** heilzaam en gezont
 the smell of herb and flower smells beneficial and healthy
 'The smell of herbs and flowers smells healthy and beneficial.'
 (*De werken van Vondel, Vondel, 1664*)

- (70) Die schandewaer te groot, en sou te leelijck **ruicken**,
 that disgracewas too big, and would too bad smell
 ‘That disgrace was too big, and would smell too bad.’
 (*Gedichten, P.C. Hooft, 1615*)

For *smaken*, only the attributory reading is found in the dictionaries (see 71), but the evidential control reading is present in modern-day Dutch (see 72). No first attestation of this evidential use can be found in the data, however.

- (71) Gedenck hoe liefelijck het binnenste moet **smacken**
 think how lovely the inside shall taste
 ‘Think how lovely the inside shall taste.’
 (*De werken van Vondel, 1663–1674*)

- (72) De taart **smaakt** veganistisch.
 the cake tastes vegan
 ‘The cake tastes vegan.’

In conclusion, following Gisborne’s claims on the diachronic development of the various readings of the descriptive perception verbs, the dictionary data suggest a tendency for the attributory reading to appear before or at the same time as the evidential control reading. This is the case for *eruitzien*, *klinken* and possibly for *tasten/voelen* and *smaken*. For *ruiken*, the two readings are attested around the same time. It also appears that the final step in Gisborne’s diachronic path, i.e., the emergence of the evidential raising reading, which involves the loss of the semantic argument relation between the subject and the verb, only occurs in a non-figuratively way for *eruitzien* and *klinken*.

6.5. Stages of Development

Finally, let us look at the extent to which each verb has changed in meaning. First of all, the first stage of semantic change occurs at the emergence of the Descriptive Perception Verb Construction. This comes with a required predicative complement, which allows for a coerced proposition. This construction has as its first and most basic reading the attributory reading, which is non-factive, subjective and marks direct evidence. As all verbs have been attested to be found to be used in the Descriptive Perception Verb Construction, it is a given that this first stage is reached by all verbs. The second stage is that of the evidential control reading, in which the sense of factivity is lost. Again, all verbs have been attested to appear in constructions with this reading. The third stage is the evidential raising reading, in which the direct evidence is lost and makes way for indirect evidence to be marked. While all the descriptive perception verbs in Dutch can mark direct evidence through the constructions that receive an attributory or evidential control reading, only *eruitzien* and *klinken* can also mark indirect evidence through constructions that receive an evidential raising reading. As such, *eruitzien* and *klinken* appear to be further developed than the other descriptive perception verbs.

As a final note, and one that requires further research in its own right, from a pilot study on present-day Dutch (Poortvliet, 2014), it appears that even though *klinken* can only mark auditory evidence, *eruitzien* can mark evidence for both visual and auditory evidence. For instance, take a situation in which Bob hears Carol sneeze, he can then utter the sentence in (73).

- (73) Het **ziet** **er** **uit** alsof Carol ziek is
 it looks PART PART like Carol ill is
 ‘It looks like Carol is ill.’

This use of the verb belonging to one sense modality (visual) for another sense modality (auditory) indicates that the verb *eruitzien* has semantically bleached even further and can be used in these cases as something closer to *seem*. This is in line with Viberg’s (1983) modality hierarchy, as in (74).

(74) sight > hearing > touch > {smell, taste}

Viberg (1983, pp. 136–137) states that “a verb having a basic meaning belonging to a sense modality higher (to the left) in the hierarchy can get an extended meaning that covers some (or all) of the sense modalities lower in the hierarchy”. This appears to be the case for *eruitzien*, which in some cases can cover the auditory sense modality.

In conclusion, the semantic changes that appear to have occurred during and after the emergence of the descriptive construction perception construction can be summed up as follows:

Stage I Coerced proposition

The newly constructionalized construction that emerges requires an adjective, which allows for the reading of an implicit proposition. This proposition expresses subjectivity and factivity, while the verb marks direct evidence and the sense modality used.

Stage II Loss of factivity

This stage sees a shift from only factive (attributory) to also non-factive (evidential control) readings.

Stage III Loss of marking of direct evidence

This stage sees a change from marking direct evidence (evidential control) to marking indirect evidence (evidential raising).

Stage IV Loss of sense modality

Loss of the verb marking only one strict sense modality.

From the data, it appears that all verbs have reached Stage I; *eruitzien*, *klinken*, *voelen* and *ruiken* have reached Stage II; *eruitzien* and *klinken* have reached Stage III; and only *eruitzien* has reached Stage IV. This is summarized in Table 11. Note that a verb does not lose the ability to express what it could in previous stages once it reaches a next stage. Even though *eruitzien* appears to have reached Stage VI, it can still be used to express the attributory reading of Stage I or the evidential readings of Stages II and III.

Table 11. Semantic stages in the emergence of the Dutch Descriptive Perception Verbs Construction.

	Stage I– Proposition	Stage II– Loss of Factivity	Stage III– Loss of Directness	Stage IV– Loss of Sense
<i>eruitzien</i>	✓	✓	✓	✓
<i>klinken</i>	✓	✓	✓	
<i>voelen</i>	✓	✓		
<i>ruiken</i>	✓	✓		
<i>smaken</i>	✓	✓		

These stages show the general tendency in semantic change of restrictions being lifted and lost through time, slowly allowing for a wider range of uses. For our set of verbs, it means that the restriction of *factivity* is lost, allowing for more predicative adjective types to be used, while the loss of the *marking of direct evidence* allows for more types of subjects to be used. The last stage is that in which the strict *sense modality* of the verb is bleached and a verb becomes more polysemous (i.e., covering more sense modalities).

7. Discussion

The emergence of the Descriptive Perception Verb Construction constitutes an instance of constructionalization: the emergence of a new form–meaning pairing (Traugott & Trousdale, 2013). The new form–meaning pairing of the Descriptive Perception Verb Construction is a copular-like syntactic construction consisting of a verb taking a predicative complement and a STIMULUS subject, which marks evidentiality (i.e., which sense modality was used), factivity and subjectivity.

The timeline of attestations of this new construction as discussed in this article is summarized in Figure 2.

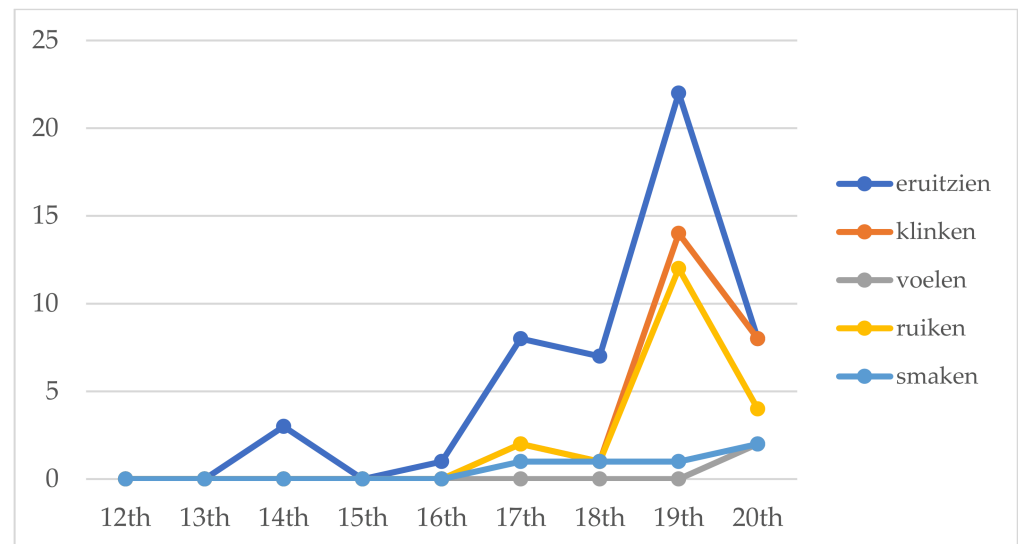


Figure 2. Absolute frequencies of attestations of each verb in the DPVC, 12th–20th century.

Figure 2 shows that the first verb attested in this new construction was (*eruit*)zien in the 14th century, picking up in token frequency (i.e., the number of times a particular construction occurs in usage) from the 17th century onwards. This is followed by the verbs *klinken*, *ruiken* and *smaken*, of which a few attestations are found in the 17th century, but which increase in token frequency from the 19th century onwards. The verb *voelen* only is found from the 20th century onwards. As to why it was *eruit*zien to emerge first in this construction, we can turn to Viberg (1993) and Aikhenvald (2004). Viberg (1993) shows that ‘see’ is the most frequently used perception verb in a study on 11 European languages. This could be linked to the following claim by Aikhenvald (2004) on visual evidentials: “[t]hroughout the world, visually acquired information is considered highly valuable and reliable, perhaps more so than information acquired through any other means” (2004:338). For instance, Aikhenvald notes that if a speaker has a few sources of information (e.g., visual and auditory), they will most likely use the visual evidential marker because of ideas on reliability of the senses. It is therefore not unexpected to see an earlier presence of descriptive (*eruit*)zien: if constructions with the visual perception verbs are generally used more than other sense modalities, so too will the bridging constructions with visual perception verbs (i.e., the modal passive construction or *pretty*-construction), enabling the emergence of the Descriptive Perception Verb Construction with (*eruit*)zien first. The increased token frequency of (*eruit*)zien in combination with a predicative complement and a STIMULUS subject subsequently entrenched this emerging pattern as a construction, which paved the way for the other descriptive perception verbs to also be used in the V-slot of this construction. As such, the entrenchment of (*eruit*)zien with a predicative complement and a STIMULUS subject increased the construction’s type frequency, i.e., the number of different lexical items that occur in a given construction.

Under this hypothesis, we should not overlook a verb’s already existing relationships and how these relationships are actually very important in the making or strengthening of paradigms. Paradigmatisation, or ‘paradigm integration’ (Diewald & Smirnova, 2012), the process by which paradigms of family members with strong relationships emerge, is “one of the key processes involved in grammaticalization” (Neels & Hartmann, 2022, p. 268). It is plausible to assume that the increase in type frequency (i.e., the copular pattern expanding to the other four descriptive perception verbs) was made easier by the existing relationship among perception verbs, as the five sense modalities are inherently linked. I refer to the relationship between the various senses as being on the *sense modality dimension*, see Table 12. I hypothesize that new members were pulled into this newly emerging paradigm through analogy, or *categorial incursion* (De Smet, 2009): “the introduction of a word into a new category, which, however, already exists by virtue of other members of that category” (Petré, 2012, p. 45). As such, the emergence of *eruitzien* in the Descriptive Perception Verb Construction served as a “blueprint and [gave] the pattern for analogous developments” (Diewald & Smirnova, 2010, p. 157).

Table 12. Dimensions in the Dutch perception verb paradigm.

	Cognitive	Active	Descriptive	
Vision	<i>zien</i> ‘to see’	<i>kijken</i> ‘to look’	<i>eruitzien</i> ‘to look’	↑ sense modality dimension ↓
Hearing	<i>horen</i> ‘to hear’	<i>luisteren</i> ‘to listen’	<i>klinken</i> ‘to sound’	
Touch	<i>voelen</i> ‘to feel’	<i>voelen</i> ‘to feel’	<i>voelen</i> ‘to feel’	
Smell	<i>ruiken</i> ‘to smell’	<i>ruiken</i> ‘to smell’	<i>ruiken</i> ‘to smell’	
Taste	<i>proeven</i> ‘to taste’	<i>proeven</i> ‘to taste’	<i>smaken</i> ‘to taste’	
			← verb type dimension →	

This process of paradigmatisation is even more strongly enabled through the existence of the cognitive and active perception verb constructions, which, from the diachronic results discussed above, appear to have existed before the Descriptive Perception Verb Construction. It seems that their verb forms are often copied to cover the new descriptive use in a form of ‘paradigm levelling’, which happens on what I refer to as the *verb type dimension* in Table 12. This is the case for cognitive/active *voelen*, *ruiken* and *smaken* to descriptive *voelen*, *ruiken* and *smaken* (for the history of *proeven* and *smaken*, see Poortvliet, 2017b). Even though it seems that *ruiken* evolved from intransitive *ruiken*, its emergence as a descriptive perception verb must have been helped by the existence of *ruiken* as cognitive and active perception verbs. This kind of ‘paradigm levelling’ could be the result of analogy due to frequency effects: it is the verb form of the more often used cognitive and active perception verb constructions that is extended to the verb slot in the Descriptive Perception Verb Construction.

It seems that in terms of such levelling, *klinken* is the only outlier, as it has not taken on the form of the cognitive or active perception verbs in Standard Dutch. However, Holierhoek (1978) shows that in the Groningen dialect of Dutch, the cognitive perception verb *horen* ‘hear’ is used in descriptive constructions (75), where Standard Dutch would use the descriptive perception verb *klinken* (76).

- (75) Wat ze van ‘t wicht vertellen, dat heurt goed.
 what they about the girl say that sounds good
 ‘What they say about the girl sounds good.’

- (76) Wat ze over dat meisje zeggen **klinkt** goed.
 the juice is now clear greenish gray foamy
 ‘What they say about the girl sounds good.’

Another example of paradigm levelling is happening currently in Dutch in the paradigm of perception verbs of taste (Poortvliet, 2017b). In Early Middle Dutch, the verb for all three cognitive, active and descriptive perception meanings took the form *smaken* (see 77), while *proeven* meant something along the lines of ‘prove, reason, test, experience’ (see 78).

- (77) Elc mensche heeft inne van naturen vijf zinne, **zien**,
 every human has in of nature five senses see

horen, ruken, smaken, tasten.
 hear smell taste feel
 ‘Every human naturally has five senses: see, hear, smell, taste, feel.’
 (*Der Leken Spieghel*, 1340–1360)

- (78) Ende **proefde** dat hi onschuldech was
 and proved that he innocent was
 ‘And proved that he was innocent.’
 (*Rijmbijbel*, 1285)

This changed in Middle Dutch and Early Modern Dutch when the cognitive and active perception verb started to take the form *proeven*, with only the descriptive perception verb still being *smaken*. And still now, in present-day Dutch, the cognitive and active perception verbs for taste are *proeven* and *proeven*, respectively, while the descriptive perception verb for taste is *smaken*. However, often used in spoken Dutch, you will hear the verb *proeven* used for the descriptive perception verb, see (79).¹⁹ Based on the history of levelling with the perception verb paradigm, it will be interesting to see whether the three gustatory verb types will all take the form *proeven*.

- (79) Kaneel **proeft** lekker zoet.
 cinnamon tastes nicely sweet
 ‘Cinnamon tastes nicely sweet.’

8. Conclusions

This article has, for the first time, traced the emergence of the Descriptive Perception Verb Construction from Early Middle Dutch to present-day Dutch, focusing on its syntactic and semantic developments. This instance of constructionalization has seen the change from a cognitive construction (in the case of *eruitzien*), or an intransitive construction (in the case of *klinken*, *ruiken*), into a copular-like construction that takes the form [SUB]_{STIM} V [PRED], where the PRED is at least a predicative adjective and the subject the STIMULUS of the perceptual event. I have shown that both processes relied on a bridging context: in the case of *eruitzien*, a modal passive construction or *pretty*-construction, and in the case of *klinken* and *ruiken*, an intransitive construction with an ambiguous post-verbal element (between either an adverb or an adjective). The verb *eruitzien* was shown to be the first verb attested in the copular-like construction I have coined here the Descriptive Perception Verb Construction, namely in the 14th century. It was followed by *klinken*, *ruiken* and *smaken* in the 17th century and *voelen* in the 19th century. For *voelen* and *smaken*, more data is needed to determine their path of development. Regardless of the specifics of their syntactic path, all verbs ended up in the Descriptive Perception Verb Construction with a predicative adjective, which allowed for the coercion of an implicit proposition, which

expressed factivity, subjectivity and whose verb marked direct evidence. Through time, this restriction of factivity (for all verbs) and the directness of evidence (for *eruitzien* and *klinken*) were lost, allowing more types of predicative adjectives and subjects to appear in these constructions. From a small pilot study, it appears as if *eruitzien* can be used polysemously to also cover auditory evidence, putting this verb again ahead of the others.

In this article, I propose that the emergence of the descriptive perception verbs used in a copular-like construction is an instance of constructionalization. By doing so, I have favored a constructional approach over a grammaticalization approach, as the former has the ability to unify the multiple syntactic and semantic processes in the emergence of the Descriptive Perception Verb Construction as one integrated development. Furthermore, such a constructional approach highlights the importance of the bridging contexts and the paradigms that the verbs appear in on the diachronic development.

Additionally, a constructional approach to the emergence of the Descriptive Perception Verb Construction opens up an interesting path for future research. For instance, as this article has been hinting at, there are parallels between the descriptive perception verbs and verbs that have undergone similar developments into a copular-like construction, e.g., *wax* (Petré, 2012), *remain* (Van Gelderen, 2015), and *scheinen* (Diewald & Smirnova, 2012). These parallels should be looked into more closely in order to deepen our understanding of the wider process of *copularization*. Even just within Dutch, there are possible parallels to draw in the history of copular constructions. For instance, Van der Horst (2008) speculates that *schijnen* ‘seem’ as a copular verb was first used between 1350–1500 and gives a first example of copular *lijken* ‘seem’ dating from the 15th century, similar to the first attestations of (*eruit*)*zien* in the Descriptive Perception Verb Construction. From this, one could hypothesize that there was a more general tendency in Middle Dutch of (evidential) copular verb constructions emerging. Also synchronically, there are interesting directions for future research. Van Eynde et al. (2014) claim that as many verbs as 40 can appear in the V-slot in the copular construction in present-day Dutch. This article has assumed that the Descriptive Perception Verb Construction is a subtype of the Copular Construction (see Figure 3). The next challenge is to add the remaining copular verbs and their constructions and create a network of Copular Constructions.

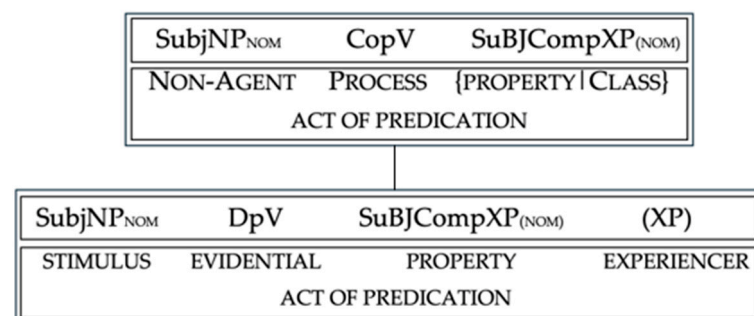


Figure 3. The Descriptive Perception Verb Construction as a subtype of the Copular Construction.

Funding: This research was funded by the Arts and Humanities Research Council and the Prins Bernhard Cultuurfonds.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The original data presented in the study are openly available in the Historische Woordenboeken at <http://gtb.inl.nl/> (accessed on 1 December 2025).

Acknowledgments: I would like to thank Ash Asudeh and Mary Dalrymple for their mentorship and guidance throughout this research.

Conflicts of Interest: The author declares no conflicts of interest.

Notes

- 1 *Eruitzien* is commonly used as a particle verb with the two particles *er* and *uit* or when adjacent linked forming *eruit*. These are marked by PART in the glossing. As a reviewer hinted at, there might be some dialectal variation here, e.g., it appears that in Flemish Dutch, these particles are not necessary, as one can say *dat ziet vuil* ‘that looks dirty’, which in Standard Dutch would be *dat ziet er vuil uit* ‘that looks dirty’. Note that Standard Dutch has some exceptions of fixed expressions that do not require the particles, e.g., *bleek zien* ‘to look pale/ill’.
- 2 Other terms that have been given to these verbs are, e.g., experiencer-based experience verbs (Viberg, 1983, 2001), experiencer verbs (Gisborne, 1998), subject-oriented experiencer verbs (Whitt, 2011), and non-agentive verbs (Felser, 1999) for the cognitive perception verbs; activity verbs (Viberg, 1983, 2001), agentive verbs (Gisborne, 1998) and subject-oriented agentive verbs (Whitt, 2009, 2011) for the active verbs; and flip perception verbs (Rogers, 1971, 1974), copular verbs (Viberg, 1983) or object-oriented perception verbs (Whitt, 2009) for the descriptive perception verbs.
- 3 For simplicity, I have chosen to use the terms EXPERIENCER and STIMULUS. However, a perhaps more suitable terminology is used by Asudeh and Toivonen (2012), who refer to the perceiver in a perceptual event as the PGOAL and the perceiver as the PSOURCE. These labels are better-suited, in that they are free from any semantic or syntactic role assignment.
- 4 As pointed out by a reviewer, Dutch also has *ogen* ‘to look’ as a descriptive perception verb for vision. A similar verb is *luiden* ‘sound’, as listed by Van Eynde et al. (2014). However, these verbs fall outside Viberg’s (1983) ‘basic level’ of perception verbs, i.e., they are not the core set of descriptive perception verbs, and I have therefore left them out of the discussion for this article and left them for future research. The reviewer lists a number of other general verbs of appearance that behave similarly to the descriptive perception verbs, e.g., *lijken* ‘seem’ and *schijnen* ‘seem’, but since they are not linked to a specific sense modality, they are outside the scope of this article, which is perception verbs with specific sense modalities.
- 5 But note that *klinken*, *ruiken* and *voelen* have the option to appear without a syntactic predicative complement, but this complement is still implied. For both *klinken* and *smaken*, this implicit complement has a positive reading, such as ‘good’ or ‘tasty’, whereas for *ruiken*, the implicit complement has a negative reading, meaning something like *stinken* ‘stink’.
- 6 I analyze the *als/zoals/alsof* complements as prepositional complements, following Maling (1983), Asudeh (2004, 2012), Asudeh and Toivonen (2012), Potsdam and Runner (2001), and Huddleston and Pullum (2002). However, other categorial statuses have been proposed in the literature: Lasersohn (1995) proposes that the complement is an adjectival phrase (AP); Bender and Flickinger (1999), Matushansky (2002), and Kim (2014) consider it a complementizer phrase (CP); and Landau (2011) sees it as either a CP or a PP.
- 7 Dutch can take an optional dative indirect object, but that is usually to reinforce the utterance rather than to mark subjectivity, e.g., *Dat huis zag me er mooi uit!* means ‘Wow, that house looked so beautiful!’ rather than ‘That house looked beautiful to me’.
- 8 See Brogaard (2012) for a short discussion on the diachronic development of the English descriptive perception verbs.
- 9 Note that the distinction between ‘true’ copulas and semi-copulas or pseudo-copulas falls away in a Construction Grammar approach, in which all kinds of copular verbs are seen as members of the single category of copulas.
- 10 The dictionaries were made available online by the *Instituut voor Nederlandse Lexicologie* at <http://gtb.inl.nl/> (accessed on 1 December 2025).
- 11 A number of other available corpora were not consulted: the Corpus Middle Dutch, the Couranten Corpus and the Corpus Historisch Nederlands. Besides the fact that the Corpus Middelnederlands has a very large overlap with the Middle Dutch Dictionary, it also has not yet been annotated with part of speech and lemmata. The Couranten Corpus and Corpus Historisch Nederlands were only made available after data collection for this article, but they might prove very useful for further research on these verbs.
- 12 Finally, I should note here that the fact that a meaning is not mentioned in the dictionary does not mean that it did not exist at the time.
- 13 It is important to briefly discuss the orthographic differences between adverbs and adjectives in Middle Dutch. Prescriptively, Middle Dutch adverbs and adjectives are said to be distinguished by their endings: whereas predicative adjectives are uninflected in Middle Dutch (attributive adjectives being contingent on case assignment), adverbs often appear with a final unstressed *-e* added to the uninflected adjective (Van Kerckvoorde, 1993, p. 160; Van der Wal & Quak, 2013, p. 77). However, it appears that predicative adjectives ending in *-e* can also be found, such as, for instance, in the construction *tconfoort is cleyne* ‘the relief is small’ from Rethoricale Wercken, Anthonis de Roovere, 1562. To complicate matters further, the adverbial ending is not always *-e* but can also be *-en* or receive zero marking. Let us take as an example the adverb *qualike* ‘bad’, for which the Middle Dutch dictionary gives the following alternative spellings: *qualiken*, *qualic*, *quaellike*, *quelike*, *quellike*, *quelke quaellike*, *quelike*, *quellike*, *quelke*,

and *qualijc*, the latter of which is also the spelling of the adjective. As such, orthography does not simply tell us whether we are dealing with an adverb or an adjective. This is a problem found in other diachronic studies, see, e.g., Fischer (2006), who comments on the Old English sentence *Ant bigon with swotnesse soffte te seggen* ‘And he began with sweetness to say softly’ (from *The Life and Passion of Saint Juliana*, 13th century). In this example, it is not clear whether *soffte* ‘softly’ is an adjective modifying *swotnesse* or an adverb modifying *seggen*. As Fischer (2006, p. 265) says: “The glossary of the text edition interprets it as an adverb; the analysts of the corpus consider it an adjective”.

- ¹⁴ *Sute/soete* ‘sweet’ is listed in the Early Middle Dutch dictionary as either an adverb or adjective. Since the dictionary lists the specifying elements of *ruiken* as adverbs, I analyze *sute/soete* in these examples as an adverb meaning ‘pleasantly’ or ‘sweetly’.
- ¹⁵ It seems that Barron takes a generous approach to the definition of raising verb. As she includes German *aussehen* (literally ‘look’ but translated in her work as ‘seem’) as a raising verb, the same can be applied to its Dutch cognate *eruitzien*.
- ¹⁶ There is a third test of *evaluativity*; however, there seems to be disagreement in the literature of what constitutes *evaluativity* (cf. Gisborne, 1998; Rudolph, 2017), and it therefore has been left out of the discussion here.
- ¹⁷ I am aware that applying a synchronic test to diachronic data could be seen as problematic, as possible semantic shifts, e.g., in the adjectives, are not taken into account, as well as the fact that the tests Gisborne proposes are based on English rather than Dutch data. However, I have still decided to include these tests as their results might give us a first glimpse about whether we could even potentially see a trajectory, as hypothesized by Gisborne.
- ¹⁸ But for a different interpretation of (67), see Faber et al. (2022), example (21).
- ¹⁹ Source: <https://edepot.wur.nl/307819> (accessed on 1 December 2025).

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