Look! Kaatje is still not heard sing a song (even without government)

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1 Introduction

- **main topic:** revisit the empirical puzzle analysed by Bennis and Hoekstra (1989) in a government-free world

  (1)   *Kaatje werd   een liedje gehoord/horen zingen.*
        Kaatje became a   song   heard/hear   sing
        INTENDED: 'Kaatje was heard singing a song.'

- **main gist of our analysis:** perception verbs in Dutch are functional in their ECM-use (cf. also Wurmbrand (2001)): they spell out the head of a vP-layer that dominates VoiceP. As a result, they can embed, but not be embedded by passive.

- **broader topic:** trace the grammaticalization path of perception verbs in (dialects of) Dutch

Contents

2 The central data

central observation: perception verbs cannot be passivized when they take a (bare infinitival) verbal complement

(2)   *Kaatje was heard sing a song.

note:

- there is no general ban on passivizing verbs of perception

    (3)   a.   The moon was seen rising over the mountain.
           b.   This song was never heard on the radio before.
           c.   It was felt that a positive decision would be appropriate.

- there is no general ban on passivizing ECM-verbs

    (4)   a.   I believe Kaatje to have sung a song.
           b.   Kaatje was believed to have sung a song.

    (5)   a.   I made John angry.
           b.   John was made angry.

→ the same constellation of facts holds for Dutch:

- no passivization of perception verbs when they select a non-finite verbal complement

    (6)   *Kaatje werd   een liedje gehoord/horen zingen.*
           Kaatje became a   song   heard/hear   sing
           INTENDED: 'Kaatje was heard singing a song.'

- no general ban on passivizing perception verbs

    (7)   *Zijn stem werd   luid en   duidelijk gehoord.*
           his   voice became loud and clear   heard
           'His voice was heard loud and clear.'

(8)   *Hij werd   op de plaats van de misdaad gezien.*
       he   became on the scene of   the crime   seen
       'He was seen at the scene of the crime.'

- no general ban on passivizing ECM-verbs

    (9)   a.   *Ik vind Jan vervelend.*
                 I   find Jan annoying
                 'I find Jan annoying.'
           b.   *Jan wordt   vervelend gevonden.*
                 Jan becomes annoying found
                 'Jan is considered annoying.'

(10)   *Jan werd verondersteld naar huis te gaan.*
        Jan was supposed   to   home to go
        'John was supposed to go home.'

3 The analysis of Bennis and Hoekstra (1989)

Bennis and Hoekstra (1989): these data patterns follow from the general theory of Tense and T-chains:

1. T-linking: A verb must be identified by Tense, i.e. they must form a T-chain

2. A T-chain is of the form (Tense, P_1, ..., P_n, V), where each link antecedent-governs the next link

3. T-chains can be established through movement (Dutch) or via percolation (English)

4. The temporal anchoring of embedded clauses is dependent on that of the matrix clause through T-chain composition

    (11)   T-chain composition
            If C_1 is the chain of a dependent T and C_2 is the chain of the

governing T, then C_1 and C_2 can be composed iff some link of C_1 is a sister to some link of C_2.

$\rightarrow$ this theory accounts for the basic facts in the following way:

(12)   *_Kaatje werd   een liedje gehoord zingen._
       Kaatje became a   song   heard   sing
       INTENDED: 'Kaatje was heard singing a song.'

- the infinitival complement of _horen_ 'to hear' is an AgrP; it contains no Tense-domain. T-linking requires that the embedded verb undergoes Verb Raising, but the participial form _gehoord_ 'heard' is (by stipulation) not a possible T-link $\Rightarrow$ T-linking is violated

(13)   *_Kaatje werd   een liedje horen zingen._
       Kaatje became a   song   hear   sing
       INTENDED: 'Kaatje was heard singing a song.'

- the infinitival complement of _horen_ 'to hear' is an AgrP; it contains no Tense-domain. T-linking requires that the embedded verb undergoes Verb Raising; the infinitival form _horen_ 'hear' is a possible T-link, but deletion of the participial morphology amounts to irrecoverable deletion in the case of passive (as opposed to perfective) participles, since the passive participial morphology is the bearer of the external theta-role (Roberts 1987)

(14)   _Jan wordt   vervelend gevonden._
       Jan becomes annoying found
       'Jan is considered annoying.'

- the complement of _vinden_ 'to find' contains no verb $\Rightarrow$ T-linking is not required and passivisation can apply freely

(15)   _Jan werd verondersteld naar huis   te gaan._
       Jan was supposed   to   home to go
       'John was supposed to go home.'

- the complement of _verondersteld_ is a TP $\Rightarrow$ T-linking takes place independently in both the matrix and the embedded clause, and T-chain composition via Extraposition circumvents the problematic passive participle

shortcomings of the Bennis and Hoekstra (1989)-account:

1. it crucially relies on outdated and since replaced theoretical machinery: government, the existence of AgrP, the structural configuration whereby TP dominates AgrP, etc.

2. there is no account of why Dutch participles are not possible T-links (or why in English perfective participles are, but passive ones are not possible T-links)

3. it is unclear why participles cannot be _intermediate_ T-links, but they can be the foot of a T-chain (which is technically also a T-link):

   (16)   _De man wordt   geholpen._
          the man becomes helped
          'The man is being helped.'

   (17)   _De man heeft gelachen_
          the man has   laughed
          'The man has laughed.'

4 Wurmbrand (2001)'s alternative

Wurmbrand (2001): there are three types of restructuring predicates:

	Merge position	IPP	Extraposition	thematic properties	example
lexical	V	*	✓	yes	*try*
semi-functional	v/Asp	✓	*	yes	*let*
functional	Aux/Mod	✓	*	no	*have*

Table 1: Wurmbrand (2001:145)'s three types of restructuring predicates

→ perception verbs are semi-functional, i.e. they spell out v → this also accounts for the following facts (Wurmbrand 2001:217ff):

- they can be embedded under, but not themselves embed functional restructuring predicates (e.g. modals and auxiliaries):

  (18) *Hans darf die Maria nicht musizieren sehen.*
        Hans may the Maria not   make.music see
        'Hans may not see Maria make music.'   (German)

  (19) **Hans sah den Peter musizieren wollen.*
        Hans saw the Peter make.music want
        INTENDED: 'Hans saw that Peter wanted to make music.' (German)

- they cannot be embedded under, nor themselves embed other semi-functional restructuring predicates such as motion verbs:

  (20) **Hans kommt den Peter musizieren hören.*
        Hans comes the Peter make.music hear
        INTENDED: 'Hans is coming to hear Peter make music.' (German)

(21) **Hans sah ihn Muscheln essen kommen.*
      Hans saw him mussels   eat   come
      INTENDED: 'Hans saw him come eat mussels.'   (German)

- they cannot be passivised, nor can they embed a passive

(22) **Der Peter wurde   den Kuchen essen gesehen.*
      the Peter became the cake   eat   seen
      INTENDED: 'Somebody saw Peter eat the cake.'   (German)

(23) **Hans sah den Kuchen gegessen werden.*
      Hans saw the cake   eaten   become
      INTENDED: 'Hans saw the cake being eaten.'   (German)

shortcomings of the Wurmbrand (2001) account:

1. Dutch and German perception verbs differ in their (lack of) compatibility with other restructuring predicates (see next section)

2. Wurmbrand's account of the B&H-puzzle remains fairly implicit

3. the link between perception verbs and the vP/AspP-domain remains stipulative

5 Refining Wurmbrand (2001)'s analysis: perception verbs in Dutch

starting point for our analysis: compatibility of perception verbs with other restructuring predicates in Dutch

- **treebank data:** based on the *Discussion lists*-subcorpus (4,395,094 sentences) of the Dutch SoNaR-corpus (Oostdijk et al. 2013); all data extracted via GrETEL (Augustinus et al. 2012)

	embedding a perception verb	embedded under a perception verb
perfective auxiliaries	>1000	0
modals	441	0
causative verbs	1	2
motion verbs	65	21
posture verbs	0	12
passive	0	76

Table 2: Corpus frequencies of combinations of Dutch perception verbs with other restructuring predicates

starting point for our analysis: perception verbs and causative verbs are in complementary distribution:

(24)　　a.　*Ik zie Jan Piet met Marie doen praten.*
　　　　　　I see Jan Piet with Marie do talk
　　　　　　INTENDED: 'I see how Jan is making Piet talk to Marie.'
　　　　b.　*Ik doe Jan Piet met Marie zien praten.*
　　　　　　I do Jan Piet with Marie see talk
　　　　　　INTENDED: 'I'm making Jan watch how Piet talks to Marie.'

→ we assume that causative and perception verbs spell out the same head, i.e. $v_{perc/caus}$

Pylkkänen (2000:431): there is a close link between perception and causation:

(25)　　a.　*Mikko　　inhoa-a　　　　hyttysi-ä.*
　　　　　　Mikko.NOM findDisgusting-3SG mosquitoes-PAR
　　　　　　'Mikko finds mosquitoes disgusting (now or in general).'

　　　　b.　*Hyttyset　　　inho-tta-vat　　　　Mikko-a.*
　　　　　　mosquitoes.NOM findDisgusting-CAUS-3PL Mikko-PAR
　　　　　　'Mosquitoes disgust Mikko (now)'

"the semantic import of the causative morpheme is to introduce a causing eventuality which gets interpreted as the perception of the Theme by the Experiencer. This perception eventuality seems to be what is responsible for the stage-level interpretation of the causative" (Pylkkänen 2000:432)

three exceptions in our data:

- **perception embedding causation**

  (26)　　*Ik zie eerlijk　gezegd niet direct de armen de revolutie*
　　　　　I see honestly said not direct the poor the revolution
　　　　　doen beginnen.
　　　　　do start
　　　　　'To be honest, I can't picture the poor starting the revolution.'

  (27)　　*Ik zie me nog niet een Bengaalse tijger laten los　lopen.*
　　　　　I see me yet not a Bengal tiger let loose run
　　　　　'I can't imagine myself letting loose a Bengal tiger.'

→ the verb *zien* 'see' is used in a more metaphorical sense here ('imagine, picture') and as a result possibly occupies a different (higher) structural position

- **causation embedding perception**

  (28)　　*Dan zal ik je　mijn maag　laten horen knorren.*
　　　　　then will I you my stomach let hear grunt
　　　　　'Then I will let you listen to my stomach growl.'

→ unclear what exactly to make of this; note that minor variations of this example tend to sound much worse

as for the other restructuring verbs:

- perfective auxiliaries and modals clearly dominate $v_{perc/caus}$P:

(29)   a.   *Ik heb   Jan zien lachen.*
           I   have Jan see   laugh
           'I saw Jan laugh.'
      b.   **I zie Jan gelachen hebben.*
           I see Jan laughed   have
           INTENDED: 'I see that Jan has laughed.'

(30)   a.   *Ik moet Jan zien lachen.*
           I   must Jan see   laugh
           'I have to see Jan laugh.'
      b.   **I zie Jan moeten lachen.*
           I see Jan must   laugh
           INTENDED: 'I see that Jan has to laugh.'

- posture verbs and the passive auxiliary are clearly dominated by $v_{perc/caus}$P:

(31)   a.   *Ik zie Jan staan lachen.*
           I   see Jan stand laugh
           'I see Jan laughing.'
      b.   **Ik sta   Jan te zien lachen.*
           I   stand Jan to see   laugh
           INTENDED: 'I'm seeing John laugh.'

(32)   a.   *Ik zie Jan geslagen worden.*
           I   see Jan beaten   become
           'I see that Jan is being beaten.'
      b.   **Jan wordt   zien/gezien zingen.*
           Jan becomes see/seen   sing
   INTENDED: 'Jan is being seen singing.'

- motion verbs are dominated by $v_{perc/caus}$P; in all but one of the 65

examples featuring a motion verb embedding a perception verb, it is in fact the future auxiliary *gaan* 'will, going to'

(33)   *Ik zie dat arme kind aan elke   deur al   gaan bellen.*
       I   see that poor child on   every door already go   ring
       'I can see that poor child go and ring every doorbell.'

(34)   *Ge   gaat mij niet snel op hakken zien lopen.*
       you go   me not fast on heels   see walk
       'You're not going to see me walking on heels any time soon.'

→ this yields the following clause structure for Dutch:

(35)
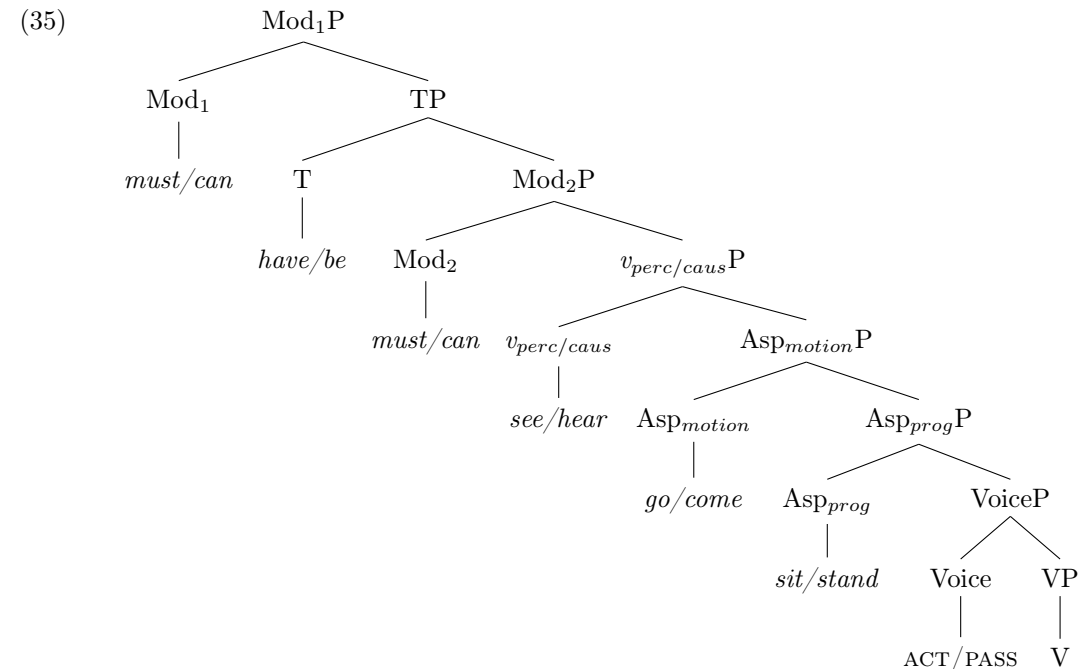
> **our analysis of the B&H-puzzle:** perception verbs with verbal complements cannot be passivized because they spell out a functional head in the extended projection of the lexical verb. This not only explains their incompatibility with passive, but also the fact that they can themselves embed a passivized predicate.

accounting for the remaining data:

(36)   *Zijn stem werd   luid en   duidelijk gehoord.*
       his   voice became loud and clear   heard
       'His voice was heard loud and clear.'

→ the perception verb is used as a lexical verb here, i.e. it is merged in V; as a result it can straightforwardly be passivized

(37)   *Jan werd verondersteld naar huis   te gaan.*
       Jan was supposed   to   home to go
       'John was supposed to go home.'

→ the ECM-verb is used as a lexical verb here, i.e. it is merged in V; as a result it can straightforwardly be passivized

note: out analysis preserves the basic intuition of Bennis and Hoekstra (1989): the problem with (38) is the fact that the passive auxiliary, the perception verb, and the main verb have to combine into a single Tense-domain

(38)   **Kaatje werd   een liedje gehoord/horen zingen.*
       Kaatje became a   song heard/hear   sing
       INTENDED: 'Kaatje was heard singing a song.'

- we implement this intuition by embedding the perception verb and the lexical verb under the same TP

- this also predicts that the lexical verb cannot a temporal specification independent of that of the perception verb (de Geest (1972))

(39)   **Ik zie Frank gisteren   het gras gemaaid hebben.*
       I   see Frank yesterday the grass mown   have

- and it predicts that temporal adverbs scope over both the perception event and the event expressed by the lexical verb (de Geest (1972)):

(40)   *Ik zag Frank gisteren   het gras maaien.*
       I   saw Frank yesterday the grass mow
       'I saw Frank mow the grass yesterday.'

→ the temporal adverb *gisteren* 'yesterday', which is arguably merged in the TP domain, has scope over both the seeing event and the mowing event, leading to the interpretation where the seeing and the mowing both necessarily took place yesterday.

6   Tracing the grammaticalization path even higher: inflected imperatives

so far we have argued that Dutch verbs of perception and causation can be either lexical (and spell out V/a root) or semi-functional (and spell out v)

in this section we argue that these verbs can also be purely functional in (dialects of) Dutch, in which case they spell out a left-peripheral head in the CP-domain

→ ECM-verbs in Dutch dialects can show up in three imperative(-like) contexts:

regular imperatives:

(41)   *Hoor die   meeuwen es   een kabaal maken!*
       hear those seagulls PRT a   racket make
       'Listen to those seagulls make noise!'   (Dutch (dialects))

7

inflected imperatives:

(42)   *Hoor-e die   meeuwen es   een kabaal maken.*
      hear-PL those seagulls   PRT a   racket make
      'Listen to those seagulls make noise.'   (Rotterdam Dutch)

(43)   *Hoor(*-e) die   meeuw es   een kabaal maken.*
      hear-PL   that seagull PRT a   racket make
      'Listen to that seagull make noise.'   (Rotterdam Dutch)

imperatives as discourse markers:

(44)   *Die   meeuwen maken een kabaal, hoor.*
      those seagulls   make   a   racket hear
      'Those seagulls sure make a lot of noise!'   (Dutch (dialects))

→   inflected imperatives occupy an intermediate position between the other two constructions with respect to a number of criteria typically associated with grammaticalisation (cf. Abney (1987), Hopper and Traugott (1993), Benjamin (2010), Waltereit and Detges (2007) and see van Craenenbroeck and van Koppen (2013) for the full set of examples):

e.g. bleached meaning: regular imperatives and inflected imperatives retain the basic lexical meaning of the verb >< in imperatives used as discourse markers, the lexical meaning is lost

regular imperatives:

(45)   #*Kijk die   koeien es   gek   doen zonder   te kijken!*
      look those cows   PRT crazy do   without to look
      'Look at those cows go crazy without looking!'

(46)   #*Kijk die   studenten op Ibiza es   gek   doen!*
      look those students   on Ibiza PRT crazy do
      'Look at those students on Ibiza go crazy!'
      [context: speaker is not able to see the students in Ibiza]

inflected imperatives:

(47)   #*Kijk-e die   koeien es   gek   doen zonder   te kijken.*
      look-PL those cows   PRT crazy do   without to look
      'Look at those cows go crazy without looking.'

(48)   #*Kijk-e die   studenten op Ibiza es   gek   doen.*
      look-PL those students   on Ibiza PRT crazy do
      'Look at those students on Ibiza go crazy.'
      [context: speaker is not able to see the students in Ibiza]

however: inflected imperatives cannot be modified by adjuncts related to the ECM-verb:

(49)   *Kijk / # Kijk-e die   koeien door   de verrkeijker es   gek*
      look /   look-PL those cows   through the binocular   PRT crazy
      doen.
      do
      'Look through the binoculars at those cows go crazy.'

imperatives as discourse markers:

(50)   *Kijk, je   mag niet kijken.*
      look you may not   look
      'Look, you can't look.'

(51)   *Kijk, die   studenten op Ibiza doen gek.*
      look those students   on Ibiza do   crazy
      'Look, those students on Ibiza are going crazy.'
      [context: speaker is not able to see the students in Ibiza]

data summary:	regular imperative	inflected imperative	imperative as discourse marker
phonological reduction	−	−	+
bleached meaning	−	+/−	+
argument structure	+	+/−	−
closed class	−	+	+
morphological defectiveness	−	+	+

proposal: the three imperative(-like) contexts in which ECM-verbs appear in Dutch dialects reflect three possible Merge positions for these verbs:

- the regular imperative is merged in v (see above) and raises to C

- the inflected imperative is merged directly in C

- the imperative used as a discourse marker is merged in a functional head higher than C (see also Haegeman (2010))

this derives:

- the lexical properties of the regular imperative (full argument structure, full morphological paradigm, open class, . . .)

- the fully functional properties of the imperative used as discourse marker (no argument structure, no morphological paradigm, closed class, no lexical meaning, . . .)

- the intermediate status of inflected imperatives: on the hand, they impose an agentivity restriction on the 'embedded' subject, on the other, they are merged directly in a functional head (morphological deficiency, closed class, no argument structure)

7 Four Merge positions for Dutch perception verbs

note: we have identified four possible syntactic configurations for perception verbs in Dutch (dialects):

- **main verb**

    (52)   *Ik hoor de   hond.*
            I   hear the dog
            'I hear the dog.'

- $\boldsymbol{v_{perc/caus}}$

    (53)   *Ik hoor de   hond blaffen.*
            I   hear the dog   bark
            'I hear the dog bark.'

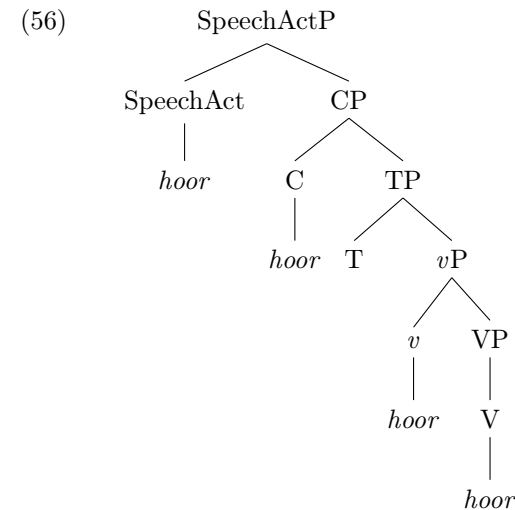- **inflected imperative**

    (54)   *Hoor-e die   honden es   blaffem.*
            hear-PL those dogs   PRT bark
            'Listen to those dogs bark.'   (Rotterdam Dutch)

- **discourse marker**

    (55)   *Die   honden blaffen, hoor.*
            those dogs   bark   hear
            'Those dogs bark, you know.'

(56)

                    SpeechActP
                   /   \
            SpeechAct   CP
                | /   \
             hoor   C   TP
                             | / \
                          hoor T   vP
                                     / \
                                    v   VP
                                    | |
                                 hoor   V
                                          |
                                       hoor

prediction #1: these four types of perception verbs should show different compatibility patterns with restructuring verbs:

(57)   a.   **discourse marker** > perfective auxiliaries & modals > causative > motion > posture > passive > main verb
       b.   **inflected imperative** > perfective auxiliaries & modals > causative > motion > posture > passive > main verb
       c.   perfective auxiliaries & modals > $v_{perc/caus}$/causative > motion > posture > passive > main verb
       d.   perfective auxiliaries & modals > causative > motion > posture > passive > **main verb**

→ these are indeed the patterns we find, e.g.

(58)   *De hond heeft geblaft, hoor.*
       the dog   has   barked hear
       'The dog has barked, you know.'   **(disc. marker > perfect)**

(59)   *Kijke   die   honden es   moeten rennen!*
       look-PL those dogs   PRT must   run
       'Look at those dogs having to run!'   **(infl.imp. > modal)**

(60)   *De honden worden gehoord.*
       the dogs   become heard
       'The dogs are being heard.'   **(passive > main)**

prediction #2: these four types of perception verbs should be mutually compatible:

→ this is indeed what we find, e.g.

(61)   ***Kijke*** *die   boere   die   koeie es   **zien** springen!*
       look-PL those farmers those cows PRT see   jump
       'Look at those farmers watching those cows jump!'
                                    (infl.imp. + $v_{perc/caus}$)

(62)   *Ik **zie** hem zijn dochter   **zien**.*
       I   see him his daughter see
       'I see him see his daughter.'   ($v_{perc/caus}$ + **main**)

(63)   *Ik **hoor** hem, **hoor**.*
       I hear him hear
       'I hear him, you know.'   (**disc. particle** + **main**)

8   Conclusion

This talk has focused on the central puzzle discussed in Bennis and Hoekstra (1989), i.e. the impossibility of perception verbs to passivize when they take a verbal complement:

(64)   **Kaatje werd   een liedje gehoord/horen zingen.*
       Kaatje became a   song heard/hear   sing
       INTENDED: 'Kaatje was heard singing a song.'

We have argued the following:

- perception verbs are (semi-)functional when they take a verbal complement

- in particular, that they spell out the v-head that is also used in causative structures

- perception verbs fit into an articulated structure of the verbal functional sequence in Dutch

- this semi-functional use of perception and causative verbs fits into a more general grammaticalisation pattern in which these verbs can also spell out clause-peripheral functional heads

10

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