

## The Afrikaans final negative particle as a negative isotopic, VP-level clitic

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### 1 Introduction

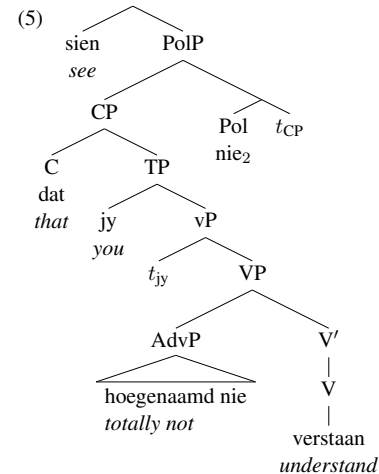
- (1) New facts:
  - a. VP coordinations and final *nie*
- (2) Conclusions:
  - a. Syntax: Final *nie* is the realization of a polymorphic NegP (we need polymorphic syntactic categories): it can attach to many different XPs
  - b. Syntax: Final *nie* often attaches low in the clause, at the VP level
  - c. Morphology: *nie* is a clitic
  - d. Morphology: Final *nie* is subject to morphological haplology, implemented as a radical impoverishment rule in Distributed Morphology
  - e. Semantics: *nie*<sub>2</sub> is a negative concord item (Biberauer 2007, Biberauer and Zeijlstra 2012), which are kinds of negative polarity items (Giannakidou 1998), licensed by negation, n-words and a small set of other elements; we need polymorphic, colored variables to model this

### 2 The most famous final negative particle in the world: Afrikaans *nie*

- (3) In a clause that has at least one negative element (such as a negative quantificational NP like *niemand* ‘no-one’ or the sentential negative adverb *nie* ‘not’), the end of the clause is obligatorily marked by the pleonastic negative morpheme *nie*, glossed ‘NEG’ (see Donaldson 1993:401-419, den Besten 1987, Molnárfi 2001, Biberauer 2008: sentential negator = *nie*<sub>1</sub>; the final negative element = *nie*<sub>2</sub>)
- (4) a. Niemand kom *nie*<sub>2</sub>.  
*no-one comes NEG*  
 ‘No-one is coming.’ Donaldson 1993:402
- b. Dit is *nie*<sub>1</sub> reg *nie*<sub>2</sub>.  
*that is not right NEG*  
 ‘That is not right.’ *ibid.*
- c. Kon jy *nie*<sub>1</sub> die hek oopgekry het *nie*<sub>2</sub>?  
*could you not the gate opened has NEG*  
 ‘Couldn’t you get the gate open?’ Donaldson 1993:245
- d. Ek kan sien dat jy hoegenaamd *nie*<sub>1</sub> verstaan *nie*<sub>2</sub>.  
*I can see that you totally not understand NEG*  
 ‘I can see that you don’t understand at all.’ Biberauer 2007:14

Previous lit: *nie*<sub>2</sub> appears at a clause-edge, not a VP-edge.

- den Besten 1987 gives:  $S' \rightarrow \text{COMP S} \dots ([+\text{NEG}])$ .
- Molnárfi 2001 *nie*<sub>2</sub> “must always [occur] on the right-periphery of the sentence” (Molnárfi 2001:105), and not at the right edge of the VP
- Biberauer 2007 proposes that *nie*<sub>2</sub> heads a PolP and takes a CP as its complement:  
 $[_{\text{PolP}} \textit{nie}_2 [_{\text{CP}} \dots ]]$  (with movement of the CP to the left of *nie*<sub>2</sub>)



#### 2.1 Coordinations

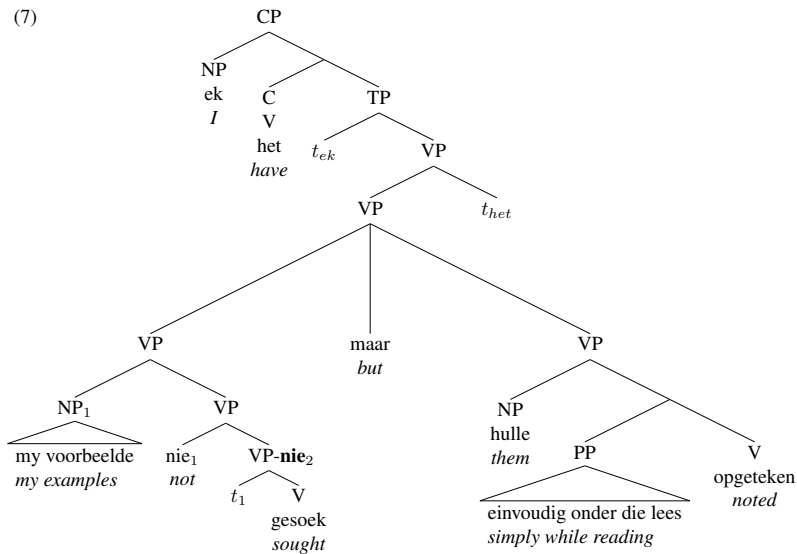
Examples from T.H. LeRoux (1884-1970):<sup>2</sup>

- *nie*<sub>2</sub> can occur independently in either the first conjunct or the second, or in both<sup>3</sup>
- (6) Ek het my voorbeelde volstrekt **nie**<sub>1</sub> gesoek **nie**<sub>2</sub>, maar hulle eenvoudig onder die lees opgeteken. (p. 187)  
*reading noted.PART*  
 ‘I did not seek out my examples at all, but simply noted them while reading.’

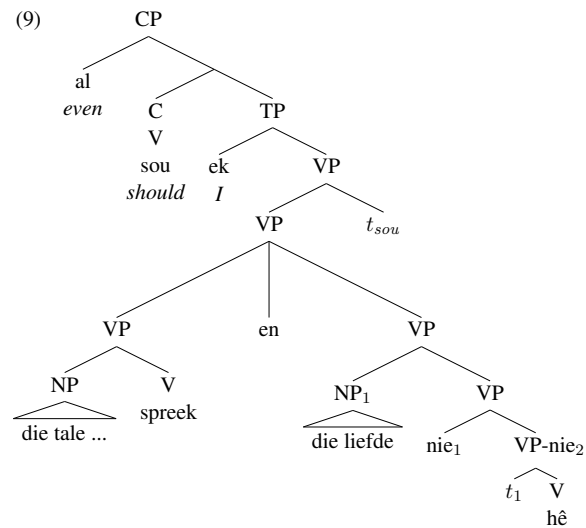
<sup>2</sup>All examples are culled from the text of T.H. LeRoux’s *Afrikaanse Taalstudies* (1937, J.L. Van Schaik, Bpk., Pretoria; all page numbers after examples refer to the 1968 reprinted edition); all translations are mine.

<sup>3</sup>I follow Biberauer 2007 in taking *nie*<sub>1</sub> to be an adverb at the left edge of the VP.

<sup>1</sup>Thanks to Theresa Biberauer and Erin Pretorius for discussion and insightful judgments on examples; all errors of translation and interpretation are my own.



- (8) Al sou ek die tale van mense en engele spreek, en die liefde **nie**<sub>1</sub> hê **nie**<sub>2</sub>,  
*even should I the languages of humans and angels speak and the love not have NEG*  
 dan het ek 'n klinkende metaal geword of 'n luidende simbaal. (p. 98)  
*then have I a clanging metal become or a sounding cymbal*  
 'If I speak in the tongues of men or of angels, but do not have love, I am only a resounding  
 gong or a clanging cymbal.' (1 Cor. 13)



Both *nies* can independently occur in coordinated VPs (or PredPs, or APs, as the case may be):

- (10) Dieet is **nie**<sub>1</sub> lekker **nie**<sub>2</sub> en boonop **nie**<sub>1</sub> maklik **nie**<sub>2</sub>.  
*diet is not fun NEG and moreover not easy NEG.*  
 'Dieting is not fun and also not easy.'<sup>4</sup>

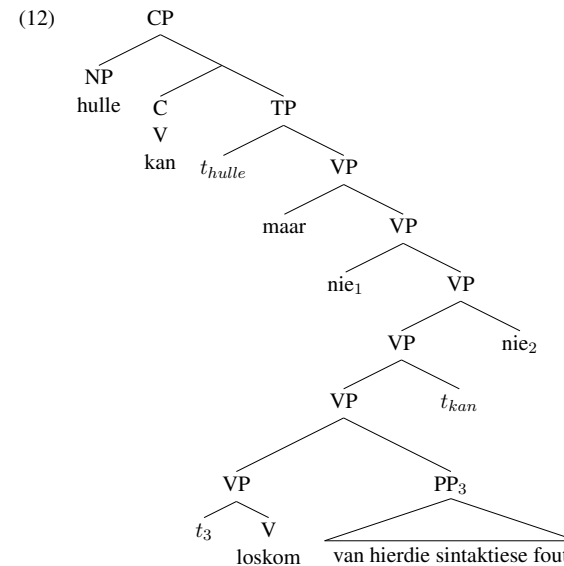
- ∴ *nie*<sub>2</sub> is a VP-level element, not a TP- or CP-level one.

## 2.2 *Nie*<sub>2</sub> and the *Nachfeld*

*nie*<sub>2</sub> often follows elements that occur in the *Nachfeld*:

- (11) Hulle kan maar **nie**<sub>1</sub> loskom van hierdie sintaktiese fout **nie**<sub>2</sub>. (p. 186)  
*they can but not get away from this syntactic error NEG*  
 'But they cannot get away from this syntactic error.'

Local extraposition (but see Neeleman and Weerman 2001):



Likewise for finite embedded CPs, whether declarative or interrogative, for adjunct CPs in conditionals and elsewhere, and for nonfinite CP complements:

- (13) a. Ek het **nie**<sub>1</sub> gedink dat jy daar was **nie**<sub>2</sub>.  
*I have not thought that you there were NEG*  
 'I did not think that you were there.'

<sup>4</sup>From <http://www.netwerk24.com/ontspan/2015-01-11-15-maniere-om-gewig-te-verloor-sonder-n-dieet>, accessed 19 May 2015.

- b. Dit is die program waarvan dit nie<sub>1</sub> van belang is dat sy daarna gekyk het  
*This is the program where.of it not of importance is that she there.at watched has*  
 nie<sub>2</sub>.  
 NEG  
 ‘This is the program that it’s not important that she watched.’ T. Biberauer, p.c.
- (14) Ek het nie<sub>1</sub> geweet wat jy mee skryf nie<sub>2</sub>.  
*I have not known what you with write NEG*  
 ‘I didn’t know what you write with.’ modified from Donaldson 1993:346
- (15) Sou jy nie<sub>1</sub> tevrede wees as jy in so ’n huis kon bly nie<sub>2</sub>?  
*would you not satisfied be if you in such a house could stay NEG*  
 ‘Wouldn’t you be satisfied if you could live in a house like that?’ Donaldson 1993:243
- (16) Jy het nie<sub>1</sub> nodig gehad om haar te help nie<sub>2</sub>.  
*you have not necessary had C[-fin] her to help NEG*  
 ‘You didn’t need to help her.’ Donaldson 1993:248

Molnárfi 2001 ⇒ nie<sub>2</sub> must be final in its clause, because (he assumes that) extraposition targets a position completely outside the VP

- (17) En **niemand** moet dink dat die geskifte deur my genoem nou juis meer voorbeelde van  
*and no-one should think that the writings by me taken well just more examples of*  
 hierdie verskynsel oplewer as ander nie<sub>2</sub>. (p. 187)  
*such phenomena deliver than others NEG*  
 ‘And no-one should think that the writings that I selected show particularly more examples of such phenomena than others.’
- (18) daarmee wil ek volstrek nie<sub>1</sub> te kenne gee dat dit die enigste plek is waar die  
*therewith want I completely not to know give that this the only place is where the*  
 betrokke werkwoord behoort te staan nie<sub>2</sub> (p. 187)  
*relevant verb belong to stand NEG*  
 ‘By that I certainly do not wish to suggest that this is the only position where the the relevant verb ought to appear.’

CPs that are in the Nachfeld allow for  $\bar{A}$ -extraction (∴ ‘extraposition’ targets VP at best, not TP or a higher functional projection)

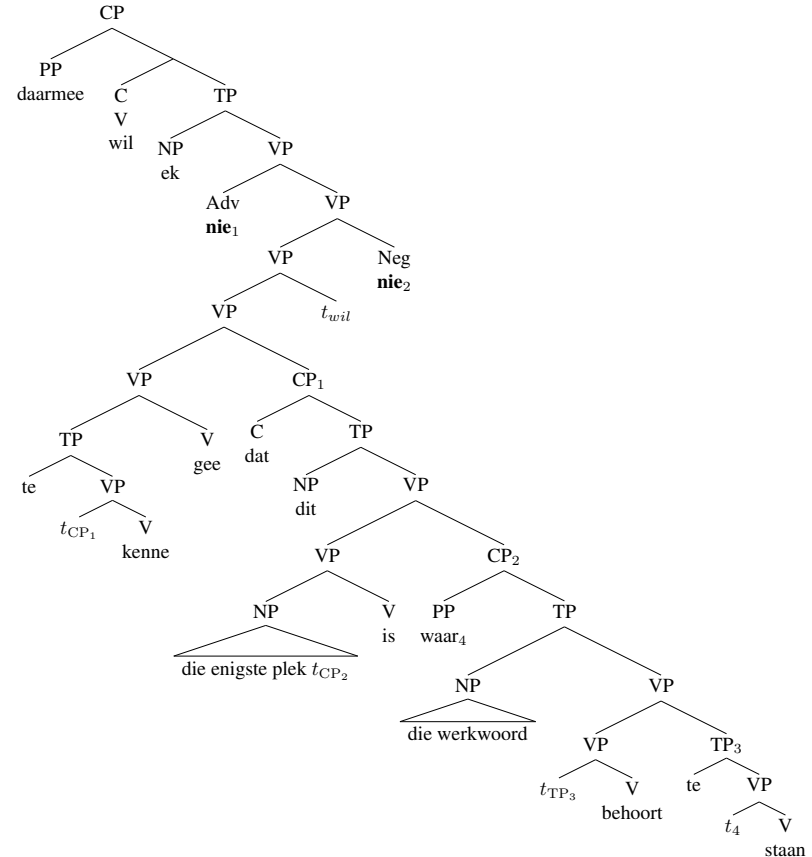
- (19) Waar dink jy dat jy op pad heen is? (Donaldson 1993:328)  
*where think you that you on path to are*  
 ‘Where do you think that you are going?’

Likewise when long-distance extraction from a postverbal constituent is combined with negation of the matrix predicate (thanks to T. Biberauer for judgments):

- (20) Dis die boek wat ek nie<sub>1</sub> dink [dat hy t<sub>wat</sub> sal koop] nie<sub>2</sub>.  
*this.is the book what I not think that he shall buy NEG*  
 ‘This is the book that I don’t think he’ll buy’
- (21) Wat glo hulle nie<sub>1</sub> dat ons gedoen het nie<sub>2</sub>?  
*what believe they not that we done have NEG*  
 ‘What don’t they believe that we’ve done?’

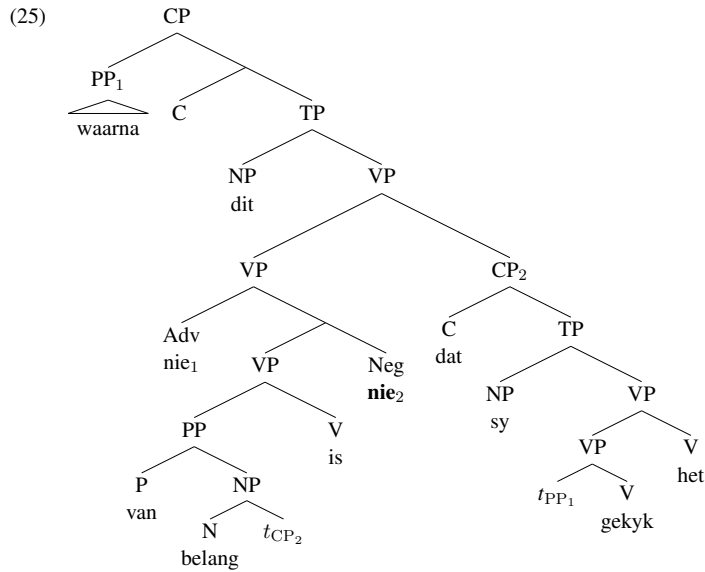
- (22) Dis die program waarna dit nie<sub>1</sub> van belang is dat sy gekyk het nie<sub>2</sub>.  
*this.is the program whereat it not of importance is that they look have NEG*  
 ‘This is the program at which it is not important that they have looked.’

Figure 1: Tree of (18)



nie<sub>2</sub> can also appear after the verb cluster but before ‘extraposed’ elements (23), also with extraction (24)

- (23) Dit is die program waarvan dit nie<sub>1</sub> van belang is nie<sub>2</sub> dat sy daarna gekyk het.  
*this is the program where.of it not of importance is NEG that she there.at watched has*  
 ‘This is the program about which it is not important that they have looked at it.’
- (24) Dis die program waarna dit nie<sub>1</sub> van belang is nie<sub>2</sub> dat sy gekyk het.  
*this.is the program whereat it not of importance is NEG that they look have*  
 ‘This is the program at which it is not important that they have looked.’



### 3 ‘NegP’ as a polymorphic wrapper

Final *nie*<sub>2</sub> can appear with constituent negation (see also Huddleston 2010:31)

- (26) a. Die man, nie die vrou nie<sub>2</sub>, het fir my gebel.  
*the man not the woman NEG has for me phoned*  
 ‘The man called me, not the woman.’ Oosthuizen 1998:89
- b. Nie die GELD nie<sub>2</sub>, maar die TYD pla hom.  
*not the money NEG but the time worry him*  
 ‘Not the MONEY, but the TIME worries him.’ Biberauer 2015:136
- c. Ek is nie<sub>1</sub> vir ’n oomblik nie<sub>2</sub> spyt.  
*I is not for a moment NEG sorry*  
 ‘I am not sorry for a minute.’ Biberauer 2007:47 fn 24
- d. Nie<sub>1</sub> die BOEK nie<sub>2</sub>, maar die KOERANT wil ek hê.  
*not the book NEG but the newspaper want I have*  
 ‘Not the book, but the newspaper is what I want.’ Biberauer 2007:46 fn 24
- e. Nie<sub>1</sub> ver van hier nie<sub>2</sub> het ek gebly.  
*not far from here NEG have I stayed*  
 ‘I didn’t stay far from here.’ Molnárfi 2001:104

This parallels the well known behavior of coordinators, many of which seem not to be sensitive to the syntactic category of the conjuncts; to model this, polymorphic coordination is standard, implemented with variables over syntactic categories (Steedman 1985, Sag et al. 1985) or over features on categories (Carpenter 1997:323) or category shifting (Winter 2001):

- (27)  $and \Rightarrow \mathbf{Coor}_\sigma(\mathbf{and}) : A \vee A$

Coordination does not affect the category of the coordinates, nor their categorial features. Categorial features are what are selected for:

- (28) Abby relied [on her wits and on her strength].

- (29) Merge( $\alpha, \beta$ )

For any syntactic objects  $\alpha, \beta$ , where  $\alpha$  bears a nonempty selectional list  $\ell = \langle F_1, \dots, F_n \rangle$  of selectional features, and  $\beta$  bears a categorial feature  $F'$  that matches  $F_1$ ,

call  $\alpha$  the head and

- a. let  $\alpha = \{ \gamma, \{ \alpha - \ell, \beta \} \}$  call  $\gamma$  the projection of  $\alpha$ , and  
 b. if  $n > 1$ , let  $\ell = \langle F_2, \dots, F_n \rangle$ , else let  $\ell = \emptyset$ , and  
 c. let  $\gamma = \begin{bmatrix} \text{CAT} & [\text{cat}(\alpha)] \\ \text{SEL} & [\ell] \end{bmatrix}$

- (30) Set F of selectional features = { N, V, P, A, C, *on, in, +wh, -Q, +pl,  $\sqrt{\text{REL}}$ , ...* }

This permits c(ategory)- and l(exical)-selection (Pesetsky 1991)  
 (See Stabler 2013, Collins and Stabler 2016 for related definitions )

- (31) a.  $and \Rightarrow \text{CAT}[\alpha], \text{SEL}[\alpha_1, \dots, \alpha_n]$ , where  $n \geq 1$   
 b. Stablerian:  $and::\alpha =, =\alpha_1 \dots =\alpha_n, \alpha$ , where  $n \geq 0$  (Torr and Stabler 2016 write this as  $and::x = =\bar{x} x$ )

- (32) Polymorphic negation: Winter 2001:23 (see also Toosarvandani 2013:849)

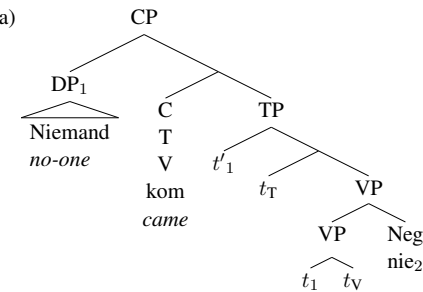
Let  $\tau$  be a boolean type; let  $\neg_{tt}$  be the standard propositional function.

$$\neg_{\tau\tau} = \begin{cases} \neg_{tt} & \text{if } \tau = t \\ \lambda X_{\tau}. \lambda Z_{\sigma_1}. \neg_{\sigma_1\sigma_2}(X(Z)) & \text{if } \tau = \sigma_1\sigma_2 \end{cases}$$

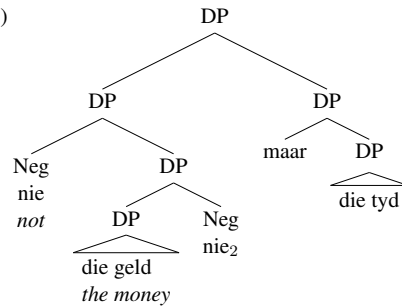
- (33) Polymorphic Neg:

- a.  $nie \Rightarrow \text{CAT}[\alpha], \text{SEL}[\alpha]$   
 b.  $nie::\alpha = \alpha$

- (34) a. =(4a)



b. =(26b)



- A welcome consequence: If Neg (or Pol, or  $\Sigma$ ) were part of the clausal spine or verbal extended projection, then structures like (34a) would be in violation of the Final-Over-Final Constraint (FOFC, Biberauer et al. 2014)

### 3.1 Clitic or affix?

Afrikaans has syllable-final devoicing of voiced obstruents (Coetzee 2014).

In its reduced form, *-ie*, *nie<sub>2</sub>* does not bleed devoicing:

- (35) Beloftes moet nie gemaak word-ie. [wort-i]  
*promises must not made be-NEG*  
 ‘Promises must not be made.’

(Compare the parallel reasoning in Ackema and Neeleman 2004:150ff. for the Dutch element *-achtig*.)

## 4 The challenge: But why is final *nie* there at all?

- (36) “The starting point for our analysis is that also assumed by Den Besten (1986), Robbers (1992), and Bell (2004a,b), namely that *nie<sub>2</sub>* is always syntactically present in every negation structure.” Biberauer 2007:19
- (37) “*nie<sub>2</sub>* is in fact a polarity element ... investigation of structures which permit the realisation of *nie<sub>2</sub>* in the absence of a “true” negator reveals that the element they necessarily feature is one belonging to the class of (non)veridical operators, i.e., the class that Giannakidou (1999 et seq.) identifies as necessary to license a polarity item.” Biberauer 2007:17 (also Biberauer and Zeijlstra 2012, who posit that *nie<sub>2</sub>* and *nie<sub>1</sub>* are uNeg)<sup>5</sup>

The challenge for the syntactic analysis is to ensure that this is true.

- (38) Options:
- Pol or  $\Sigma$  is in the clausal spine
    - fails to account for constituent negation uses
    - fails to explain why the null (positive, default) version *cannot* occur: NPIs are not obligatory

- requires a unpronounced negation high in the clause to trigger agreement: this negation should take wide scope (Potsdam 2013), and we need additional constraints to regulate its (non)appearance

b. *nie<sub>2</sub>* provides something that the negative words need

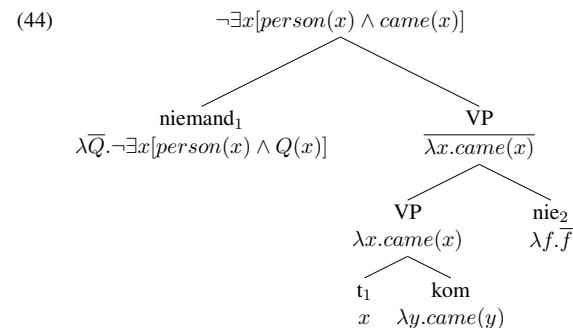
### 4.1 Negative isotopes and constraints on composition

- (39) *nie<sub>2</sub>* is a *dependent* element and must be ‘licensed’ by some other element in the clause (Giannakidou 2006; for Afrikaans in particular Biberauer and Zeijlstra 2012).
- (40) “[some] NPI[...]s can only combine with negative (i.e., antiveridical) predicates” (Giannakidou 2000:498)
- (41) A “negative predicate” is the **negative isotope** of a predicate

Idea: Extend the colored  $\lambda$ -calculus of Gardent et al. 1998 to function application and abstraction: Variables and constants come in different colors, one of which is the ‘negative’ color. Functors can select or produce such different colors. (See Appendix; compare the dot type logic of Asher and Pustejovsky 2013, and the treatment of plurals in Carpenter 1997.)

- **Idea:** The function of *nie<sub>2</sub>* is to create a negative isotope of its argument. Such isotopes are the appropriate inputs to the set of ‘licensors’ (*nie<sub>1</sub>*, *niemand*, *niks*, *geen*, ...).

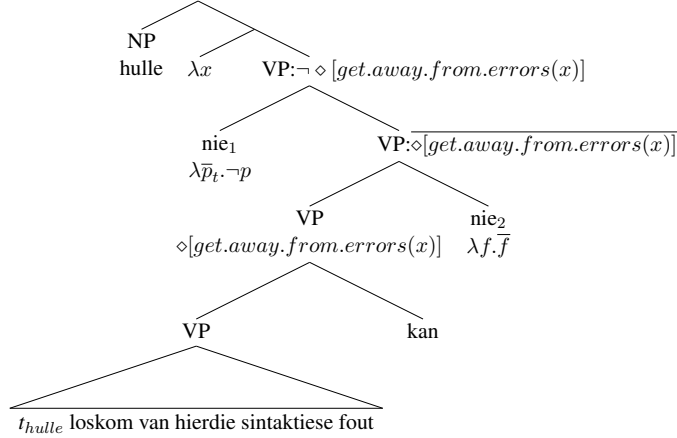
- (42)  $\llbracket nie_2 \rrbracket = \lambda f. \bar{f}$
- (43) a.  $\llbracket niemand_1 \rrbracket = \lambda \bar{Q}_{et}. \neg \exists x [person(x) \wedge Q(x)]$   
 b.  $\llbracket niks \rrbracket = \lambda \bar{Q}_{et}. \neg \exists x [thing(x) \wedge Q(x)]$   
 c.  $\llbracket nie_1 \rrbracket = \lambda \bar{p}_t. \neg p$   
 d.  $\llbracket geen \rrbracket = \lambda P_{et}. \lambda \bar{Q}_{et}. \neg \exists x [P(x) \wedge Q(x)]$



Composition tree for (11) (after reconstruction of the head movement of the modal from C):

<sup>5</sup>Note that the correct claim the *neg<sub>2</sub>* is a polarity item is incompatible with recent claims that all polarity items involve exhaustification; see Giannakidou 2017.

(45)  $\neg \diamond [get.away.from.errors(they)]$



- Strongest prediction:  $nie_2$  should mark the scope of its ‘licenser’ exactly. (Non-negative sensitive elements such as tense functors cannot combine with negative isotopes at all.)
- Weaker prediction:  $nie_2$  can be separated from its licenser by non-colored functors, and speech-act operators (and perhaps all C-elements) take only non-negative arguments.

Hypothesis: Only non-negative denotations can denote propositions.

Consequence: all negativity must be removed by grammatical elements at or before the clausal level

- NPIs in ‘extraposed’ CPs are not in the scope of  $nie_1$  (thanks to E. Pretorius for judgments):

- (46) a. Hulle het nie gesê dat sy enigiets geëet het  $nie_2$ .  
*they have not said that they anything eaten have* NEG  
 ‘They didn’t say that she ate anything.’  
 b. ??Hulle het nie gesê  $nie_2$  dat sy enigiets geëet het.  
*they have not said NEG that they anything eaten have*

#### 4.1.1 Not all semantically negative elements are licensers for $nie_2$

$nie_2$  is not licensed in *without*-clauses, unlike strong polarity items in many languages:

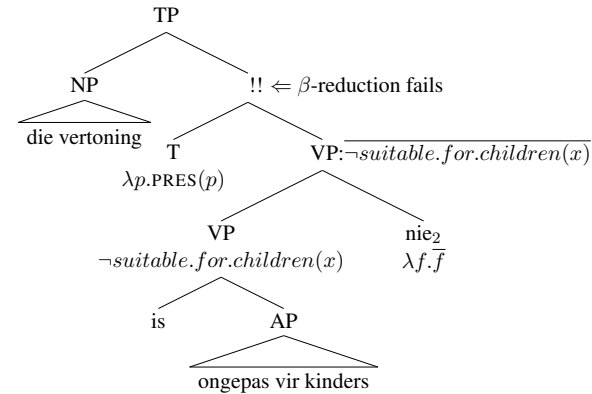
- (47) a. Koop só veilig aanlyn sonder om die bank te breek  
*buy thus safely online without C the bank to break*  
 ‘This is the way to buy online safely without breaking the bank.’<sup>6</sup>  
 b. \*Koop só veilig aanlyn sonder om die bank te breek  $nie_2$   
*buy thus safely online without C the bank to break* NEG
- (48) Hulle is 50 jaar getroud sonder om ooit terug te kyk (\* $nie_2$ ).  
*they are 50 year married without C ever back to look* NEG  
 ‘They have been married 50 years without ever looking back.’

<sup>6</sup>From <http://www.netwerk24.com/sake/2015-05-09-geldkliniek-koop-s-veilig-aanlyn-sonder-om-die-bank-te-breek>, accessed 19 May 2015.

Lexical negation is too low (E. Pretorius, p.c.):

- (49) a. Dis onvoorstelbaar (\* $nie$ ).  
*it.is unimaginable* NEG  
 ‘It is unimaginable.’  
 b. Die vertoning is ongepas vir kinders (\* $nie$ ).  
*the show is unsuitable for children* NEG  
 ‘The show is unsuitable for children.’  
 c. Dit was onwaarskynlik dat hy sou wen (\* $nie$ ).  
*it was unlikely that he would win* NEG  
 ‘It was unlikely that he would win.’  
 d. Dis onafhanklik van die wet (\* $nie$ ).  
*it.is independent of the law* NEG  
 ‘It’s independent of the law.’

(50)



#### 4.1.2 Standard Afrikaans is a double negative language

Variety A of Biberauer and Zeijlstra 2012 is the conservative variety, the standard language: n-words are negative quantifiers, and give rise to double negation (DN) readings.

- (51) Niemand het niks gekoop  $nie_2$ .  
*n-person has n-thing bought* NEG  
 ‘No-one bought nothing’, i.e., everyone bought something.

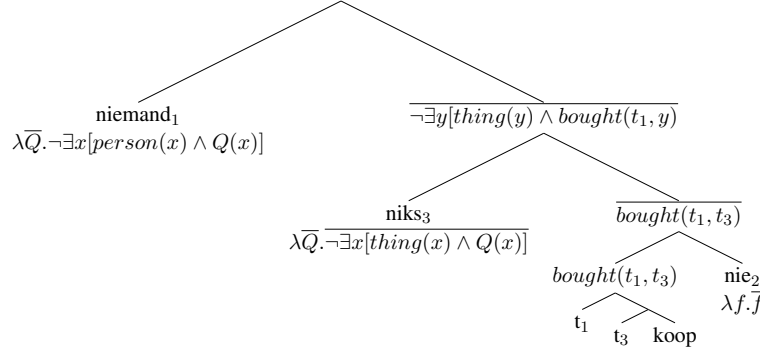
Where two negative quantifiers give rise to a double negative reading, we need to countenance a systematic type-shift among negative isotopic variable-containing n-word denotations and those that do not contain such colored variables: this is a ‘lazy’ type-fitting system like Partee and Rooth 1983 (as dubbed by Winter 2001:161).

- (52) For any term of boolean type  $f_1, \dots, f_n, f_m \in wff$  (i.e., where  $f_m$  is type  $\langle t \rangle$ ),  $f_1, \dots, f_n, f_m^{c_1} \in wff$
- a.  $\llbracket niemand \rrbracket = \lambda \bar{Q}. \neg \exists x [person(x) \wedge Q(x)]$   
 b.  $\llbracket niks \rrbracket = \lambda \bar{Q}. \neg \exists x [thing(x) \wedge Q(x)]$

$$c. \llbracket nie_1 \rrbracket = \lambda \bar{p}_t. \neg \bar{p}$$

$$d. \llbracket geen \rrbracket = \lambda P_{et}. \lambda \bar{Q}_{et}. \neg \exists x [P(x) \wedge Q(x)]$$

$$(53) \quad \neg \exists x [person(x) \wedge \neg \exists y [thing(y) \wedge bought(x, y)]]$$



As in other Germanic OV languages such as German, surface scope for elements in the Mittelfeld is preferred: this means that a quantificational noun phrase before negation will preferentially take scope over negation (see Frey 1993, Pafel 2005, Wurmbrand 2008, and Bobaljik and Wurmbrand 2012 for extensive discussion of the factors that are at play).

An indefinite subject can take scope over a clausemate negation:

- (54) Tradisie speel by spelling ook 'n rol en ten gevolge daarvan gebeur dit  
*tradition plays by spelling also a role and to consequence therefrom happens this*  
*meermaale dat analoge gevalle tog nie1 eenders behandel word nie2.*  
*more.than.once that analogous cases nonetheless not similarly handled are* NEG  
 'Tradition also plays a role with spelling, and as a result, it often happens that analogous cases  
 nonetheless are not handled in a like manner.' (p. 71)  
 $\exists x [analogous.cases(x) \wedge \neg [be.handled.similarly(x)]]$

Biberauer 2007: object NPs scrambled over *nie1* take scope over *nie1*, while object NPs that remain VP-internal take scope under *nie1*:

- (55) ... dat ek nie1 min mense ken nie2.  
*that I not few people know* NEG  
 '... that I don't know few people.' (–few)
- (56) ... dat ek min mense nie1 ken nie2.  
*that I few people not know* NEG  
 '... that there are few people I don't know.' (few–)

As Oosthuizen 1998:79 points out, and Biberauer 2007:17 discusses, *nie2* can also be licensed by non-negative elements:

- (57) a. Ek kan my nouliks/skaars inhou nie2.  
*I can me barely in.hold* NEG  
 'I can barely contain myself.' (i.e., I'm very excited.)  
 b. Ek weier om saam te kom nie2.  
*I refuse C[-fin] together to come* NEG  
 'I refuse to come with.'

- Modeling such lexical idiosyncrasy involves positing that these elements take a negative isotope as the relevant argument (while *sonder* 'without' does not): this is lexical semantic coding

- (58) a.  $\llbracket nouliks \rrbracket = \lambda \bar{P}. \text{barely}(P)$   
 b.  $\llbracket weier \rrbracket = \lambda \bar{p}. \lambda x. \text{refuse}(p)(x)$

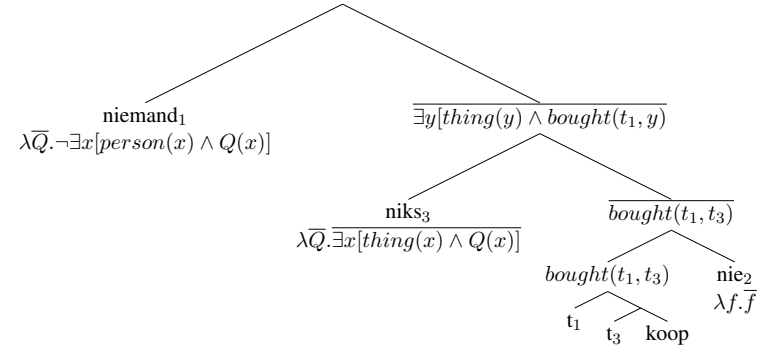
#### 4.1.3 Colloquial, spoken Afrikaans is a negative concord language

Variety B of Biberauer 2009, 2011, Biberauer and Zeijlstra 2012:

- (59) a. Niemand het niks gekoop nie2.  
*n-person has n-thing bought* NEG  
 'No-one bought anything.' Biberauer and Zeijlstra 2012:(41)  
 b. dat hy niks nie sien nie2.  
*that he n-thing not see* NEG  
 'that he didn't see anything.' Molnárfi 2001:(20)  
 c. Ons het g'n niks gesien nie2.  
*we have no n-thing seen* NEG  
 'We didn't see anything (at all).' Huddleston 2010:274  
 d. Ons hoor nooit niks van die polisie nie.  
*we hear never n-thing from the police* NEG  
 'We never hear anything from the police.' Huddleston 2010:142

- This can be modeled by a type-shift on the *n*-words in (52) to their non-negative counterparts (stripping out the  $\neg$ ), in interaction with the highest *n*-word (which may be *nie1* or sentential *g'n*), which contributes the sole negation:

$$(60) \quad \neg \exists x [person(x) \wedge \exists y [thing(y) \wedge bought(x, y)]]$$



- This system predicts that colloquial Afrikaans will behave like a strict negative concord language (see Giannakidou and Zeijlstra 2017), but without a sentential negator supplying the negation (and not like a 'negative spread' language)

- (61) \*Niemand het niks gekoop.  
*n-person has n-thing bought*  
 (Intended: 'No-one bought anything.')

- No combination of denotations for *niemand* and *niks* from (43) or (52) can give rise to a well-formed result

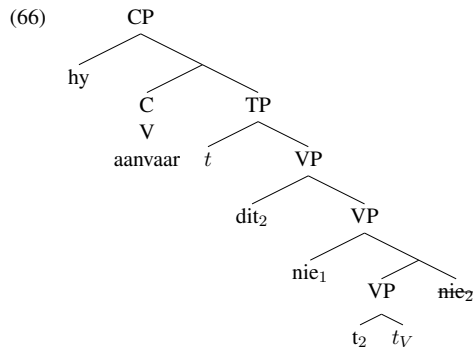
## 4.2 When *nie*<sub>2</sub> goes missing: Haplogical effects

Biberauer 2008 *nie*<sub>2</sub> undergoes surface haplogy:

- (62) Julle kan *nie*<sub>1</sub> sê dat julle Suid-Afrika ken as julle nog *nie*<sub>1</sub> op 'n boereplaas was *nie*<sub>2</sub>.  
*you can not say that you South-Africa know if you still not on a farm was NEG*  
 'You can't say you know South Africa if you haven't yet been on a farm.' Donaldson 1993:237
- (63) Daar moet *nie*<sub>1</sub> beloftes gemaak word wat *nie*<sub>1</sub> nagekom kan word *nie*<sub>2</sub>.  
*there must not promises made be which not fulfilled can be NEG*  
 'There must not be promises made that cannot be kept.' Donaldson 1993:380

Scrambling out of VP feeds haplogy: den Besten 1987, Biberauer 2008 (Biberauer gives convincing arguments for taking the single remaining *nie* in such cases to be the initial negative particle, not the final one.)

- (64) Hy aanvaar dit *nie*<sub>1</sub>.  
*he accepts this not*  
 'He doesn't accept this.' Donaldson 1993:224
- (65) Hy het dit *nie*<sub>1</sub> aanvaar *nie*<sub>2</sub>.  
*he has this not accepted NEG*  
 'He hasn't accepted this.' Donaldson 1993:224



- (67)  $nie_2 \rightarrow \left\{ \begin{array}{l} \emptyset / nie\_ \\ nie \end{array} \right\}$

(Richards 2010, Erlewine 2012, Nevins 2012 for haplogical effects in non-phonological and non-local domains.)

## 4.3 Exrescent *nie*<sub>2</sub>

An 'extra', *exrescent neg*<sub>2</sub> can appear in colloquial speech (T. Biberauer, p.c., Molnárfi 2001):

- (68) en dan het hy geweet dat hy hom *nie* losgeskud het *nie*<sub>2</sub> vir die herstel van sy energie  
*and then has he known that he him not freed has NEG for the recovery of his energy*  
 uit die diepste bronne in die natuur en in sy eie gees *nie*<sub>2</sub>.  
*out the deepest sources in the nature and in his own spirit NEG*  
 'and then he knew that he could not free himself for the recovery of his energy from the  
 deepest sources in the nature and in his own spirit' Molnárfi 2001:117

- (69) a. Dit moet [*nie* langer *nie*<sub>2</sub>] as 3cm wees *nie*<sub>2</sub>.  
*this must not longer NEG than 3cm be NEG*  
 'This must not be longer than 3cm.'
- b. Ek is [*nie* vir 'n oomblik *nie*<sub>2</sub>] bekommerd daaroor *nie*<sub>2</sub>.  
*I am not for a moment NEG concerned about.that NEG*  
 'I'm not concerned about that for a moment.'

Compare exrescent *that* and *if*:

- (70) a. It was clear that when the initial investigation had concluded that no crime had been committed, that the special prosecutor's office would need to reduce its staffing significantly.
- b. Many observers wondered if after an election season that had lasted more than fifteen months and had resulted in the election of a man with no apparent policy convictions other than global warming denialism, if the American polity and media would be able to bring to bear the kind of sustained attention to policy consequences that would ameliorate the impending Tammany-Hall-scale corruption and self-dealing.

## 5 Conclusions

1. Final *nie* can appear on the VP (and on other categories): it is a righthand phrasal clitic whose projected category is that of its complement (like adjuncts)
2. Its function is to create an appropriate argument for a negative functor (the set of 'licensors'): a negative isotope.
3. There's more than one way to build a 'negative concord' language.

## References

- Ackema, Peter, and Ad Neeleman. 2004. *Beyond morphology: Interface conditions on word formation*. Oxford: Oxford University Press.
- Asher, Nicholas, and James Pustejovsky. 2013. A type composition logic for generative lexicon. In *Advances in generative lexicon theory*, ed. James Pustejovsky, Pierrette Bouillon, Hitoshi Isahara, Kyoko Kanzaki, and Chungmin Lee, 39–66. Dordrecht: Springer.
- den Besten, Hans. 1987. Double negation and the genesis of Afrikaans. In *Substrata versus universals in Creole genesis*, ed. Pieter Muysken and Norval Smith, 185–230. Amsterdam: John Benjamins.
- Biberauer, Theresa. 2007. A closer look at Negative Concord in Afrikaans. *Stellenbosch Papers in Linguistics* 35:1–51.
- Biberauer, Theresa. 2008. Doubling vs. omission: Insights from Afrikaans negation. In *Microvariation in syntactic doubling*, ed. Sjef Barbiers, Olaf Koenenman, Marika Lekakou, and Margreet van der Ham, 103–140. Bingley: Emerald.
- Biberauer, Theresa. 2009. Jespersen off course? The case of contemporary Afrikaans negation. In *Linguistic cycles*, ed. Elly van Gelderen, 91–130. Amsterdam: John Benjamins.
- Biberauer, Theresa. 2011. Competing reinforcements: when languages opt out of Jespersen's cycle. In *Historical linguistics 2009: Selected papers from the 19th international conference on historical linguistics.*, ed. A. Van Kemenade, A. N. de van Kemenade, and N. de Haas. Amsterdam: John Benjamins.
- Biberauer, Theresa. 2015. *Nie somer nie*: Sociohistorical and formal comparative considerations in the rise and maintenance of the modern Afrikaans negation system. *Stellenbosch Papers in Linguistics Plus* 47:129–174.
- Biberauer, Theresa, Anders Holmberg, and Ian Roberts. 2014. A syntactic universal and its consequences. *Linguistic Inquiry* 45:169–225.



- Biberauer, Theresa, and Hedde Zeijlstra. 2012. Negative concord in Afrikaans: Filling a typological gap. *Journal of Semantics* 29:345–371.
- Bobaljik, Jonathan, and Susi Wurmbrand. 2012. Word order and scope: Transparent interfaces and the 3/4 signature. *Linguistic Inquiry* 43:371–421.
- Carpenter, Bob. 1997. *Type-logical semantics*. Cambridge, Mass.: MIT Press.
- Coetzee, Andries W. 2014. Grammatical change through lexical accumulation: Voicing cooccurrence restrictions in Afrikaans. *Language* 90:693–721.
- Collins, Chris, and Edward Stabler. 2016. A formalization of Minimalist syntax. *Syntax* 19:43–78.
- Donaldson, Bruce C. 1993. *A grammar of Afrikaans*. Berlin: Mouton de Gruyter.
- Erlewine, Michael Yoshitaka. 2012. Structurally distant hapology. *Snippets* 26:7–8.
- Frey, Werner. 1993. *Syntaktische Bedingungen für die semantische Interpretation*. Berlin: Akademie Verlag.
- Gabbay, Dov M. 2014. Introduction to Labelled Deductive Systems. In *Handbook of philosophical logic*, ed. Dov M. Gabbay and Franz Guenther, volume 17, 179–266. Springer.
- Gardent, Claire, Michael Kohlhase, and Karsten Konrad. 1998. Higher-order colored unification: A linguistic application. *Technique et Science Informatique* 18:181–209.
- Giannakidou, Anastasia. 1998. *Polarity sensitivity as (non)veridicality*. Amsterdam: John Benjamins Publishing Company.
- Giannakidou, Anastasia. 2000. Negative...concord? *Natural Language and Linguistic Theory* 18:457–523.
- Giannakidou, Anastasia. 2006. N-words and negative concord. In *Blackwell companion to syntax*, ed. Martin Everaert and Henk van Riemsdijk. London: Blackwell.
- Giannakidou, Anastasia. 2017. The myth of exhaustivity for all NPIs. In *Proceedings of Chicago Linguistics Society* 53. Chicago, Ill.: Chicago Linguistic Society.
- Giannakidou, Anastasia, and Hedde Zeijlstra. 2017. The landscape of negative dependencies: negative concord and n-words. In *Linguistics companion, 2nd edition*. New York: Blackwell.
- Huddleston, Kate. 2010. Negative indefinites in Afrikaans. Doctoral Dissertation, Utrecht University, Utrecht.
- Molnárfi, László. 2001. On the interpretation of multiple negation in spoken and written Afrikaans. In *Groninger Arbeiten zur germanistischen Linguistik*, 102–121. Groningen.
- Neeleman, Ad, and Fred Weerman. 2001. *Flexible syntax: A theory of case and arguments*. Dordrecht: The Netherlands: Kluwer Academic Publishers.
- Nevins, Andrew. 2012. Haplogical dissimilation at distinct stages of exponence. In *The morphology and phonology of exponence*, ed. Jochen Trommer, 84–116. Oxford: Oxford University Press.
- Oosthuizen, Johan. 1998. The final *nie* in Afrikaans negative sentences. *Stellenbosch Papers in Linguistics* 31:61–94.
- Pafel, Jürgen. 2005. *Quantifier scope in German*. Amsterdam: John Benjamins.
- Partee, Barbara, and Mats Rooth. 1983. Generalized conjunction and type ambiguity. In *Meaning, use and interpretation of language*, ed. Reinhard Bäuerle, C. Schwarze, and Arnim von Stechow. Berlin: De Gruyter.
- Pesetsky, David. 1991. Zero syntax: Vol. 2: Infinitives. Ms., MIT.
- Potsdam, Eric. 2013. CP-negation and the domain of quantifier raising. *Linguistic Inquiry* 44:674–684.
- Richards, Norvin. 2010. *Uttering trees*. Cambridge, Mass.: MIT Press.
- Sag, Ivan A., Gerald Gazdar, Thomas Wasow, and Steven Weisler. 1985. Coordination and how to distinguish categories. *Natural Language and Linguistic Theory* 3:117–172.
- Stabler, Edward P. 2013. Two models of minimalist, incremental syntactic analysis. *Topics in Cognitive Science* 5:611–633.
- Steedman, Mark. 1985. Dependency and coordination in the grammar of Dutch and English. *Language* 61:523–568.
- Toosarvandani, Maziar. 2013. Corrective *but* coordinates clauses not always but sometimes. *Natural Language and Linguistic Theory* 31:827–863.
- Torr, John, and Ed Stabler. 2016. Coordination in Minimalist grammars: Excorporation and across the board (head) movement. *Proceedings, 12th International Workshop on Tree Adjoining Grammars and Related Formalisms* 1–17.
- Winter, Yoav. 2001. *Flexibility principles in Boolean semantics*. Cambridge, Mass.: MIT Press.
- Wurmbrand, Susi. 2008. Word order and scope in German. *Groninger Arbeiten zur Germanistischen Linguistik* 46:89–110.

## Appendix: The colored $\lambda$ -calculus

### A.1 Gardent et al. 1998

The colored  $\lambda$ -calculus<sup>7</sup> is a variant of the simply typed  $\lambda$ -calculus, where symbol occurrences can be annotated with so-called colors (**color constants**  $C = \{A, B, \dots\}$  and **color variables**  $\mathcal{X} = \{a, b, \dots\}$ ). Colors are indicated by superscripts labeling symbol occurrences.

- (71) The set  $wff_\alpha$  of **well-typed formulae of type**  $\alpha$  consists of
- colored constants**  $C_\alpha^a, f_\alpha^b, f_\alpha^A, \dots$  of type  $\alpha$ , i.e., triples consisting of a constant, a color, and a type, and
  - colored variables**  $x_\alpha^a, y_\alpha^b, z_\alpha^A, \dots$  of type  $\alpha$ , i.e., triples consisting of a variable, a color, and a type, and
  - uncolored variables**  $a_\alpha, b_\alpha, \dots$  of type  $\alpha$ , and
  - (function) **applications** of the form  $M_{\beta \rightarrow \alpha} N_\beta$ , and
  - $\lambda$ -abstractions** of the form  $\lambda a_\beta. M_\gamma$ , where  $a$  is a variable of type  $\beta$  and  $\lambda a_\beta. M_\gamma$  is of type  $\beta \rightarrow \gamma$

A formula  $M$  is **well-formed** iff it does not contain unbound variables and we call it  **$c$ -monochrome** if all constants and variables in  $M$  are annotated by a single color  $c \in \mathcal{X} \cup C$ .

A  **$C$ -substitution**  $\sigma$  (a well-colored substitution) is a pair  $\langle \sigma^t, \sigma^c \rangle$ , where the **term substitution**  $\sigma^t$  maps colored variables (i.e., the pair  $X_c$  of a variable  $X$  and the color  $c$ ) to formulae of appropriate types and the **color substitution**  $\sigma^c$  maps color variables to colors. In order to be a legal  $C$ -substitution such a mapping  $\sigma$  must obey the following constraints:

- (72) a. **Erasure condition**: If  $A$  and  $B$  are different colors, then  $|\sigma(X_A)| = |\sigma(X_B)|$ , where  $|M|$  is the color erasure of  $M$ , i.e., the formula obtained from  $M$  by erasing all color annotations in  $M$ .
- b. **Monochromicity condition**: If  $c \in C$  is a color constant, then  $\sigma(X_c)$  is  $c$ -monochrome.
- (73)  **$\beta$ -reduction**:  
 $(\lambda x_\tau. \alpha)(\beta_\tau) \Rightarrow \alpha[x \mapsto \beta]$ , where  $\beta$  is free for  $x$  in  $\alpha$  and  $\tau \in \mathbf{Typ}$

### A.2 My extensions

The set  $wff$  consists of the formulae defined by (71) and

- (74) a.  **$\lambda$ -abstractions** of the form  $\lambda a_\beta^c. M_\gamma^d$ , where  $a$  is a variable of type  $\beta$ ,  $\lambda a_\beta^c. M_\gamma^d$  is of type  $\beta \rightarrow \gamma$ , and where  $c, d \in \mathcal{X} \cup C$ ,
- (75) **Definition 1**. Let there be a designated color  $c_1 \in \mathcal{X} \cup C$ ; call  $c_1$  the **negative** color.
- (76) **Definition 2**. A **negative formula**  $M$  is a formula that is  $c_1$ -monochrome, written  $M^{c_1}$  or  $\overline{M}$ .
- (77) **Definition 3**. Any formula  $M$  such that  $M = |M|$  is an **uncolored formula**.
- (78) **Definition 4**. For any uncolored formula  $M$ ,  $\overline{M}$  is the **negative isotope** of  $M$ .

Replace (73) by the following:

- (79) **Color-sensitive  $\beta$ -reduction**:  
 $(\lambda x_\tau^c. \alpha)(\beta_\tau^c) \Rightarrow \alpha[x \mapsto \beta]$ , where  $\beta$  is free for  $x$  in  $\alpha$  and  $\tau \in \mathbf{Typ}$  and  $c \in \mathcal{X} \cup C$

<sup>7</sup>Cf. labelled deductive systems, Gabbay 2014.