Competition in Grammar

Guido Vanden Wyngaerd

1 Brief Project Description

This research project aims to investigate the relationship between form and meaning in the pronominal paradigms of personal, reflexive, and possessive pronouns against the background of a theory of competition in grammar. Its central research question is formulated in (1):

(1) **Central Research Question**
What does the form of anaphors and (possessive) pronouns reveal about their internal featural makeup?

The meanings of these pronouns can be characterized in terms of feature systems (person, number, gender, etc.). The association of features or combinations of features with forms is typically not one-to-one, but it involves syncretisms (e.g. the English plural pronoun *they* is syncretic for masculine, feminine and neuter gender). It has been argued that syncretisms are not random, but that they reveal the underlying organisation of the features that the forms express (see Caha 2009 on case morphology). Put differently, looking into the syncretism patterns of words and morphemes will yield insights into (a) the nature of the features involved, and (b) the way these features are hierarchically structured.

2 State of the Art

2.1 The Absence of Principle B Effect

A reflexive pronoun (or anaphor), like *herself* in (2), needs a sentence antecedent for its reference (*Mary*).

(2) Mary likes herself.

Personal pronouns (or pronouns, for short) are not dependent in the same way: they may, but need not, have an antecedent in the same sentence. The pronoun *she* in (3a) may refer to the sentence antecedent *Mary*, but it can also refer to a sentence-external antecedent. In (3b), it is even impossible for the pronoun *her* to refer to the sentence antecedent *Mary*.

(3) a. Mary thinks she is intelligent.
b. Mary likes her.

The phenomenon illustrated in (3b) is the *Principle B* effect (Chomsky 1981): within a certain domain (usually the clause), a pronoun cannot refer to a sentence antecedent.

In the examples just discussed, the reflexive and the personal pronouns have clearly distinguishable morphological forms. However, this is not always the case. A typical situation is one where a dedicated reflexive form (or anaphor) is missing, and a pronoun takes on the double function of expressing both reflexive and nonreflexive meanings.

An example of this double function is found in the French first and second person pronouns *me* 'me' and *te* 'you'.

(4) a. Je me lave.
I me wash
'I wash myself.'
b. Jean me lave.
Jean me washes
'Jean washes me.'

(5) a. Tu te laves.
you you wash
'You wash yourself.'
b. Jean te lave.
Jean you washes
'Jean washes you.'

In the third person, in contrast, there is a dedicated reflexive pronoun *se*, and the pronoun *le* 'him' can only express nonreflexive meanings.

(6) a. Jean se lave.
Jean refl washes
'Jean washes himself.'
b. Jean le lave.
Jean him washes
'Jean washes him.'

In other words, we find the *Principle B* effect in French in the third person but not in the first and second persons, and this difference is clearly related to the presence of a dedicated reflexive pronoun in the third person only.

This situation is found more generally (see Rooryck & Vanden Wyngaerd 2011 for discussion). Rooryck & Vanden Wyngaerd (2011) call this phenomenon the *Absence of Principle B Effect*:

(7) *Absence of Principle B Effect* (APBE)
A pronoun behaves like an anaphor when a dedicated reflexive pronoun is lacking.

The APBE is also found in the possessive pronominal paradigm. In English, there is no dedicated reflexive in the possessive pronoun paradigm: in (8), the

possessive pronoun *her* may ambiguously refer to the sentence antecedent *Mary*, or to someone else, i.e. there is no *Principle B* effect.

(8) Mary$_i$ likes her$_{i/j}$ daughter.

In contrast, a language like Swedish does have a dedicated reflexive possessive pronoun *sin*, which occurs alongside the exclusively nonreflexive *hennes*:

(9) a. Hon$_i$ ser sin$_i$ man.
she sees her man
'She sees her (own) husband.'
b. Hon$_i$ ser hennes$_j$ man.
she sees her man
'She sees her (i.e. someone else's) husband.'

We see that *hennes* is not able to express a reflexive meaning: the presence of a dedicated reflexive form *sin* blocks the use of the pronoun for the same purpose, thus giving rise to the *Principle B* effect in (9b). When a dedicated reflexive form is unavailable, as in English, the pronoun fulfills both functions and there is no *Principle B* effect.

The APBE indicates that there exists a correlation between form and meaning, in the following way: when there are two competing forms in a language (e.g. *se* and *le* 'him' in the French third person), one of the two is restricted to a reflexive meaning, and another to a nonreflexive meaning. This idea may be summarised as in (10).

(10) A difference in form induces a competiton, which induces a difference in meaning.

The relevance of formal differences (and similarities) is at the heart of this research project. It wants to systematically investigate the form of reflexive, personal, and possessive pronouns, so as to find out their underlying feature makeup against the background of a theory of competition. In the following section, we shall make the notion of formal and structural relatedness, as well as that of the competition that it induces, more explicit.

2.2 Competition and syncretisms

The formal relatedness (in fact, identity) of the reflexive and nonreflexive pronoun in the French first and second person is a case of syncretism: the morphological identity of two or more forms that express a different set of features. Syncretisms are widely held to be informative about underlying structural relatedness by many researchers (e.g. Wiese 2008, Bobaljik 2012, Ackema & Neeleman 2013). Particularly in the theoretical framework of nanosyntax (NS; Starke 2009, 2011) detailed proposals have been made to account for syncretisms (e.g. Caha 2009). In what follows, I show in some detail how in NS formal relatedness (i.e. syncretism) goes hand in hand with structural relatedness, and how this structural relatedness induces competition.

I illustrate the relevance of syncretisms and the way competition works in NS on the basis of the person feature. The literature contains multiple suggestions that the traditional attribute-value system (1P, 2P, 3P) is is not adequate, in that there are asymmetries of various kinds between the different persons, which motivate the decomposition of the person feature (see e.g. Benveniste 1969, Silverstein 1976, Zwicky 1977, Ingram 1978, Harley & Ritter 2002, Déchaine & Wiltschko 2002, Harbour 2011, Ackema & Neeleman 2013, Gruber 2013, Starke 2013, among others). I will not discuss these proposals in any detail here, but single one out for illustration of the role played by syncretisms. The ensuing discussion should consequently not be taken as constituting the definitive analysis of the person feature (in fact, as we shall see below, there are reasons to assume that it cannot be).

Starke (2013) suggests the following three privative features for the representation of person: a feature 'person' (which is common to all persons), a feature 'participant' (shared by 1P an 2P), and a feature 'speaker' (restricted to 1P). These are hierarchically structured in a tree, as shown in (11), with the first person having all three features, the second person having 'participant' and 'person', and the third only 'person'.

(11) a. $[_{1P}$ speaker $[_{2P}$ participant $[_{3P}$ person $]]]$ (1P)
b. $[_{2P}$ participant $[_{3P}$ person $]]$ (2P)
c. $[_{3P}$ person $]$ (3P)

The difference between the persons corresponds to a structural difference in the number of hierarchical layers in the structure. The features are furthermore in a containment relationship: the first person contains the participant and person features that are also found in the second and third persons, and so on (see Bobaljik 2012 for a similar approach to the comparative and superlative in adjectives). In the same vein, reflexivity may be added to the system in the form of a feature R on top of the structures in (11).

(12) a. $[_{RP}$ R $[_{1P}$ speaker $[_{2P}$ participant $[_{3P}$ person $]]]]$ (1P reflexive)
b. [RP R $[_{2P}$ participant $[_{3P}$ person $]]]$ (2P reflexive)
c. $[_{RP}$ R $[_{3P}$ person $]]$ (3P reflexive)

These hierarchically structured representations are present both in the syntax, and in the lexical items representing the relevant (reflexive) pronouns. Lexical items are pairings of a phonological exponent and a feature tree. In French, for example, the lexical item for *me* will pair the phonological exponent /mə/with the feature tree in (12a), as shown in (13):

(13) $<$ /mə/, $[_{RP}$ R $[_{1P}$ speaker $[_{2P}$ participant $[_{3P}$ person $]]]]$ $>$

Lexical items are inserted into syntactic trees if the lexical tree is identical to the syntactic tree, or if the syntactic tree is a subtree of the lexical tree. In order to account for the reflexive/nonreflexive syncretism in the first person in French, we want the lexical item (13) to also insert /mə/ if the syntax contains the tree in (11a), i.e. in a nonreflexive syntactic environment. This follows from

the *Superset Principle* (Starke 2009).

(14) *The Superset Principle*
A phonological exponent is inserted into a node if its lexical entry has a (sub)constituent that is identical to the node.

This principle implies that lexical representations may be *overspecified* with respect to the syntactic structures they may appear in (in contrast to DM, which assumes *underspecification*, and a *Subset Principle*).

These assumptions derive the APBE. French has a reflexive-nonreflexive syncretism in 1P and 2P, and a dedicated reflexive form *se* in 3P:

(15)

	nonreflexive	reflexive
1P	me	me
2P	te	te
3P	le	se

The lexical representations for these pronouns is given in (13) above (for *me* 'me'), and in (16) below (for the others):

(16) a. < /tə/, [$_{\text{RP}}$ R [$_{\text{2P}}$ participant [$_{\text{3P}}$ person]]] >
b. < /lə/, [$_{\text{3P}}$ person] >
c. < /sə/, [$_{\text{RP}}$ R [$_{\text{3P}}$ person]] >

Suppose now we have syntactic representations for the first person as in (11a) (nonreflexive) and (12a) (reflexive) above. As stated earlier, the phonological exponent /mə/ of (13) will be insertable in both of these: in (12a) because the lexical tree in (13) is an exact match, in (11a) because the lexical tree of /mə/ in (13) contains the syntactic tree (11a) as a subconstituent, i.e. through the *Superset Principle*. In this way we derive the effect that there is a reflexive-nonreflexive syncretism in the first person. The second person works in exactly the same way.

In the third person, there is no syncretism, and in a nonreflexive syntactic environment like (11c) above, the lexical items (16b) /lə/ and (16c) /sə/ will compete for insertion: the lexical tree in (16b) is an exact match with (11c), and the lexical tree in (16c) contains the syntactic tree (11c) as a subtree. The competition is won by (16b) because it is a closer match than (16c) (in fact, it is an exact match). This follows from a version of the *Elsewhere Condition* (Kiparsky 1973), informally referred to as *Minimize Junk* (Starke 2009): the lexical item that contains least superfluous hierarchical structure with respect to the syntactic structure wins the competition. In the reflexive syntactic environment (12c) only (16c) /sə/ is a candidate for insertion, since it is an exact match.

Returning to the issue of the APBE, we see that the specifics of the mechanism of lexical insertion in a late insertion model allows one to account for the APBE in a simple and elegant fashion. There is no Principle B Effect in the first and second persons in French because there is no dedicated nonreflexive pronoun competing with a reflexive one. In the third person, there is a dedicated

nonreflexive pronoun, so that one (*le*) will be inserted in nonreflexive contexts only, and the other (*se*) in reflexive contexts only. (This NS account turns the original formulation of the APBE on its head, in that it is the nonreflexive that 'pushes out' the reflexive form, rather than the other way round, but I shall not pursue this issue here, as it is not central to my concerns.)

We now provide a more concrete definition of the concept of competition:

(17) Lexical items compete for insertion if their feature structures are identical to, or constitute a supertree of, the structure of a given syntactic node.

In view of this definition, it obviously becomes important to determine what the feature structure of anaphors and (possessive) pronouns looks like, since the structure of lexical items determines whether they will be competitors for insertion, and hence account for their distribution.

3 Novelty

The project will provide an important new contribution to the ongoing debate about the underlying feature structure of pronouns, in that it will use the form of anaphors and (possessive) pronouns, in particular syncretisms, as a window into feature structure. Its central research question is repeated in (18):

(18) **Central Research Question**
What does the form of anaphors and (possessive) pronouns reveal about their internal featural makeup?

Previous analyses of the internal structure of pronouns (see the references quoted above) have not approached the question from the perspective of syncretisms. In addition, the project is innovative in its inclusion of personal, reflexive, and possessive pronouns. Previous decomposition accounts have also looked at the personal pronouns, but have typically ignored the reflexive and possessive pronouns. Yet the existence of syncretisms between reflexive and nonreflexive pronouns clearly shows them to be related; these syncretisms furthermore extend to the possessive pronouns (as the discussion surrounding (8) and (9) has revealed). What is more, personal, reflexive, and possessive pronouns are all three formally related, i.e. they frequently show partial syncretisms (cf. below).

Attested and unattested syncretisms are informative about the underlying feature structure. This is true in particular in a theory like NS, because of the assumptions it makes about the way lexical insertion works, in particular the *Superset Principle* and the *Elsewhere Condition*, which favours the insertion of the lexical item most closely matching the syntactic tree.

Let us illustrate the relevance of syncretisms as a research tool in NS by looking at French again. As we have seen, reflexive and nonreflexive pronouns share important elements of structure (as shown in the feature tree of the lexical items in (16)). Certain types of syncretisms are predicted by the theory

to be impossible in principle. These are the so-called ABA or noncontiguous syncretisms (Caha 2009). An example would be a 1P pronoun that would be syncretic with a 3P pronoun across a 2P pronoun, i.e. a hypothetical paradigm as in (19):

(19)

	nonreflexive
1P	pa
2P	ti
3P	pa

The reason for this becomes clear once we look at the lexical items that would be needed for such a syncretism. For 1P, we need a lexical item that matches the largest tree, i.e. (20a).

(20) a. ⟨ /pa/, [$_{1P}$ speaker [$_{2P}$ participant [$_{3P}$ person]]] ⟩
b. ⟨ /ti/, [$_{2P}$ participant [$_{3P}$ person]] ⟩

For 2P, we need a lexical item with a smaller tree, as in (20b), as this will be a better (in fact, a perfect) match. But if indeed *ti* is a closer match for 2P, it will necessarily also be a closer match for 3P, which has an even smaller tree than 2P. Quite generally, noncontiguous or ABA syncretisms cannot arise. Taking this as a given, the syncretisms one finds can be used as a window into the featural makeup of anaphors and pronouns. This can be seen by considering a hypothetical language that would display the syncretism in (19) above. Suppose we were to find such a language, we would have to conclude that our person hierarchy is wrong, and should be rearranged, for instance as in (21):

(21)

	nonreflexive
1P	pa
3P	pa
2P	ti

Under such a rearrangement, the impossible (noncontiguous) syncretism that we expect not to find would be one of 1-2P, across 3P. More importantly, the feature tree in (11) above would need to be revised, with the second person now possessing the least features, rather than the third.

This hypothetical example illustrates how syncretism patterns can be used to gain insight, both into the nature of the features that make up lexical and syntactic representations, and into the question how these features are structured. In the domain of case morphology, Caha (2009) has applied the methodology to establish a universal case feature hierarchy. In other words, patterns of syncretism in morphemes tell us how case can be decomposed into features, and how these features are hierarchically structured. Applying this method to the case of personal, reflexive, and possessive pronouns will provide an important contribution to the debate on the underlying feature structure of pronouns.

For example, many Slavic languages show a vertical, i.e. cross-person syncretism in the reflexive pronouns. A case in point is Slovak:

(22)

	nonreflexive	reflexive
1P	ma	sa
2P	ta	sa
3P	ho	sa

This kind of syncretism cannot be accounted for by the feature system adopted so far, as it would require a feature tree for the lexical item *sa* that would be insertable in the first, second, and third person. While there is an exact match imaginable for the first person (basically the one in (13) above for French *me*, but with a different phonology), the second and third persons are not subtrees of this (see (12b) and (12c) above), so that the *Superset Principle* does not allow insertion of *sa* in these cases. The Slavic pattern therefore requires a different solution. I shall not provide one here; the example merely serves to show the kinds of empirical issues that the project will need to address. The examples discussed so far have furthermore also ignored the role of number, gender, and case, which are clearly also relevant in the decomposition of pronouns.

A further question to ask is whether we find the mirror image of the French pattern that we observed in (15): this would be a language with a reflexive/nonreflexive syncretism in the third person only, and a reflexive/nonreflexive split in the first and/or the second person (i.e. a Slovak pattern as in (22), except that there would be a reflexive/nonreflexive syncretism in the third person). The system outlined so far allows this possibility: all we need is for the lexicon to contain competing items for the first and second person, in the same manner that we have competing items for the third person in French. It remains to be found out, however, if there are languages actually displaying this hypothetical pattern, and if not, why not.

There is another way in which form is informative about meaning, which is in the existence of partial syncretisms. This becomes clear when we consider the French personal pronoun paradigm in some more detail. In particular, in the third person we have only considered the masculine form, and we have not looked at the plural forms at all. A closer look at the feminine and plural forms shows a clear relatedness of the relevant forms:

(23)

	singular		plural	
	masc	fem	masc	fem
3P	le	la	les	les

What these forms suggest is that our earlier assumption that /lə/ spells out the 3P nonreflexive form could be improved upon. In particular, it seems that the phonological exponent that spells out the person feature is just /l/, rather than /lə/, the vowel spelling out such features as gender (in the case of *la* 'her') and plural (in the case of *les* 'them'). That is, instead of (16b) above we have (24).

(24) ⟨ /l/, [3P person] ⟩

If so, it stands to reason that the first and second person pronouns and the third person reflexive are similarly structured, with a phonological exponent *m-*/*t-*/*s-*

spelling out the person feature complex (as already suggested in Kayne 2000). This is confirmed by the fact that we find the same consonants in the strong pronouns *moi/toi/soi*, as well as the possessive series *mon/ton/son* 'my/your/his'. In fact, these exponents (or closely similar variants of them) are found in a wide variety of Indo-European languages (e.g. German *mich/dich/sich* 'me/you/refl', Icelandic *mig/þig/sig* 'me/you/refl', etc.).

Partial syncretisms form another area, then, where form is informative about underlying feature structure, in the sense that specific parts of the phonology of a form may correspond to specific parts of the meaning, i.e. parts of the hierarchical structure. As a result, the phonological makeup may provide important clues as to the hierarchical structure of the corresponding feature complexes. A detailed investigation of the (partial) syncretisms in the personal, possessive, and reflexive pronouns has not been undertaken so far. The present project proposes to fill this void by undertaking an extensive study of the attested syncretism patterns in this area.

4 Methodology

Data on paradigms of personal, possessive, and reflexive pronouns are abundantly available in traditional grammars, reference grammars, online sources, and the scientific literature, in particular in the typological tradition (e.g. Forchheimer 1953, Wiesemann 1986, Cysouw 2003, Siewierska 2004, Bhatt 2007, Dryer & Haspelmath 2011). They are also relatively easy to extract from native speakers. Finally, these pronouns are likely to be found in all languages of the world. This makes it feasible to conduct a representative typological study of the paradigms and the syncretisms they reveal. The project will therefore include a typological study of a representative sample of the world's languages.

Assuming that the sample of languages to be investigated should include at least one language from each of the major genetic language groups, and adopting the genetic classification of Ruhlen (1987), this will lead to minimum sample size of 27 languages (excluding language isolates) (Rijkhoff et al. 1993, Rijkhoff & Bakker 1998). Since the purpose of this study is not one of doing quantitative analysis, such a relatively small sample is defensible (compare the 53 languages sample in Haspelmath 1997). Given the high number of possible syncretism patterns (e.g. with as little as six different forms, there are 326 different possible syncretism patterns), the statistical chance of finding the same pattern in three different languages is only 1 in 106,276. This shows that finding the same pattern even in a relatively small number of languages is in fact highly significant.

The latter conclusion must be qualified somewhat in the light of the following. Typological and other studies that have looked at person have typically also considered the related issue of syncretisms in verbal agreement morphology (e.g. Baerman et al. 2005, Baerman & Brown 2011, Aalberse 2007, Aalberse & Don 2009, Ackema & Neeleman 2013). These studies have found that none of the possible person syncretism patterns is actually unattested. Thus one finds

not only 1-2-3P, 1-2P, and 2-3P syncretisms, but also 1-3P syncretism across 2P (predicted to be impossible by the feature system adopted above). This finding seems at odds with the results of Caha (2009) to the effect that certain syncretisms (the noncontiguous or ABA syncretisms) do not exist in the domain of case morphology. At the same time, the studies just quoted have found that syncretisms in the domain of verbal agreement morphology do display an asymmetry, in the sense that 1-3P syncretism across 2P is much rarer than 1-2P syncretism and 2-3P syncretism. In this regard, Bobaljik & Sauerland (2013) have argued that accidental homophony exists, and that it can be distinguished from systematic syncretism by considering their statistical distribution. It remains an open question at this point if the pronoun systems are more like the case morphology (no ABA) or more like the verbal agreement morphology (some syncretism patterns rarer than others). The study of the syncretism patterns in pronouns can be expected to increase our understanding of this issue.

5 Project Summary

Summarizing, this project will provide an important empirical and theoretical contribution to our understanding of the feature systems underlying reflexive, perosnal, and possessive pronouns. At the empirical level, it will carry out an extensive study of the syncretism patterns displayed by anaphors and (possessive) pronouns, under the assumption that syncretisms are informative about underlying feature structure. At the theoretical level, it will develop an analysis of feature systems of anaphors and (possessive) pronouns that is informed by the syncretism patterns observed in the empirical part of the project. This analysis will be based on the assumption that lexical items whose features (partially) match those of the syntactic structure compete for insertion.

6 Work Plan

The different stages in the four-year research plan are outlined below:

1. **Year 1 (October 2014-September 2015)**:
   (a) study of the relevant literature
   (b) following selected PhD courses in syntax and morphology
   (c) data collection: determining the languages of the sample in the typological study, collecting data
   (d) conference presentation at a national conference
2. **Year 2 (October 2015-September 2016)**:
   (a) collecting data (continued)
   (b) descriptive synthesis of the data collected
   (c) formulation of initial hypotheses
   (d) presentation of initial results at (inter)national conference(s)
3. **Year 3 (October 2016-September 2017)**:
   (a) development of the analysis of the underlying feature system

(b) presentation of results at international conferences
(c) publication of results in (inter)national journals
(d) writing of the first draft of two chapters of the PhD dissertation

4. **Year 4 (October 2017-September 2018)**:
   (a) finishing the first draft of the PhD dissertation
   (b) final editing of the PhD dissertation
   (c) public defense of the PhD disseration

References

Aalberse, Suzanne. 2007. The typology of syncretisms and the status of feature structure. Verbal paradigms across 355 dutch dialects. *Morphology* 17. 109–149.

Aalberse, Suzanne & Jan Don. 2009. Syncretism in Dutch dialects. *Morphology* 19. 3–14.

Ackema, Peter & Ad Neeleman. 2013. Person features and syncretism. *Natural Language and Linguistic Theory* 31. 901–950.

Baerman, Matthew & Dunstan Brown. 2011. Syncretism in verbal person/number marking. In Matthew Dryer & Martin Haspelmath (eds.), *The world atlas of language structures online*, chap. 29. Munich: Max Planck Digital Library.

Baerman, Matthew, Dunstan Brown & Greville Corbett. 2005. *The syntax-morphology interface: A study of syncretism*. Cambridge: Cambridge University Press.

Benveniste, Emile. 1969. *Le vocabulaire des institutions indo-européennes*. Paris: Minuit.

Bhatt, Darbhe. 2007. *Pronouns*. Oxford: Oxford University Press.

Bobaljik, Jonathan. 2012. *Universals in comparative morphology*. Cambridge, Massachusetts: MIT Press.

Bobaljik, Jonathan & Uli Sauerland. 2013. Syncretism distribution modeling: Accidental homophony as a random event. In Nobu Goto, Koichi Otaki, Atsushi Sato & Kensuke Takita (eds.), *Proceedings of GLOW in Asia IX*, 31–53. Mie, Japan: Mie University.

Caha, Pavel. 2009. *The nanosyntax of case*: University of Tromsø dissertation.

Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.

Cysouw, Michael. 2003. *The paradigmatic structure of person marking*. Oxford: Oxford University Press.

Déchaine, Rose-Marie & Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33. 409–442.

Dryer, Matthew & Martin Haspelmath (eds.). 2011. *The world atlas of language structures online*. Munich: Max Planck Digital Library.

Forchheimer, Paul. 1953. *The category of person in language*. Berlin: Walter de Gruyter.

Gruber, Bettina. 2013. *The spatiotemporal dimensions of person: A*

morphosyntactic account of indexical pronouns: Universiteit Utrecht dissertation.
Harbour, Daniel. 2011. Valency and atomic number. *Linguistic Inquiry* 42. 561–594.
Harley, Heidi & Elizabeth Ritter. 2002. Person and number in pronouns: A feature-geometric analysis. *Language* 78. 482–526.
Haspelmath, Martin. 1997. *From space to time: Temporal adverbials in the world's languages*. München: Lincom.
Ingram, David. 1978. Typology and universals of personal pronouns. In Joseph Greenberg (ed.), *Universals of human language*, vol. III Word Structure, 213–248. Stanford: Stanford University Press.
Kayne, Richard. 2000. *Parameters and universals*. New York: Oxford University Press.
Kiparsky, Paul. 1973. "Elsewhere" in phonology. In Stephen Anderson & Paul Kiparsky (eds.), *A festschrift for Morris Halle*, 93–106. New York: Holt, Rinehart, & Winston.
Rijkhoff, Jan & Dik Bakker. 1998. Language sampling. *Linguistic Typology* 2. 263–314.
Rijkhoff, Jan, Dik Bakker, Kees Hengeveld & Peter Kahrel. 1993. A method of language sampling. *Studies in Language* 17. 169–203.
Rooryck, Johan & Guido Vanden Wyngaerd. 2011. *Dissolving binding theory*. Oxford: Oxford University Press.
Ruhlen, Merrit. 1987. *A guide to the world's languages*. Stanford: Stanford University Press.
Siewierska, Anna. 2004. *Person*. Cambridge: Cambridge University Press.
Silverstein, Michael. 1976. Feature hierarchies and ergativity. In Richard Dixon (ed.), *Grammatical categories in Australian languages*, 112–171. Canberra: Australian Institute of Aboriginal Studies.
Starke, Michal. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd* 36. 1–6.
Starke, Michal. 2011. Towards an elegant solution to language variation: Variation reduces to the size of lexically stored trees. Tromsø University.
Starke, Michal. 2013. Nanosyntax, part II. CRISSP lecture series.
Wiese, Bernd. 2008. Form and function of verb ablaut in contemporary standard German. In Robin Sackmann (ed.), *Explorations in integrational linguistics*, 97–151. Amsterdam: John Benjamins.
Wiesemann, Ursula (ed.). 1986. *Pronominal systems*. Tübingen: Narr.
Zwicky, Arnold. 1977. Hierarchies of person. *CLS* 13. 714–733.