

Anaphoric pronouns for topic devices: theoretical claims and acquisitional evidence¹

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Abstract

West-European languages use articles to distinguish arguments as <±previously mentioned>. Besides articles there are personal pronouns that are to be indexed with a discourse antecedent. Superimposed on that system there are additional devices to indicate whether a clause has the same or a different element as its topic. If a sentence takes a topic different from the topic of the preceding sentence, there are devices with enhanced saliency to mark the sentence as <+topic-shift>. These <+topic-shift> devices vary with the type of language. The present paper will characterize the <±topic-shift> anaphoric pronouns in Germanic and Romance languages and range them upon a saliency scale. This will bring about a new analysis of the accessibility hierarchy for the antecedent. Subsequently, I will discuss the acquisition of anaphoric pronouns for <±topic-shift> in Germanic (V2nd) Dutch and Romance French. The data come from a longitudinal study of two CHILDES corpora.

1 Reference tracking devices added to argument frames

In a discourse fragment, say a story, we see a set of intended referents (for example: *a girl, an attic, a bed, a little bear*). The members of that set appear and reappear in changing configurations when the story unfolds. That is due to the fact that the head of each new predicate selects referents for a configuration according to its subcategorization/theta frame.

Language acquisition begins with learning predicate frames by means of situation-bound clauses, since such clauses are naturally supported by gesture-sustainable referents ('physically given' referents, Ariel 2001). The reference tracking devices are at first mainly 1st and 2nd person pronouns, demonstratives, bare nouns as quasi proper names and 3rd person pronouns/clitics, but the latter only in as far as they are exophorically used, accompanied by a gesture or gaze that brings in focus a referent in the situation. As soon as a minimal amount of predicate subcategorization frames has been acquired and stacked up in the lexicon, a completely new development sets in. Child language starts adding the devices that perform reference tracking in (linguistic) discourse. There is a rise in the use of articles and 3rd person pronouns/clitics. Due to this development, the language and its user become more situation-free (Van Kampen 2004).

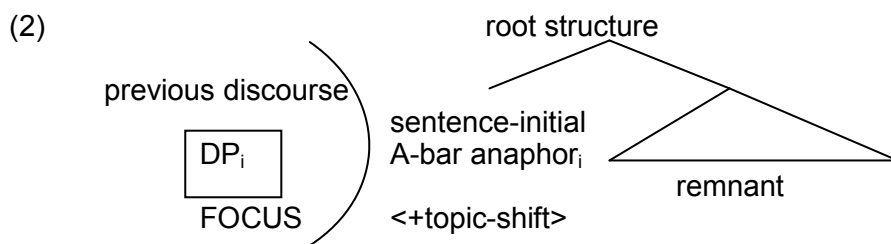
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The reference tracking devices are learned from the adult input. They indicate whether an argument is newly introduced or has already been referred to earlier. This at least is the contribution of the West-European article and pronoun system. The Dutch, French and Italian story fragments show how dense the reference tracking devices can be.

- (1) a. Dutch
 [De kleine beer]_i ging de trap op [naar de zolder]_k. **Daar**_k zag *hij*_i [een meisje]_m.
*Hij*_i was stomverbaasd. **Die**_m had *hij*_i nog nooit gezien. *Ze*_m lag in *zijn*_i bedje.
*Ze*_m sliep.
- b. French
 [Le petit ours]_i grimpa l'escalier jusqu'[au grenier]_k. **Là**_k, *il*_i vit [une jeune fille]_m.
*Il*_i était stupéfait. **Elle**_m/[**cette fille**]_m, *il*_i ne *l*_m'avait jamais vu. **Elle**_m s'était
 couchée sur le petit lit. **Elle**_m dormait.
- c. Italian
 [L'orsetto]_i salì [in soffitta]_k. **Lì**_k, *pro*_i vide [una ragazzina]_m. *Pro*_i fu sorpreso.
Lei_m/[**la ragazzina**]_m, *pro*_i non *l*_m'aveva mai vista prima. *Pro*_m era stesa nel
*suo*_i lettino. *Pro*_m dormiva.

(The little bear went upstairs to the attic. There he saw a girl. He was flabbergasted. He had never seen her. She was lying in his bed. She was asleep)

The reference tracking anaphoric pronouns in (1) are indicated with subscripts under the italics. In addition to that system there is a superimposed discourse device marked by **bold** face in (1). These are the specific anaphors that have a topic-shift function (Van Kampen 2004). They indicate that the new clause offers one of its arguments as a new point of orientation, different from the orientation point of the preceding sentence. The choice of the antecedent is not free. It has to be the argument marked as prominent in the preceding clause. The 'focus' of the preceding clause is turned into the topic of the new sentence. These anaphors are in principle sentence-initial (A-bar) and topic-shifting, see (2).

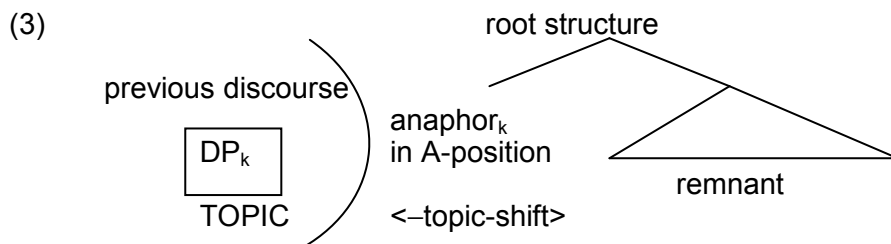


Germanic V2nd languages (Dutch/German/Swedish) use a demonstrative variant to indicate the topic-shift device (Van Kampen 1997). These *d*-pronouns derive from the article or from the demonstrative paradigm.² The use of the *d*-pronoun is a stylistically smooth option. Romance languages, by contrast, are more restrictive. In

² I will represent the *d*-pronoun by DEM in the glosses.

case of topic-shift, they may use a full, strong, personal pronoun in adjunct position, but more often they use a full DP in adjunct position. Both are doubled by a sentence-internal clitic/*pro*. The option of the *d*-pronoun is not open to Romance languages.

The use of the *d*-pronoun contrasts with the use of the 3rd person pronoun in A(rgument)-position. The latter maintains the topic (aboutness phrase) of the preceding sentence.³ Romance languages use in case of <-topic-shift> a 3rd person single (non-doubled) clitic or subject *pro*. In this case there is no dislocated element. The discourse relation for <-topic>, the pronouns and clitics marked in plain *italics* in (1), is expressed in (3).

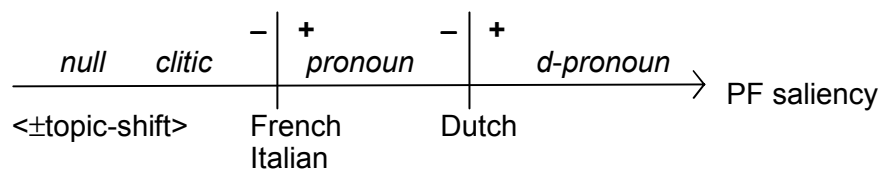


The choice of the anaphoric element will be related to the accessibility hierarchy for anaphoric pronouns as proposed by Ariel (1990, 2001), Givón (1983), Gundel et al (1993). It seems that, in order to express the <±topic-shift> device, each language makes a binary choice from the same saliency hierarchy. The above characterization also suggests a more structural characterization of “antecedent accessibility”.

2 PF saliency for LF function

The <±topic-shift> device for pronominal reference can be projected on an accessibility hierarchy. The more salient pronominal element signals <+topic-shift>. It refers to the preceding focus saliency. The less salient pronominal element signals <-topic-shift>. It refers to the preceding topic.

(4) Accessibility hierarchy for anaphoric pronouns



Germanic and Romance use the same accessibility hierarchy to express the <±topic-shift> relation, but they exploit the scale in a different way. Dutch opposes A-bar *d*-pronouns <+topic-shift> versus pronouns <-topic-shift>. French and Italian oppose full pronouns <+topic-shift> versus clitics/*pro* <-topic-shift>.

It should be noted that the present view deviates from previous studies on accessibility hierarchies in two ways. Firstly, Ariel (1990, 2001), Givón (1983), Gundel

³ I follow here Reinhart’s (1981) characterization of the sentence topic as ‘what the sentence is about’.

et al (1993) propose that the form of anaphoric expressions signals the *pragmatic* accessibility of the antecedent. There is a reversed correlation between the two. Antecedents that are already very accessible need no more than a simple anaphoric expression. These anaphoric expressions are ranked **high@@** on their hierarchy scale. Antecedents that are less accessible need a more specific anaphoric expression. These anaphoric expressions are ranked **low@@** on their hierarchy scale.

I would like to argue for a more structural view on anaphoric pronouns, at least for the set of discourse devices discussed here. From a *syntactic* point of view, there is no reversed correlation between the anaphoric expression and the antecedent. The less salient pronoun refers to the preceding topic. As a topic it is syntactically non-salient and does not carry the sentence stress. By contrast, the more salient pronoun refers to the preceding focus saliency. This antecedent in focus carries the sentential stress and has a high syntactic saliency, see (5).

- (5) De kleine beer zag in zijn bed een meisje liggen
 The big bear saw in his bed a girl lying
 (The little bear saw a girl lying in his bed)
 a. *Die* keek erg verbaasd (een meisje / *de kleine beer)
 DEM looked very surprised (a girl / *the little bear)
 (She looked very surprised)

The constituent *een meisje* carries the sentential stress (Cinque 1993; Evers 2003). For that reason, *een meisje* can be picked up as the shifted topic in the next sentence. If, by contrast, the object phrase *het meisje* moves to the left as in (6), or if it were pronominalized by *haar* ('her') as in (7), it loses the focus and sentential stress. Therefore, it is no longer referred to by the salient <+topic-shift> *d*-pronoun.

- (6) De kleine heeft het meisje nog **op de zolder** gefotografeerd
 The little bear has the girl yet in the attic photographed
 (The little bear has taken a picture of the girl in the attic)
 a. *Die* was erg klein (de zolder / *de kleine beer / *het meisje)
 DEM was very small (the attic / *the little bear / *the girl)
- (7) Het meisje holde de trap op. De kleine beer riep **haar** nog na
 The little girl ran the stairs on. The little bear called her still after
 (The little girl ran up the stairs. The father of the little bear called after her)
 a. **Die* luisterde niet
 *DEM listened not
 (She didn't listen)

Secondly, the scale in Ariel (1990, 2001), Givón (1983), Gundel et al (1993) is of an ascending hierarchy. In the present view, there is a binary A/A-bar opposition for anaphoric pronouns. It stands for <±topic-shift> and it is based on a single opposition along the accessibility hierarchy for anaphoric pronouns. This two-way division is expressed in Table 1. Only the 3rd person masculine pronoun in Dutch, French and Italian is given in Table 1. The black/grey opposition indicates which saliency difference has to be selected to express the <±topic-shift> function.

	null <i>pro</i>	clitic pronoun	weak pronoun	strong pronoun	<i>d</i> - pronoun
Dutch			<i>ie</i> (subject) <i>'m</i> (object)	<i>hij</i> (subject) <i>hem</i> (object)	<i>die</i> (subject) <i>die</i> (object)
French		<i>il</i> (subject) <i>le</i> (object)		<i>lui, il</i> (subject) <i>lui, le</i> (object)	
Italian	pro/agr (subject)	<i>lo</i> (object)		<i>lui</i> (subject) <i>lui, lo</i> (object)	

Table 1: Hierarchy for anaphoric pronouns: less PF salient → most PF salient

For Dutch, both the strong pronouns (subject *hij, zij, het* 'he, she, it' and object *hem, haar, het* 'him, her, it') as well as their weak variants (*ie, ze, 't* and *'m, d'r, 't*) fall in the group of <-topic-shift> pronouns, see the example in (8).

- (8) Het meisje met de gouden haren is ook gefotografeerd
 The girl with the golden locks is also photographed
 (The girl with the golden locks was taken a picture of)
- a. Zij/ze (= het meisje met de gouden haren) is ooit model geweest
 She (= the girl with the golden locks) is ever model been
 (She used to be a model)

The grammatically defined <±topic-shift> opposition selected from a general hierarchy scale of pronominal devices is supported by experiments reported in Kaiser and Trueswell (2004). They tested the effects of the Dutch full (feminine singular) pronoun *zij* and the weak (feminine singular) pronoun *ze* in sentence-initial position. Their experiments show that both are equally used for <-topic-shift> to maintain the topic, they say 'subject', of the preceding sentence. Note how in the light of Table 1 above, they focused an opposition in the grey area for Dutch. The main <±topic-shift> opposition for V2nd Dutch is the personal pronoun versus the *d*-pronoun.

3 The acquisition of the referential system

Articles, 3rd person pronouns and topic *d*-pronouns are referential signs D^o (determiners) that may be used anaphorically to refer to a previously mentioned antecedent. I counted the use of these referential markings in the speech of Dutch Sarah (Van Kampen corpus) and in the speech of French Grégoire (Champaud corpus) both in CHILDES (Mac Whinney 2006). Below, acquisition graphs of articles and anaphoric 3rd person pronouns will be given showing their simultaneous acquisition. The simultaneous acquisition demonstrates that the real acquisition step is the introduction of a referential system added to argument structure in the sense of Williams (1994).

Both Dutch and French children first establish the finite verb as a clause identifier before they grammatically mark argument structure. Articles and discourse anaphors are lacking in early child language. I make a rough division between two phases of child language. A situation-bound system before D^o-marking, and a situation-free system after D^o-marking.

Early child: situation-bound	Later child: discourse-bound
No <±topic-shift> device - No D (φ) all anaphors are gesture-sustained No {articles, clitics, pronouns, <i>pro</i> }	<± topic-shift> device - D (φ) anaphors need not be gesture-sustained {articles, clitics, pronouns, <i>pro</i> }

Table 2: Referential means in early and later child language

Early child language makes use of (what will be later) <+topic-shift> forms. These are the demonstrative *die* in child Dutch and dislocated nouns doubled by a clitic in child French.⁴ This may be explained as follows. Since there is a situational context only, each sentence in the language of the child names its own topic, as if it were a first mention. The same type of evidence comes from elicited narratives with picture sequences in Hickmann and Hendriks (1999). French children up to the age of 7 use dislocated nouns doubled by a clitic for the first mentions of a new discourse topic. It shows that even older children heavily rely on a situational context simulated by pictures.

The acquisition of D^o-marking realizes within half a year the introduction of articles, 3rd person clitics and pronouns in later child language, at least for the two languages considered here.

3.1 The acquisition of anaphoric pronouns in Dutch

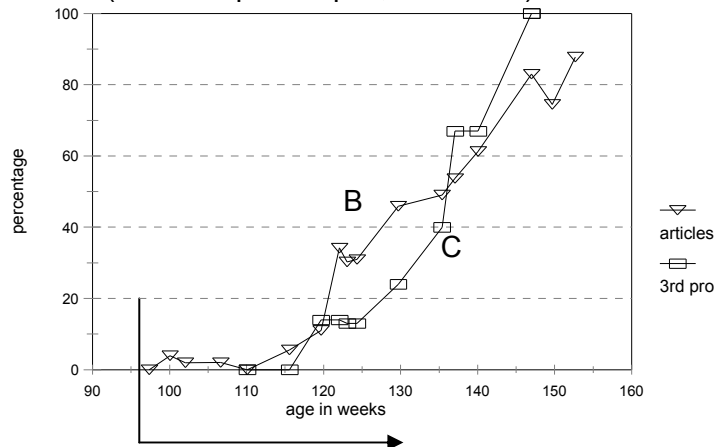
Early child Dutch is characterized by an abundant use of 1st and 2nd person pronouns and demonstratives. This seems reasonable. The 1st-2nd person pronouns express a <±speaker> opposition and the demonstratives a <±proximate> opposition, all situation-bound oppositions. In the recordings till week 120 (7 recordings between 1;10.13-2;3.16), Sarah did not use any anaphor to mark a reference to the linguistic discourse. There was hardly any use of 3rd person pronouns (A-anaphors), and there was no use of A-bar *d*-pronouns referring to a linguistic discourse antecedent. The referent of the demonstrative was always present in the immediate speech situation. In the sentence with a finite predicate, I counted 50 examples of contrastive demonstratives. Presentationals were excluded from the count. All 50 examples were related to a referent in the situation. An example of a demonstrative referring to a referent in the situation is in (9).

- (9) a. (playing Memory; one card doesn't match) (week 107 / 2;0.17)
Sarah: *die* kan niet mee(r).
(that cannot anymore)

Articles, 3rd person pronouns and discourse-related *d*-pronouns are acquired in a following step. Acquisition graphs of articles and anaphoric 3rd person pronouns show that these are acquired simultaneously. See the graphs in (10) taken from Van Kampen (2004).

⁴ See for dislocations in child French also De Cat (2002).

(10) Sarah (Van Kampen corpus, CHILDES)



Situation-bound demonstratives (present from the very beginning on)

Graph B: articles before nouns

Graph C: A-anaphors (3rd person pronouns *hij/zij/het* 'he/she/it' and 'm/d'r/'t)

The acquisition of the referential system for articles and pronouns is at the same time simultaneous with the discourse use of < \pm topic-shift> by means of A-bar devices. An example of a discourse-bound 3rd person pronoun for <-topic-shift> is given in (11) and an example of a *d*-pronoun for <+topic-shift> in (12).

- (11) (talking about a bird in a picture-book) (week 125/2;4.27)
 mother: ja, hij heeft de schaar, de vogel.
 (yes, he has the scissors, the bird)
 Sarah: schaar ["] vogel ["]. teen! *hij* heb een teen, he.
 (scissors ["] bird ["]. toe! he has a toe, isn't it.)

- (12) (shifting the attention to a picture at a jigsaw puzzle) (week 133/2;6.18)
 mother: dan past die (=stukje) misschien daar?
 than fits that (=piece) perhaps there?
 (then perhaps that one fits there?)
 Sarah: *die* is voor pappa, die hondje
 (that is for daddy, that doggie)

The <+topic-shift> *d*-pronouns in Dutch appear in the position before the finite verb (Spec,C). The finite verb in the second position (C⁰) had been learned before. See Van Kampen and Pinto (2007) for a further analysis.

3.2 The acquisition of anaphoric pronouns in French

The French child uses at first a dislocated noun or demonstrative doubled by a 'shadow' clitic. Most of the time, the dislocations are to the right, as in (13).

- (13) (holding a car)
elle roule, la voiture
 (she goes, the car)

(Grégoire 1;11.22/week 103)

The preference of right-dislocations seems an effect of the presence of a situation-bound gesture-sustainable referent (Van Kampen 2004, Van der Linden and Sleeman 2007).

Articles and 3rd person single clitics are acquired next. There is a twist, though, in acquiring the French system. The French acquisition of 3rd person single clitics follows the acquisition of articles, see Table 1 for Grégoire (CHILDES). The gray area in Table 3 indicates that at the acquisition point of articles (>80%) there is a sudden rise of single (non-doubled) subject clitics and object clitics. This sudden rise of single clitics can be characterized as the acquisition of discourse structure.

weeks	a articles	b 'shadow' clitic		c single clitic		d single clitic
				<i>il</i>	<i>elle</i>	subject
94-98	5%	14	78%	0	4	0
105	14%	19	95%	0	0	0
112	53%	3	---	0	0	0
117	60%	8	61%	2	4	0
125	97%	11	37%	19	0	9
127-129	100%	51	35%	66	28	10

Table 2: French Grégoire: articles, 'shadow' clitics and single clitics

Unlike the pronouns in Dutch, French anaphoric clitics do not appear simultaneously, but right after the determiners. This is probably, because clitics imply the acquisition of a different argument placement in addition to the argument pronominalization. Table 2 shows no difference between the acquisition of subject and object clitics as such. It rather seems that subject clitics are more frequent. A simultaneous acquisition of subject and object clitics supports the idea that the underlying condition of this acquisition step is the presence of the argument frame of the verb.

There are some instances of a single (non-doubled) clitic in the speech of Grégoire before week 125, see the example in (14).

- (14) playing the child's hand sticks to the investigators ear) (1;10.20/week 94)
 investigator: tu cognes ? (you bump against?)
 Grégoire: elle colle (it (=the hand) sticks)

In such instances, a gesture or a gaze accompanies the clitic. It is the gesture/gaze that brings in focus the intended referent, not the unstressed clitic (Van Kampen 2002, Going Romance presentation). The gesture/gaze directs the hearer's attention towards an object present in the utterance situation (cf. Kleiber 1994: chapter 5).

Examples of the discourse-bound devices for <±topic-shift> that appear after week 125 are given in (15).

- (15) Topic-shift versus topic-maintenance
(inventing a story) (2;5.27/week 129)
- Grégoire: maman, elle m'a protégé pour écraser la jeep
 mummy, she me-has protected for crash the jeep
 (m., she has protected me from being crashed by the jeep)
- Grégoire: *la jeep, elle a écrasé ma maman.*
 (the jeep, she has crashed my mummy)
- investigator: mais qu'est ce qu'elle faisait cette jeep au bord de la mer?
 but what she did that jeep at the seaside?
 (but what did that jeep do at the seaside?)
- Grégoire: *elle a roulé sur la mer.*
 (she has gone on the see)

As in the example above, later child French, as well as adult French, show a preference for left-dislocations (Gívon 1983; Ashby 1988: 206). This shift in preference, from right-dislocated topics in early child French to left-dislocated topics in later child French, reflects a growing reliance on linguistic discourse reference by means of sentential topics. Discourse reference tracking by a topic in Spec,C or in sentence adjunct position must get scope over the new sentence. This may explain its appearance at the left periphery of the sentence. See Van Kampen and Pinto (2007).

4 Conclusion

West-European languages use articles to distinguish arguments as <±previously mentioned>. Besides articles, there are personal pronouns that are to be indexed with a discourse antecedent. Superimposed on that system, there are additional devices to indicate whether a clause has the same or a different element as its topic. Topic is an argument the sentence is 'about'. If a sentence takes a topic different from the topic of the preceding sentence, there are devices with enhanced saliency to mark the sentence as <+topic-shift>. These <+topic-shift> devices vary with the type of language. Germanic V2nd languages use a *d*-pronoun in sentence-initial A-bar position. This *d*-pronoun refers to an argument in the preceding sentence that had a focus-kind of saliency. Romance languages mark the <+topic-shift> by a dislocated argument further supported by a sentence-internal clitic.

The acquisition of <±topic-shift> devices takes place more or less simultaneously with the acquisition of other pronominal devices. All these devices make the language more situation-free. The switch from the situation-bound early child language to the situation-free later child language does not take place before the discourse units, the successive sentences, have acquired an internal coherence due to argument frames of the verb and the opposition between <±finite> verb (after the "Root Infinitive" stage). There is a common point in the acquisition of the <±topic-shift> devices. Both Dutch and French children start with sentences marked by situation-bound device for <+topic-shift>. In the beginning, each utterance in the language of the child stands on its own and establishes its own topic. Later on, the child's speech enters the linguistic discourse of an actual or presupposed continuing discourse.

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