

Germanic and Romance Discourse Devices in Acquisition*

Jacqueline van Kampen and Manuela Pinto
Utrecht University

1. Introduction

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 sub-categorization/theta frame.

Language acquisition begins with learning such predicate frames by means of situation-bound clauses, since such clauses are naturally supported by gesture-sustainable referents ('physically given' referents, cf. Ariel 2001). The reference tracking devices are at first mainly 1st and 2nd person pronouns, demonstratives, bare nouns as quasi names and, as we will show, 3rd person pronouns/clitics, but only in as far as they are (overtly or implicitly) accompanied by a gesture 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 (Van Kampen 2006). 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 and discourse-bound (Van Kampen 2002, 2004).

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 in (1) 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.

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c. Italian

[L'orsetto]_i sali [in soffitta]_k. ***Li***_k, *pro*_i vide [una ragazzina]_m. *Pro*_i fu sorpreso. ***Lei***_m/[***la ragazzina***]_m, *pro*_i non *I*_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. 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.¹ These anaphors are in principle sentence-initial and topic-shifting.

Germanic V2nd languages (Dutch/German/Swedish) use a demonstrative variant to indicate the topic-shift. They appear as such in Dutch (Comrie 2000; Van Kampen 1997:92ff, 2004), in German (Bosch, Katz and Umbach 2007; Diessel 1999; Zifonun et al. 1997), in Swedish (Mörnsjö 2002). These ‘anaphoric demonstratives’, which we will call *d*-pronouns, derive from the article paradigm (German *der, die, das* etc.; Swedish *den, det*) or from the demonstrative paradigm (Dutch *die, dat*; German *denen*).² The use of the *d*-pronoun is a stylistically smooth option. Romance languages, by contrast, are more restrictive. In case of shifting a topic, they may use a full, strong, personal pronoun in adjunct position, but they often use a full DP in adjunct position, see (1)b,c.

The use of the *d*-pronouns is not open to Romance languages. This difference seems directly related to the V2nd type of Germanic versus the SVO pattern of Romance. We will demonstrate that in more detail. First we discuss the properties of these devices in Germanic Dutch and subsequently we will have a short look at Romance French and Italian. It will turn out that for the binary <±topic-shift> different languages make a choice from the same saliency hierarchy. Finally, we will look at the acquisition steps for <±topic-shift> devices in V2nd Dutch and in non-V2nd Romance French (see for French also Rozendaal this volume).

2. Properties of the *d*-pronoun

Germanic V2nd languages allow an aboutness position in the sentence-initial “Vorfeld”. Within generative grammar the “Vorfeld” appears as the C-domain with

¹ We follow here Reinhart’s (1981) characterization of the sentence topic as ‘what the sentence is about’.

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

the finite verb in C⁰ position and an aboutness constituent in Spec,C. The Spec,C, we will argue, is cut out for anaphoric *d*-pronouns as <+topic-shift> device.

The topic-shifting *d*-pronouns are true discourse anaphoric pronouns. Unlike demonstratives, they are restricted to the sentence-initial scope position in Spec,C. The *d*-pronouns in (1)a have sentential scope, just like *wh*-pronouns and relatives have. They have therefore been indicated as A-bar anaphors in Van Kampen (1997:92ff).³ As discourse anaphors they remind of the (non-preposed) demonstrative pronoun, but the function is different and restricted to the preceding focus. This is reflected in the fact that in Dutch the free distal/proximate opposition of demonstratives is not present in the A-bar *d*-pronoun. The A-bar *d*-pronouns have the unmarked distal variant only, see the paradigm in (2)b and the examples in (3).⁴

- (2) a. demonstratives
 structural oblique
deze<-neuter> *dit*<+neuter> *hier* <+ proximate>
die<-neuter> *dat*<+neuter> *daar* <-proximate>
- b. *d*-pronouns
 structural oblique
die<-neuter> *dat*<+neuter> *daar*

- (3) a. Toen zag zij het huis van de beren.
 Then saw she the house of the bears
 Dat/*dit wilde ze van binnen zien
 DEM wanted she from inside see
 “Then she saw the house of the bears. She wanted to see it inside.”
- b. Zij ging eerst op de grote stoel zitten
 She went first on the big chair sit
 Maar die/*deze vond ze te hard
 But DEM found she too hard
 “First she sat down on the big chair. But she found it too hard.”

³ A-bar anaphors appear in A-bar position and they are related to an argument position. An A-bar position is a derived position in the syntactic tree where only non-arguments (*wh*-words/topics) can occur. An A-position is a position where only arguments (object/subject) can occur, namely theta positions and specifiers construed with agreement (Rizzi 1999).

⁴ Comrie (2000) includes the proximal *deze* as an example of a pragmatically conditioned ‘demonstrative’, our *d*-pronoun. Comrie relies on Huizinga’s (1936) *Erasmus* as the database. The use of *deze* is restricted to <+human> antecedents and to written Dutch, see (i) (ANS 997:29).

(i) Toen sprak de minister van Justitie. *Deze* hield staande dat
 Then spoke the secretary of Justice. This (one) made the contention that

The examples from Huizinga’s *Erasmus* show that the use of *deze* is not restricted to the sentence-initial position in written Dutch. It is somewhat like *the* latter in formal English and *ce dernier* in formal French. We will leave this construction aside. See Van Kampen (1997).

The form and function of the *d*-pronoun remind of the relative pronouns with an antecedent. The (High) German relative pronouns mainly use the same paradigm as the *d*-pronoun (*der, die, das, denen*). The Dutch relative pronouns are partly from the *d*-pronoun paradigm (*die, dat*), like German, and partly from the *w*-pronoun paradigm (*wat wie*), like English, see (4).⁵ For the reasons of this mixture, see Van Kampen (2007).

(4) relative pronouns in Dutch

	<i>d</i> -set <±neuter> referent	<i>w</i> -set <±animate> referent
structural	<i>die</i> <-neuter> <i>dat</i> <+neuter>	<i>wat</i> <-animate> <i>wie</i> <+animate>
oblique	[<i>daar</i>] ... (op)	

We elaborate this paradigm issue, because the relevance of the notion A-bar anaphor has not sufficiently been seen, perhaps due to the partial correspondences of the morphological paradigms. Various quantitatively oriented studies (Bosch Katz and Umbach 2007; Kaiser and Trueswell 2004) have posed the question what the referent of the ‘demonstrative anaphor’ would be. They subsequently found that it is an anaphor with a strong tendency to refer to the non-subject of the preceding sentence. In our view this should be reinterpreted by adding the A/A-bar distinction. The topic-shifting *d*-pronoun in (5)a appears in Spec,C A-bar position (Van Kampen 2004). In (5) *die* can be both subject and object, but only (5)a is grammatical. The *d*-pronoun cannot appear in sentence-internal A-position in (5)b.⁶

(5) [De beer]_i heeft [de lucht]_k in huis opgesnoven

‘The bear sniffed up the air in the house’

- a. [_{Spec,C} *Die*_k [_C vond]] *hij*_i verdacht ruiken
 DEM found he fishy smell
 ‘He thought that it had a fishy smell’
- b. [_{Spec,C} *Hij*_i [_C vond]]**die*_k verdacht ruiken
 He found *DEM fishy smell
 ‘He thought that it had a fishy smell’

The pronoun *die* may appear in sentence-internal position, but only when it is in the company of a focusing adverb like *nog* (‘still’), *ook* (‘also’) or *niet* (‘not’). In that case, *die* gets a marked contrastive interpretation and stress, as in (6). We assume that it is a sentence-internal A-bar position for contrastively marked

⁵ Note that the Latin use of ‘relative root clause connection’ (sentence-initial *w*-paradigm anaphor) in main clauses is probably a matter of topic-shift (Kühner and Stegmann 1992).

⁶ Dutch strongly prefers the use of a general demonstrative *die* for pronominalized topics. In many cases *die* replaces the <+neuter> *dat*, especially when the antecedent is <+animate>, as in *het*<+neuter> *meisje. Die...* (‘the girl. DEM ..). Gender-evading preferences are also at work in the Dutch relative system.

‘Association with Focus’. We follow here Von Stechow (1991), cf. Van Kampen (1997: 134f).

- (6) Is het meisje hier nog geweest?
 Is the girl here still been?
 Nee, ik heb *dié* nog niet gezien, wel de beer
 No, I have DEM yet not seen, but the bear
 “Has the girl been here? No, I haven’t seen her yet, but the bear I have”

The use of the A-bar *d*-pronoun contrasts with the use of the 3rd person pronoun in Dutch. The latter maintains the topic of the preceding sentence. A 3rd person pronoun is used in A(rgument)- position and indicates that there is no topic-shift (<-topic-shift>). See the examples in (7)a of the object *het meisje* (‘the girl’) maintained as the object *haar* (‘her’) and (7)b of the subject *de kleine beer* (‘the little bear’) maintained as the subject *hij*.

- (7) [De kleine beer]_i zag [het meisje]_k in zijn bedje
 “The little bear saw the girl in his bed”
 a. Hij_i vond *haar*_k/**die*_k er lief uitzien
 He found her/**DEM* there nice out-see
 “He thought that she looked rather nice”
 b. dat meisje vond *hij*_i/**die*_i er lief uitzien
 that girl found he/**DEM* there nice out-see
 “He thought that that girl looked rather nice”

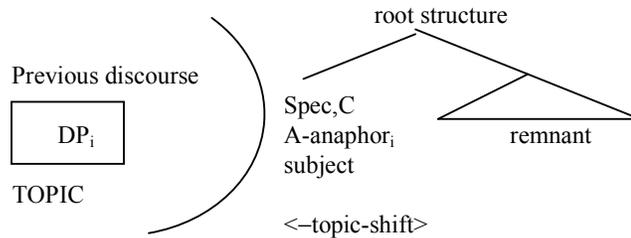
In the last sentence (7)b, the object has been topicalized, which induces subject-verb inversion in V2nd Dutch. Of course, the subject also may occupy the sentence-initial Spec,C position, see (8).

- (8) *Hij*/**die* (de kleine beer) vond het meisje lief
 He/**DEM* (the little bear) found the girl nice
 “He thought that the girl was nice”

In (8) the subject is a 3rd person pronoun and there is no topic-shift. We take here the position of Holmberg (1986) and Rizzi (1991) that the Spec,C position in V2nd languages is an A-bar position for topic-hood, but that it may be reinterpreted as a Spec,I A-position for the canonical subject. That is to say, the sentence-initial pronouns in (5)a and (8) both occupy the Spec,C position, but only in (5)a it is an A-bar position for the *d*-pronoun.⁷ The personal pronoun *hij* in (8) is in a canonical subject position, as represented by the tree structure in (9).

⁷ German seems to fit into this structural picture too, as evidenced by a corpus study of German newspaper texts in Bosch and Umbach (2007). In this corpus, 3rd person subject pronouns appear equally (roughly 50-50%) in sentence-initial and in sentence-internal position, whereas 3rd person object pronouns uniquely (almost 100%) occupy a sentence-

(9)



Objects in sentence-initial position are A-bar topics. In unstressed contexts, object pronouns in Spec,C will invariably appear as a *d*-pronoun, see (10).

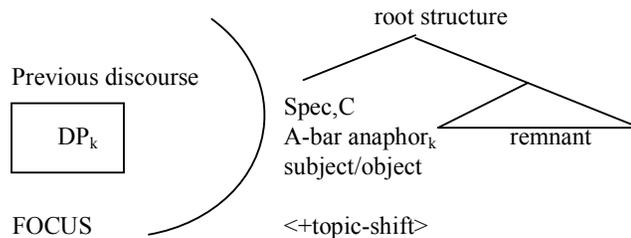
(10) [De grote beer]_i wees naar [zijn zoontje]_k

“The big bear pointed at his son”

- a. *Die*/**h(e)m*_i (zijn zoontje) vond *hij*_k (de grote beer) wat klein
DEM/**him* (his son) found he (the big bear) what small
“He found him a little bit small”

The anaphor **h(e)m* in (10) is an unstressed personal pronoun. For that reason, it cannot enter the Spec,C. The structural conditions for the <+topic-shift> *d*-pronoun in Spec,C are given in the tree in (11).

(11)



The formal characteristics of the *d*-pronoun are now argued to be as in (12).

(12) Topic *d*-pronouns <+D, +C>

- are an argument located in Spec,C of V2nd languages.
- indicate a topic-shift.
- follow the paradigm of some A-bar anaphor (distal demonstrative in Dutch, definite article in German, Swedish).
- take as an antecedent a major constituent focused in the preceding clause.

internal position. The *d*-pronouns (subjects and objects) appear for 93% in the sentence-initial Spec,C position. One wonders whether the remaining 7% fits a contrastive interpretation.

Up till now we have discussed the characteristics of the A-bar reference tracking device, points (12)a-c. In the next section we will have a look at the discourse properties of the antecedent, point (12)d.

3. Properties of the antecedent

Whereas personal pronouns may refer to any antecedent DP, the Germanic A-bar *d*-pronouns require that their antecedent be a major constituent and be marked as prominent in the preceding clause. The *d*-pronoun in (13)a refers back to an argument that had a prominence with focus quality.

- (13) De grote beer zijn zontje zag in zijn bedje **een meisje** liggen
 The big bear his son saw in his bed a girl lying
 “The big bear’s son saw a girl lying in his bed”
 a. *Die* keek erg verbaasd (een meisje / *de grote beer / *zijn zontje)
 DEM looked very surprised (*the big bear / *his son / a girl)
 “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 (14), or if it were pronominalized by *haar* (‘her’) as in (15), it loses the focus and sentential stress. Therefore, it is no longer referred to by the *d*-pronoun.

- (14) De beer zijn zontje heeft het meisje nog **op de zolder** gefotografeerd
 The bear’s son has the girl yet in the attic photographed
 “The bear’s son has taken a picture of the girl in the attic”
 a. *Die* was erg klein (de zolder / *de beer / *zijn zontje / *het meisje)
 DEM was very small (the attic / *the bear / *his son / *the girl)
- (15) 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”

The major constituent property of the A-bar anaphor is demonstrated in (16).

- (16) Heb jij **het vriendinnetje van de kleine beer** naar boven zien gaan?
 Have you the girlfriend of the little bear upstairs see go?
 “Did you see the little bear’s girlfriend go upstairs?”
 a. Ja, *die/!zij* is naar bed gegaan (the girlfriend)
 Yes, DEM/!she is to bed gone
 “Yes, she went to bed”

- b. Nee, *hij/*die* heeft haar een bord pap gegeven
 No, he/*DEM has her a plate porridge given (the little bear)
 “No, he has given her a plate of porridge”

Usually, the argument in focus is not the subject, and hence the subject is usually not the antecedent of the *d*-pronoun, but that is not relevant. The *d*-pronoun may in principle refer back to a subject, if the subject has sufficient prominence, see (17).

- (17) 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”
 b. *Die* (=het meisje met de gouden haren) is ooit model geweest
 DEM (= the girl with the golden locks) is ever model been
 “She used to be a model”

The constituent *het meisje met de gouden haren* is running subject and referred to by the personal nominative pronoun *zij/ze* (<- topic-shift>) in (17)a. Yet, it can also be referred to by the *d*-pronoun demonstrative *die* in (17)b. The construction has the flavor “as opposed to others”. A contrastive effect for topic-shift is not uncommon, but we like to stress here that it is not essential for the A-bar *d*-pronoun in Spec,C. It may be noticed, though, that a contrastive effect of the sentence-internal *die*, see for example (6), is inevitable and obligatory, as is its stress.

4. A-bar anaphors for <+topic-shift> in French and Italian

The distinction between the two kinds of free anaphoric pronouns (A-/A-bar) also holds for French and Italian.⁸ Since French and Italian do not belong to the V2nd type, and by consequence do not have a general rule for moving a constituent

⁸ English does not have a specific pronominal device for topic-shift. English may use the demonstrative *that* in sentence-initial position, but only to refer to a preceding state of affairs, rather than to a preceding antecedent taken up as a topic, see (i)a (cf. Mikkelsen 2005; among others). In the latter case, English may use a stressed personal pronoun, as in (i)b.

- (i) a. I like to wear blue suede shoes
 That (‘wearing blue suede shoes’) gives me the idea of being Elvis
 b. I only like Maxima. Shè is a star

In (i)b the object *Maxima* in focus is taken up as the topic of the new sentence by the stressed pronoun *shè*. Of course, stressing a pronoun may also result in contrastive interpretations (cf. Comrie 2000; Bosch and Umbach 2007). This option (stressed 3rd person pronoun) is available in Dutch/German as well. This makes the stressed pronoun in English an unreliable candidate for a comparison with the *d*-pronoun.

to Spec,C, these languages employ different devices for <+topic-shift>. We will first consider the discourse devices for <±topic-shift> in French and subsequently in Italian. It will turn out that different languages make different choices from a general saliency hierarchy (cf. Ariel 1990; Gundel et al.1993) to express <±topic-shift>.

French prefers a left-dislocation construction to induce <+topic-shift> (Gívon 1983; Ashby 1988: 206). A left-dislocated constituent in an A-bar position is doubled by a clitic with which it shares case, number and gender features, consider (18). The A-bar constituent that occupies the left-dislocated position can be a lexical DP or a pronoun. In French, A-bar anaphors are full strong pronouns.

- (18)a. Le petit ours, [IP il grimpaît l'escalier]
 The little bear he-cl climbed the stairs
 "The little bear went upstairs"
- b. Lui, [IP il grimpaît l'escalier]
 He, he-cl climbed the stairs
 "He went upstairs"

This type of dislocation is called Clitic Left Dislocation (CLLD). It is often assumed that the dislocated constituent is base-generated in left-dislocated position and licensed by rules of predication (Chomsky 1977; Cinque 1990; see also Avram and Coene this volume). The subject or object clitic is locally bound to the dislocated element as a kind of 'shadow pronoun'.⁹

The <±topic-shift>.device in French is illustrated in (19) and (20) below. When there is no topic-shift, the 3rd person clitic appears in argument position, see (19).

- (19)[Le petit ours]_i a voulu suivre [le grand ours]_k
 "The little bear wanted to follow the big bear"
- a. Il_i/*[lui, il]_i était curieux
 He/*he, he was curious
 "he was curious"

When there is a topic-shift, the strong 3rd pronoun is used in dislocated A-bar position. The dislocated pronoun is doubled by a clitic.¹⁰ See for arguments that the strong pronoun in French is dislocated Lambrecht (1981) among others.

⁹ The term 'shadow pronoun' was used by Perlmutter (1972) and is due to the Arabian grammatical tradition.

¹⁰ In the examples (18)-(20) both subject and object arguments represent a masculine person. The masculine (unstressed) clitic *il* has a strong pronominal variant *lui*. The feminine strong pronominal variant is a stressed *elle*, as opposed to the unstressed clitic *elle*. Now topic-shift of <+feminine> would give *elle*, *elle*. Avoidance of the adjacency of two identical elements leads to: stressed *elle* for <+topic-shift>, versus unstressed *elle* for <-topic-shift>. Of course, stressing a pronoun may also result in contrastive interpretations. The problem reminds of the use of a stressed pronoun in English. A stressed pronoun may be used for topic-shift if the language does not have both weak and strong pronouns.

- (20) [Le petit ours]_i a voulu suivre [le grand ours]_m
 “The little bear wanted to follow the big bear”
 a. [lui, il]_m/*il_m grognit un peu
 He,he/*he grumbled a bit
 “he grumbled a bit”

It may be added that the non-V2nd languages (French, Italian, English) may use their strong 3rd person pronouns for <+topic-shift>, but they need not to. They may as well repeat the full DP *le grand ours, il* (‘the big bear, he’).

For Italian, Grimshaw (1995) and Grimshaw and Samek-Lodovici (1998) have shown that *pro*-drop is restricted to ‘topic-connected’ arguments. Carminati (2002) scrutinized the quantitative effects of Grimshaw’s statement. She subsequently found that the anaphor *pro* shows a strong tendency to refer to the subject of the preceding sentence. See also Serratrice (this volume). Within the present context we would like to stress again that the subject-tendency is not grammatically determined and hence in principle irrelevant, cf. (17).

The <±topic-shift> device in Italian is illustrated in (21) and (22) below. A difference with French is that Italian applies *pro*-drop if the pronominal subject is not contrastive, but apart from that the devices for <±topic-shift> seem to be identical. The <-topic-shift> A-anaphors are null (*pro/Agr*) when subject, and they are a clitic when object. Both appear within A-structure/IP. Note that it is generally assumed that clitics are in an A-bar position, since they bind an (empty) argument position. The distribution A/A-bar as we use it here is meant differently. It intends to separate A-bar anaphors in sentence-initial position with sentential scope from all A-anaphors within IP, including the clitic.

- (21) [L’orsetto]_i vide [la ragazzina]_m solo la sera
 The little bear saw the girl only in the evening
 “The little bear saw the girl only in the evening”
 a. *Pro*_i/*[lui, pro]_i non l_m’aveva mai vista prima
 (He) not her-clhad ever seen before
 “He had never seen her before”

When there is a topic-shift, the A-bar anaphoric strong 3rd pronoun is used in dislocated position. The dislocated pronoun is doubled by a *pro* when subject or a clitic when object. It stands to reason that the dislocated element can also be a noun.

- (22) [L’orsetto]_i salì in soffitta per salutare [la ragazzina]_m.
 The little bear went-up in attic for greet the girl
 “The little bear went upstairs to the attic to say hallo to the girl”
 a. [Lei, pro_m]/*pro_m stava ancora dormendo
 “She was still sleeping”
 “She was still sleeping”

The structural conditions for <+topic-shift> in Romance French and Italian (24) are then argued to be parallel to the structural conditions for <+topic-shift> in V2nd Germanic Dutch (23).

- (23) Structural conditions for <+topic-shift> anaphors (Germanic V2nd)
- a. The A-bar anaphor refers to the focus prominence of the preceding clause.
 - b. The A-bar anaphor is a *d*-pronoun that is in principle restricted to the A-bar Spec,C position.
- (24) Structural conditions for <+topic-shift> anaphors (Romance non-V2nd)
- a. The A-bar anaphor refers to the focus prominence of the preceding clause.
 - b. The A-bar anaphor is a strong personal pronoun that is in principle restricted to the dislocated A-bar position.

The Romance/Germanic difference is that the Germanic A-bar anaphor binds an empty place (a trace), whereas the Romance A-bar anaphor binds a clitic or *pro*/Agr, see (25).

(25)

Topic-shift	Dutch/German	French/Italian
Anaphor	Spec,C A-bar <i>d</i> -pronoun	clause adjoined A-bar personal pronoun
Argument	empty position in A-structure	clitic or <i>pro</i> /Agr in A-structure
Antecedent	± subject non-topic	± subject non-topic

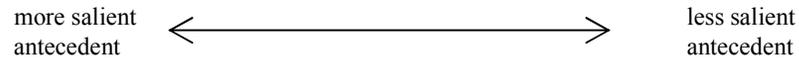
The V2nd type of language supports a more grammaticalized construction to express the topic-shift discourse function

5. Saliency hierarchy for anaphoric pronouns

Ariel (1990), Gívon (1983), Gundel et al (1993), among others, have set up accessibility hierarchies. They propose that the form of anaphoric expressions signals the relative 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. Consider the accessibility hierarchy for pronominal elements taken from Ariel (2001: 29) in (26).¹¹

¹¹ Note that Ariel talks about ‘referent’ where we prefer ‘antecedent’. Ariel’s accessibility of the antecedent is determined by saliency factors such as topichood, recency and stereotype-ness of the antecedent. Ariel makes a distinction between physical givenness and linguistic givenness of an antecedent, roughly our situation-bound versus discourse-bound anaphors.

(26) null > clitic > reduced pronoun > full pronoun > demonstrative



A more structural view on anaphoric pronouns is possible for the set of discourse devices discussed here. There is an A/A-bar opposition for anaphoric pronouns. It stands for <±topic-shift> and it is based on a single opposition along the saliency hierarchy for anaphoric pronouns, see (27). Only the 3rd person masculine pronoun in Dutch, French and Italian is given in the list. The black/grey opposition in (27) indicates which saliency difference has to be selected to express the <±topic-shift> function.

(27) Hierarchy of anaphoric pronominal devices: less salient → most salient

	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)	

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 (17)a repeated here as (28)a.

(28) 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

She includes 'physically given' antecedents in her analysis. The present analysis is directed at 'linguistically given' antecedents only, as the ones that realize the core property of human language "situation-free, c.q. discourse-bound" (Chomsky 1968).

maintain the topic, they say ‘subject’, of the preceding sentence. Note how in the light of (27) 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*-pronoun¹²

6. The acquisition of the referential system

It was argued above that 3rd person pronouns and topic *d*-pronouns are referential elements that may be used anaphorically to refer to a previously mentioned antecedent. Following Postal (1966) we will classify them as D^o elements, like articles.¹³ These characteristics are listed in (29).

- (29) 3rd person pronouns and *d*-pronouns
- a. are referential signs D^o (determiners)
 - b. may have a DP discourse antecedent

Postal’s point of view is confirmed by the graphs for the acquisition of articles and 3rd person pronouns as we will show in (34). The simultaneous acquisition of articles and anaphoric pronouns demonstrates that the real acquisition step is the introduction of a referential system added to argument structure. This view is in line with Williams (1994) who argued for non-acquisitional reasons that there is a close relation between the grammatical theta/case marking of arguments and anaphoric signs for referentiality.

In previous work (Van Kampen 2002, 2004, 2006) it was argued that children start with situation-bound anaphoric reference that is still discourse-free and without reference to previously mentioned antecedents (see also Lyons 1979; Atkinson 1979; Hickmann 1982; among others). Articles and discourse anaphors are lacking in early child language. We 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. The acquisition of D^o-marking realizes within half a year the introduction of articles, 3rd person clitics and pronouns, and *pro*-drop, at least for the languages considered here.

¹² The weak reduced subject pronouns *ie* and *t* cannot be used sentence-initially in Dutch. Different test sentences, with subject inversion, are therefore needed to test the generalization of the present claim. This holds as well for the object pronouns.

¹³ The long-debated question whether pronouns are only D^os or also DPs, has fortunately evaporated due to a more reduced labeling convention (Chomsky 2000). The D^o/DP labels are use now for exposition only.

(30)

<i>Phase 1: situation-bound</i>	<i>Phase 2: discourse-bound</i>
No topic-maintenance device - all anaphors are gesture-sustained - no {articles, agr, clitics, pronouns, <i>pro</i> }	Topic-maintenance device - anaphors need not be gesture-sustained - {articles, agr, clitics, pronouns, <i>pro</i> }

Language acquisition is a gradual process and D⁰-marking is the crucial turning point here. It may take roughly half a year and a million and a half of short sentences (say 30 weeks of 5000 small sentences a day).

6.1 The acquisition of the referential system in Dutch

We will first have a look at the acquisition of Dutch. For Dutch, we counted the use of referential markings in the speech of Sarah (Van Kampen corpus in CHILDES, MacWhinney 2006).

The most important acquisition steps within the first phase is the marking of illocution by a finite verb in the first or second position (the V2nd position).¹⁴ The first phase is characterized by an abundant use of deictic situation-bound 1st and 2nd person pronouns and demonstratives in both non-finite and finite marked sentences. This seems reasonable. The 1st-2nd person pronouns express a <±speaker> opposition and the demonstratives a <±proximate> opposition, all situation-bound oppositions.

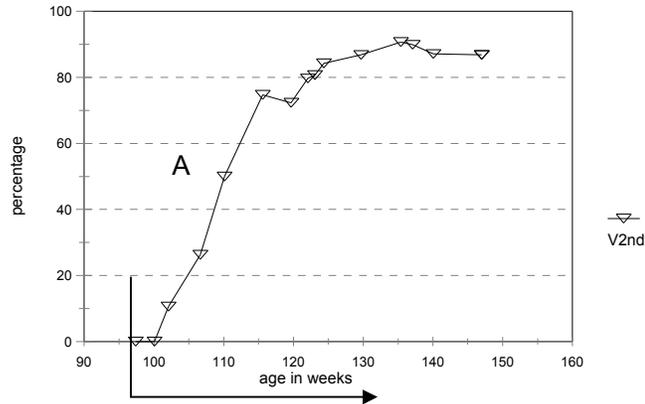
Examples of a non-finite clause with a demonstrative are given in (31).

- (31) a. *deze hebben* (Sarah week 86 / 1;7.21)
that (one) have
“(I wanna) have that one”
- b. *die niet lachen* (Sarah week 107 / 2;0.17)
that (one) not laugh
“as far as that one is concerned, he is not laughing”

The primary selection of the demonstrative was earlier observed by Haegeman (1996) for the Dutch child Hein. The graph in (32) represents the acquisition of the finite verb in first/second position (graph from Evers and Van Kampen 2001). We take it that the child has acquired systematic marking when she realizes > 80% of the adult norm.

¹⁴ For proposals that V_{fin}-to-C is connected to the illocutionary force of a clause, see Evers (1981), Wechsler (1991), Van Kampen (1997), Gärtner (2002), among others.

(32) Sarah (Van Kampen corpus, CHILDES)



Situation-bound demonstratives (present from the very beginning on)
Graph A: the rise of finite verbs in V2nd position

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, we counted 50 examples of contrastive demonstratives. Presentationals were excluded from the count. All 50 examples were related to a referent in the situation. Examples of such demonstratives (referring to a referent in the situation) are given in (33).

(33) Anaphoric pronouns: gesture-sustained

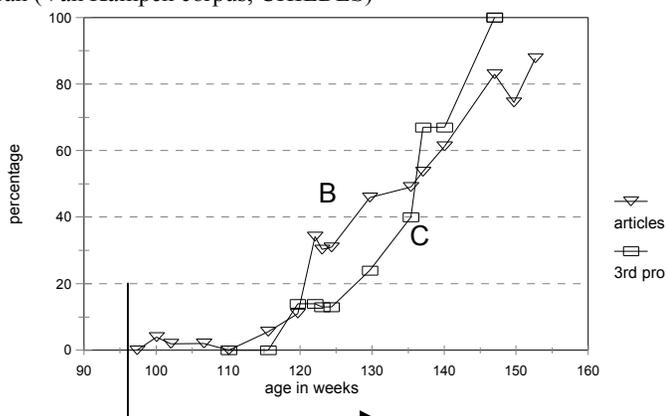
- a. (playing Memory; one card doesn't match) (week 107 / 2;0.17)
Sarah: *die* kan niet mee(r).
"that cannot anymore"
- b. (looking at a picture) (week 116 / 2;1.10)
Sarah: oehoe, uilen op het dak.
"oehoe, owls on the roof"
mother: ja, twee uilen op het dak.
"yes, two owls on the roof"
Sarah: *deze* hoefe niet op (h)et dak.
"these need not (go) on the roof"

Early child language uses the <+topic-shift> form *die* abundantly. Because there is no linguistic context yet, each sentence in child language names its own topic, as if it were a first mention.

It is only in the second phase, after week 120, that Sarah starts using articles before nouns, graph B, with some regularity. The graph for 3rd person pronouns

(graph C) shows the growing reliability of the child on discourse anaphors. The parallel acquisition graphs (same period, same speed) in (34) indicate that indeed the acquisition of discourse anaphors and articles are closely related.¹⁵ It constitutes a striking support for the claim that D⁰-marking is a matter of argument identification, rather than some noun-extension, as argued for in Williams (1994).

(34) Sarah (Van Kampen corpus, CHILDES)



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

Graph B: articles before nouns

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

It may be deduced from the graphs in (34) that A-anaphors are acquired simultaneously with articles, and that the use of demonstratives runs ahead of both. The rise in the use of articles and the parallel rise in the use of 3rd person pronouns take place between week 120 and week 145. A qualitative study of the Sarah files shows that the 3rd person pronouns are indeed used as A-anaphors to indicate the maintenance of a topic that was linguistically introduced in the preceding sentence. At the same time, the <-proximate> demonstratives *die* and *dat* used previously for situation-bound reference, are now also applied as A-bar *d*-pronouns that indicate a topic-shift w.r.t. the preceding sentence.¹⁶

¹⁵ From Van Kampen (2004). Each point in graph C represents the ratio of 3rd person pronouns w.r.t. nouns ($DP<+pronoun>/DP<+/-pronoun>$) in the speech of Sarah, measured as a percentage of the ratio $DP<+pronoun>/DP<+/-pronoun>$ in the speech of the mother within the same file. Graph B represents Sarah's systematic use of articles (and other D⁰ elements) before nouns, the ratio $<+D[-NP]>/<+/-D>[-NP]$. In Dutch, the use of a D⁰ is obligatory with singular count nouns and definite plural nouns and only the +/- oppositions in these contexts were counted.

¹⁶ Psycholinguistic experiments as well as conventional recordings have the disadvantage to invite situation-bound utterances. The crucial point here is that child language after the

Examples of discourse-bound 3rd person pronouns for <-topic-shift> and *d*-pronouns for <+topic-shift> are given in (35) and (36).

(35) (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.”

(36) (shifting the attention to a picture at a jigsaw puzzle) (week 133/2;6.18)

mother: dan past die (=stukje) misschien daar?

“then that (piece) 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 had been learned before.

Romance French and Italian use, respectively, weak 3rd person pronouns and *pro*-drop for <-topic-shift> and strong person pronouns in adjunct positions for <+topic-shift>. One may wonder how the acquisition of this system relates to the acquisition of articles and verbal agreement. In the next section we will look at the acquisition steps in non-V2nd Romance French.

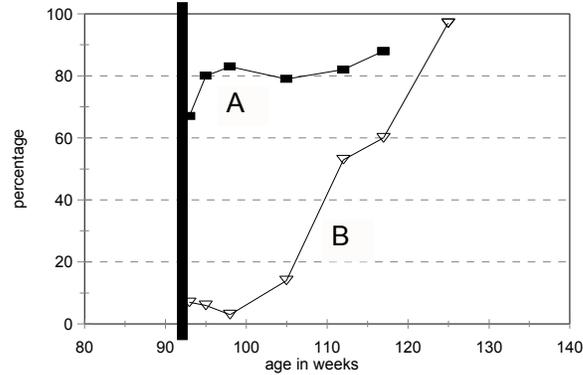
6.2 The acquisition of the referential system in French

Dutch children figure out the predicational I⁰ with its V2nd rule, before they acquire D⁰-marking. This was shown for Sarah by the graphs in (32) and (34). The acquisition of the verbal system {theta-frames and <±finite> paradigms} functions as a prerequisite for the acquisition of the referential D⁰-system.

French children have a more easy access to the I⁰-system and their acquisition of the D⁰-system seems to take place several months earlier than in Dutch. The most important point, though, is that in French as well as in Dutch the I⁰/C⁰-marking of illocutions crucially precedes the referential D⁰-marking, which is a matter of (linguistic) discourse structure (Van Kampen 2004). For French, we counted the use of referential markings in the speech of Grégoire (Champaud corpus in CHILDES, MacWhinney 2006). The French articles are used systematically after week 120 (graphs from Van Kampen 2004).

acquisition of D⁰-marking may and also do from time to time refer to a linguistic antecedent not present in the situation.

(37) Grégoire (Champaud corpus, CHILDES)



Graph A: the rise of finite verbs

Graph B: the rise of determiners

(The black vertical marks the starting point of Champaud corpus)

French children acquire articles earlier than Dutch children. Between week 93 and week 120 there is a rise in the graph for determiners in (37). In that period (7 recordings between 1;9.18-2;3), Grégoire did not use any referential marking to indicate an anaphor in the linguistic situation. A gesture-sustainable antecedent was always present. In the sentences with a finite verb, we counted 58 examples of dislocated nouns doubled with a clitic to indicate a referent in the situation.¹⁷ Grégoire also used (gesture-sustained) contrastive demonstratives related to a referent in the situation. Again, presentationals were excluded from the count. There were only a few 3rd person single clitics (A-anaphors), and there was no use of A-bar anaphors (dislocated pronoun doubled by a clitic) referring to a linguistic discourse antecedent. That is clearly a different acquisition step.

Examples of the use of dislocated nouns doubled by a clitic referring to a referent in the situation are given in (38). The dislocations sometimes are to the left as in (38)a, but most of the time they are to the right, as in (38)b (Van Kampen 2002, 2004; Van der Linden and Sleeman 2007). The preference of right-dislocations seems an effect of the presence of a situation-bound gesture-sustainable referent.

(38) Anaphors: gesture-sustained

a. (looking at a picture in a book)

(Grégoire 1;9.28/week 95)

crocodile, il mange
“crocodile, he eats”

¹⁷ See for the early use of dislocated nouns in French child language De Cat (2002). De Cat argues that this shows an early discourse competence in children. This is quite the opposite of what we claim.

- b. (holding a car) (Grégoire 1;11.22/week 103)
elle roule, *la* voiture
 “she goes, the car”
- c. *celle-là*, *elle* est petite (Grégoire 2;1.25/week 112)
 “that one, she is small”
- d. c’est é canard et *ça* roule (Grégoire 2;3/week 117)
 “it’s a duck and it goes”

Since there is a situational context only, each sentence in the language of the child names its own topic. The same type of evidence comes from elicited narratives with picture sequences in a study by Hickmann and Hendriks (1999). They report that in this context, French children up to the age of seven use dislocated nouns doubled by a clitic (*il... le chien*, ‘he ... the dog’/*le chien, il* ‘the dog, he’) for the first mentions of a new discourse topic. It shows that even older children may heavily rely on the situational context when pictures are involved. In the adult language, a newly introduced discourse topic can, in general, not be referred to by a definite description (lexical definite DP or pronoun/clitic).

As stated in the previous section, the rise of articles indicates the growing use of nouns as referential arguments in linguistic discourse. The rise of articles is narrowly related to the rise of anaphors. These are in Dutch the rise of 3rd person pronouns and in French the appearance of clitics. See the table in (39).

(39) French Grégoire: anaphoric subject clitics for topic-maintenance

age in weeks	a. determiners	b. dislocated noun + clitic (in % w.r.t single clitic)		c. single subject clitic		d. single object clitic <i>le/la</i>
				<i>il</i>	<i>elle</i>	
93	7%	8	89%	0	1	0
94	6%	7	78%	0	2	0
98	3%	7	78%	0	2	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

The gray area in (39) indicates that the acquisition point of articles (>80%) (39)a is simultaneous with a sudden rise of single (non-doubled) subject clitics (39)c and object clitics (39)d in the speech of French Grégoire. This sudden rise of single clitics can be characterized as the acquisition of discourse structure reflected by topic-maintenance. Unlike the pronouns in Dutch, French 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.

There are a few instances of a single clitic in the speech of Grégoire before week 120, for example the one in (40).

- (40) 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 accompanies the clitic (Van Kampen 2002). It is the gesture that brings in focus the intended referent, not the unstressed clitic. The gesture directs the hearer's attention towards an object present in the utterance situation (Kleiber 1994: chapter 5). See also Tedeschi (this volume) for child Italian.

Examples of the discourse-bound devices for < \pm topic-shift> that appear after week 120 are given in (41).

- (41) Anaphors: discourse-bound
 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 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 did that jeep do at the see?"
 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 (Givon 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.

7. Conclusion

Beside the identification of arguments within the sentence by order restrictions and case marking, there is an identification of arguments within discourse. West-European languages use articles to distinguish arguments as < \pm previously mentioned>. Besides articles there are personal pronouns that are to be indexed, c.q. identified, with an 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'. It is not necessarily the subject. If a sentence takes a topic different of the topic of the preceding sentence, there are devices to mark the sentence as < \pm topic-shift>. These < \pm topic-shift> devices vary with the type of language. The Germanic V2nd languages use a demonstrative pronoun in the Spec,C position (an A-bar pronoun). This *d*-pronoun refers to an argument in the preceding sentence that had a focus-kind of prominence. Neither the

topic referred to by the A-bar *d*-pronoun, nor the preceding argument with focus prominence needs to have a <+subject> or a <-subject> status, see section 3. The same independence from sentence-internal functions such as <±subject> holds for Romance. The Romance languages mark the <+topic-shift> by a dislocated argument supported by a sentence-internal clitic, see section 4. The dislocated argument may have the status of a strong personal pronoun.

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 situation-free and discourse-bound. The switch from the situation-bound early child language to the later situation-free child language does not take place before the discourse units, the successive sentences, have acquired an internal coherence due to argument theta-frames of the denotational verb and the opposition between <±finite> verb. There is a crucial acquisition order. Sentence-internal I⁰-marking for situation-bound early child language precedes discourse-oriented D⁰-marking for the later situation-free child language. This fundamental acquisition order has already pointed out in Van Kampen (2002, 2004)

There is a common point in the acquisition of the <±topic-shift> devices. Both Germanic V2nd and Romance child language 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.

A second common point of the <±topic-shift> devices in Germanic and Romance is the close connection with D⁰-marking, the acquisition of articles and their like. The West-European D⁰-marking of arguments is clearly a matter of discourse orientation as it requires the distinction between <+definite>, i.e. previously mentioned, and <-definite>, i.e. newly introduced. Whereas simple naming by proper names and gesture-sustained deixis can be used in situation-bound language use, D⁰-marking is different. It requires an explicit or implicit discourse structure. Its base-point is reference as identification within a linguistic context. This is more than some plausibility view. The longitudinal acquisition curve for articles coincides with the acquisition curve for 3rd person pronouns in Germanic V2nd (Dutch). The coincidence of these two curves supports the claim that the basic acquisition procedure that we see here is the acquisition of discourse reference. The indexing system, so to speak, that is used by logicians and linguists alike. As argued in Van Kampen (2002, 2004) and Avram and Coene (this volume), the 1st and 2nd person pronouns/clitics have to be kept out of the acquisition graphs as they are situation-bound (speaker, hearer). The longitudinal graphs show that we are on the right track. Of course, graphs of more children acquiring different Germanic V2nd languages are needed.

The Romance personal pronouns appear in principles as clitics. They have a specific distribution of their own, different from the corresponding fully spelled out arguments. The basic factor in their learnability must have been the presence of the argument structure associated with the denotational verb. Note that table (39) shows no difference between the acquisition of subject and object clitics (pace Hamann et

al. 1996). The simultaneous acquisition of subject and object clitics supports the idea that the underlying condition of this acquisition step is the presence of the argument theta-frame of the verb.

Psycholinguistic and quantitative studies have often observed that people tend to use an unstressed 3rd person pronoun (Germanic) or clitic/*pro* (Romance) to refer to the subject of the preceding clause. We have argued that these observations are correct, but irrelevant. It is not to deny of course that other types of languages employ a grammaticalized relation between subject status and topic-hood, for example Sesotho (a Bantu language). The subject in Sesotho must be at the same time the definite presumed old information topic. The Sesotho child is up to the challenge and introduces all the subject-changing transformations required by discourse (Demuth 1989). There, as well as here, it turns out that the real acquisition step is not the transformational variance in distributions, but reference-tracking in discourse.

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