

# *The Acquisition of French as a Native Language: Structural and Functional Determinants in a Crosslinguistic Perspective*

## *L'acquisition du français langue maternelle : déterminants structurels et fonctionnels dans une perspective translinguistique*

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### ABSTRACT

A large body of research has examined the acquisition of French as a native language. The synthesis proposed herein provides a broad overview of the findings in many domains of French child language from the emergence of productive speech until the end of primary school. I first review the course of early development in three areas: morphology, the lexicon, and clause structure. I then discuss varied aspects of grammatical and discourse development that cut across these divisions. These findings bear on two theoretical questions. First, they show the impact of factors operating at two levels of linguistic organisation, the sentence and discourse, suggesting that both structural and functional determinants affect development. Second, some aspects of development at both levels are specific to French (and to typologically related languages), suggesting a complex interplay between universal and language-specific developmental mechanisms. The conclusion highlights some areas of French child language that are in need of further study in light of these questions.

### ABRÉGÉ

De nombreuses recherches se sont consacrées à l'acquisition du français langue maternelle. Cette synthèse fournit un survol des progressions attestées dans différents domaines du langage de l'enfant francophone depuis l'émergence des productions langagières jusqu'à la fin de l'école primaire. Je résume d'abord les résultats concernant trois aspects des premières phases du développement: la morphologie, le lexique, et la structuration de l'énoncé. Je présente ensuite divers aspects de la compétence grammaticale et discursive de l'enfant qui échappent à cette classification. Les résultats permettent d'aborder deux questions théoriques. Ils montrent d'abord l'impact de facteurs opérant à deux niveaux d'organisation de la langue, la phrase et le discours, montrant le rôle de déterminants structurels et fonctionnels au cours du développement. Par ailleurs, certains aspects du développement à ces deux niveaux d'organisation sont propres au français (et à d'autres langues de la même famille), indiquant l'existence de relations complexes entre certains mécanismes universels et d'autres qui sont propres à une langue donnée. La conclusion souligne également certains aspects du langage de l'enfant francophone encore peu explorés à la lumière de ces questions.

### KEY WORDS:

French, language acquisition, crosslinguistic, discourse

The synthesis proposed below has two aims: to provide as thorough an overview as possible of existing research areas concerning the acquisition of French as a native language, and to suggest how some of the reported developmental patterns might bear on general theoretical questions which have gained increasing attention in developmental psycholinguistics. In particular, the findings present two facets within a crosslinguistic perspective: some are specific to French (or related languages), while others recur across languages, suggesting the existence of both language-specific and universal aspects of language acquisition. In addition, the findings bear on a second question, concerning the determinants of acquisition, since they show the impact of different factors, which operate at two levels of linguistic organisation: the sentence and discourse.

I have divided findings into three parts. The first one provides an overview of the course of early development, grouping obser-

ventions according to traditional divisions (morphology, lexicon, clause structure). The other two parts select some findings concerning children's early or late grammatical and discourse development that cut across these divisions and address more directly the two theoretical questions above. The conclusion discusses the implications of various findings and suggests some directions for future research. The Appendix provides a brief description of some relevant properties of French for readers not familiar with this language.

Two points should be noted at the outset. First, the findings are scattered, as well as methodologically and theoretically heterogeneous. The sources of the data are quite varied (diary notes, recorded longitudinal data, experimental studies based on different methods). Some studies are descriptive, while others test particular hypotheses within a variety of theoretical frameworks. Some studies use French data only incidentally, while others address some questions about this language specifically. Second, given space limitations, this review is necessarily



selective and compact. The reported observations concern the spoken language of monolingual French-speaking children in different countries from the emergence of productive speech to the end of primary school.<sup>1</sup> However, I have left out many findings concerning French child language, notably in two areas: the prelinguistic period, including the babbling, phonological development, and auditory capacities of infants growing up in a French-speaking environment; and, the written modality, which differs in many respects from the spoken one (see Appendix, point 4). Furthermore, my review provides general indications of the selected findings, along with many bibliographic references to be consulted for further details. I generally expand the findings of recent studies, referring to Clark's (1985) detailed overview of earlier studies (e.g., the often-cited François, Sabeau-Joannet, & Sourdot, 1978; Grégoire, 1937, 1947).

### General Course of Early Development

This section focuses particularly on observations concerning three areas of early French child language: morphology, both nominal (gender, number) and verbal (tense, aspect); the lexicon, including children's earliest 'words', as well as later processes of innovations (nouns, verbs) and the expansion of 'grammatical words' (determiners, pronouns, prepositions); clause structure, including general observations concerning simple and complex utterances. Table 1 summarises the main points concerning each area. Some of these phenomena are further discussed below in relation to other developments, including rather late ones, only briefly mentioned here.

#### Morphology

*Gender, number.* French gender and number are mostly marked on nominal determiners and pronouns, but also partially on some adjectives, past participles, and nouns (cf. Appendix, point 2). In her overview Clark (1985) concludes that French-speaking children seem to master gender and number relatively early (by about three years). Some early gender errors can be observed locally on determiners and adjectives, (e.g., 1 and 2; cited in Clark, 1985) or (3; see below, cited in Boysson-Bardies, 1996). However, many gender and number errors involve an overgeneralization of the masculine subject pronoun *il(s)* or reduced *i* 'he/they:MASC' (see Appendix, point 1) with gender and number agreement errors between nouns and coreferential pronouns. Such cases can be observed within dislocations (such as 4; cited in Clark, 1985), which involve the repeated mention of a referent with a noun and pronoun. Other cases involve a masculine pronoun after a feminine antecedent in the preceding clause. Experimental studies by Karmiloff-Smith (1979) show that three-year-old children are sensitive to gender indices in nouns also. For example, they provide masculine determiners with some nonsense words (e.g., *le bicron*), but feminine ones with others (e.g., *la forsienne*). Rare number errors involve, mostly, overgeneralizations with irregular plurals (such as 5),

although some late errors in subject-verb agreement occur with plural nouns (e.g., 6).

1. \**la [le] petit bouton.* ('the:FEM little:MASC button')
2. \**gros [grosse] porte.* ('big:MASC door')
3. \**mange ma [mon] beurre le [la] cuillère.* ('eat my:FEM butter the:MASC spoon')
4. \**i a sese [cherché] des boîtes, la 'tite fille.* ('He looked for boxes, the little girl')
5. \**des chevaux [chevaux]* ('Horses')
6. \**Les chats, il vient.* [correct: *Les chats, ils viennent*] ('The cats, he comes' instead of 'The cats, they come')

Note: \* represents an error relative to adult productions; [ ] indicates the correct form.

*Tense and aspect.* As is the case in many languages, French verbal forms simultaneously encode distinctions of tense and aspect (cf. Appendix, point 2). Roughly, tense (present, past, future) relates the time of denoted events to speech time or to some other reference point introduced in discourse, while aspect allows speakers to present events from two perspectives: as intervals (imperfective aspect) or as points (perfective aspect). For example, in (7) John's reading is presented as an interval (English past progressive, French *imparfait*), during which Mary's point of arrival occurs. In contrast, in the absence of other markings, both events are assumed to be successive points in (8; English nonprogressive, French *passé composé*).

(7) *Jean lisait un livre. Marie est arrivée.* ('John was reading a book. Mary arrived.')

(8) *Jean a lu un livre. Marie est arrivée.* ('John read a book. Mary arrived.')

Among the developmental studies of French tense-aspect morphology and related markings (adverbials, connectives; e.g., Sabeau-Joannet, 1973; see a review in Clark, 1985), some indicate that children first mark aspect and not tense (Bronckart, 1976; Bronckart & Sinclair, 1973; Ferreiro, 1971). In an often-cited study (Bronckart & Sinclair, 1973), children between three and eight years described events that were acted out by the experimenter and were varied along several dimensions: resultativity (whether the event has an inherent result or terminal point), *durativity* (the extent to which it lasts), and *iteration* (whether it is repeated). Roughly, children of all ages used the *passé composé* more often with resultative events than with nonresultative ones. However, it was only from six years on that they used past tenses to mark anteriority in relation to speech time, mainly using the *passé composé* with resultative events such as (9), and the *imparfait* with nonresultative ones such as (10). Before 6 years, they used the *passé composé* with nondurative resultative events similarly to (9), but the present with durative or iterative ones (e.g., 11), and with nonresultative events (e.g., 12). Similar findings have been reported with different data bases in French and other languages.<sup>2</sup> Such findings have led to a 'defective tense hypothesis', according to which children first use verbal forms to differentiate results and processes, rather than to mark temporal relations. Such a view

**Table 1. Overall course of development in morphology, the lexicon, and clause structure.**

Area of child language	Emergence in production before three yrs	Early mastery (by three yrs)	Errors, difficulties, specific patterns (until five or six yrs)	Late developments (after six or seven yrs)
<b>Morphology</b>				
Gender, number	before 2 yrs	yes	errors with agreement and irregular plurals	
Tense, aspect	<i>présent, passé composé</i> , past participles : before 2 yrs	partially	overgeneralizations of most forms impact of situation types, abundant uses of the <i>présent</i> and <i>passé composé</i>	other compound forms, conditionals, subjunctives; discourse-internal functions
<b>Lexicon</b>				
Nouns, verbs	before 2 yrs, initially N>V	partially	errors, innovations, expansion	further expansion
Determiners	2;0 - 2;6 yrs	partially	rapid increase, deictic uses and interpretations, correct uses for nonspecific reference	discourse-internal functions
Pronouns	- 1st/2nd pers: before 2yrs - 3rd pers: 2-3 yrs	yes partially	rapid increase, abundant uses, deictic uses and interpretations	discourse-internal functions
Prepositions	- à: before 2 yrs  - à côté, dans, sur/sous: 2-3 yrs	partially  partially	overgeneralizations and incorrect interpretations of some spatial prepositions, impact of intrinsic object properties	gradual acquisition of spatial prepositions (vertical axis, then sagittal axis, then other prepositions)
<b>Clause Structure</b>				
Simple sentences	- right-disloc: before 2 yrs - left-disloc: 2;0 to 2;6 yrs	partially partially	abundant dislocations, with some agreement errors; rare full SVO sentences	discourse-internal functions
Complex sentences	- <i>et (pis)</i> : before 2 yrs - <i>mais, après</i> : 2-3 yrs	partially partially	undifferentiated or incorrect uses and interpretations of some connectives/adverbs, errors with object relatives, avoidance of complement sentences	acquisition of new semantic and pragmatic distinctions encoded by connectives and adverbials; development of some grammatical aspects of clause structure; discourse-internal functions

postulates that the development of children's verbal morphology, and particularly the strong association between results and the past perfective, is determined by underlying concepts of situations, reflecting cognitive development and presumed to be universal (see Hickmann, 1995; Weist, 1986 for reviews).

9. Il a sauté la barrière d'un coup. ('He jumped the fence in one jump.')
10. Dans le lac il y avait un canard qui nageait. ('In the lake there was a duck that was swimming.')
11. Il monte sur les barrières. ('He climbs/is climbing on the fences.')
12. Le canard il flotte. ('The duck, he floats/is floating.')

The defective tense hypothesis, however, is not undisputed given evidence showing variations in the course of children's tense-aspect forms across contexts, ages, and languages. I return to this general point in the conclusions section, merely noting here one example based on analyses of early French longitudinal data (Champaud, 1993, 1994a). These analyses show that the expected relation between predicate types and verbal morphology can indeed be observed, but mostly during the earliest period: resultativity is strongly associated to past perfective markings before 2;0 years, but this relation is much weaker subsequently (already between 2;0 and 2;6 years). The findings also show the importance of compound forms in early French in comparison to



other languages. In particular, the *passé composé* (and related past participles) is quite precocious and develops rapidly. This form marks the two functions of perfective past and current relevance, for which different forms are available in other languages (see further discussion below).

Other aspects of children's tense-aspect morphology concern their frequent overgeneralizations of forms (see Appendix, point 2). Longitudinal evidence (Champaud, 1996a) shows that children begin to overgeneralise the morphology of irregular verbs to several types of regular ones. For example, they use not only the first group of ER-verbs as a model, for example infinitives such as (13) and past participles such as (14), but also regular models from other verb classes, which share a number of phonemic properties as a subgroup, such as (15) and (16). Note that some of these other verb classes are quite frequent in children's speech, even though they are not the most frequent in adult speech (Clark, 1985). With the increasing development of the lexicon between about two and two-and-a-half years, verbs from the first group become predominant, providing a powerful model for overgeneralization (Champaud, 1996a).

13. \*rier [rire] 'to laugh'; \*tiender [tenir] 'to hold'
14. \*couré [couru] 'run'; \*metté [mis] 'put'; \*prendé [pris] 'taken'
15. \*viendre [venir] 'to come'; \*tiendre [tenir] 'to hold'
16. \*prendu [pris] 'taken'; \*éteindu [éteint] 'turned off'

### Lexico-semantic Development

*First words and early lexicon.* Some evidence from French-speaking children's earliest 'words' shows both similarities and differences across languages. A number of results concerning phonetic and phonological properties of early lexical items show that the syllable is a more fundamental unit for French-speaking children than for English-speaking ones, for whom stress is most central (Boysson-Bardies, 1996). With respect to word-class composition, although nouns are predominant in the early French lexicon (as is the case in English), verbs are more frequent than in English (Bassano, in press; Boysson-Bardies, 1996; Boysson-Bardies & Vihman, 1991). Recent analyses (Bassano, in press; Bassano, Maillolchon, & Eme, in press) of both longitudinal and cross-sectional data from young French children also show that, in contrast to English corpora, the French data show the predominance of para-lexical items during early phases (e.g., interjections, fillers, formulae), as well as an early and striking increase of 'grammatical words' (40% of the lexicon at 30 months). Finally, the analyses show a progression from an initial phase, during which word classes are mostly conceptually based, and a gradual process of formal differentiation by grammatical means (e.g., determiners for nouns, auxiliaries and morphology for verbs).

*Errors and innovations in nouns and verbs.* Later lexical development in French is characterised by overgeneralizations and/or innovations with nouns and verbs, partly observed in other languages (for more details, see Clark, 1985, in press). With respect to nouns, innovations in French frequently take the form of

affixation, e.g., (17) and (18). Children also use verbs and/or past participles instead of nouns, e.g., (19). With respect to verbs, Clark reports persistent errors (until six years) consisting of frequently transforming intransitive verbs into transitive and/or causative ones (e.g., 20), confusions in pairs as in (21), innovations of verbs from nouns (e.g., 22), overgeneralised uses of prefixes such as *dé* (English *un* as in *undo*; e.g., 23).

17. \*une troueuse 'a hole-maker' from *trou* 'hole' (to mean *perceuse* 'drilling machine'); \*un croquoir 'a cruncher' from *croquer* 'to crunch' (to mean *un casse-noisette* 'a nut-cracker')
18. \*une saignure from *saigner* 'to bleed' (to mean 'a bleeding wound')
19. \*une fume from *fumer* 'to smoke' (to mean 'a pipe'); \*du pleuré from *pleurer* 'to cry' (to mean 'drops')
20. intransitive *tomber* 'fall' used as causative (to mean 'make fall')
21. *trouver/chercher* ('to find/look for'), *aller/venir* ('to go/come')
22. \*pianer from the noun *piano* (to mean 'to play the piano')
23. \*désendormir from *endormir* 'to make someone sleep' (to mean 'to wake someone up'); \*déchauffer from *chauffer* 'to heat' (to mean 'to make cold')

*Pronouns and determiners.* Pronouns and nominal determiners are among the 'grammatical words' which appear most rapidly in the lexicon of French-speaking children. Although these devices increase during the development of many languages after the phase of emergence, they appear earlier and more frequently in French than in a language such as English. Pronouns provide the main source of person and case distinctions in the morphology of spoken French (cf. Appendix, points 1, 2, 4). Between approximately 2;0 and 2;6 years first person pronouns appear, especially subject *je* 'I' and indirect object *moi* 'me' (which can be also dislocated or contrastive). Later, some second person singular pronouns appear, such as subject *tu* and indirect object *toi* ('you:SG'). Still later other first/second person (direct object *me/te* 'me/you') and all third person forms appear. Further evidence (Pierce, 1994) shows that subject pronouns are the most abundant, being frequently repeated from clause to clause (e.g., *elle descend et elle remonte sur la main de maman* 'it goes down and up on Mommy's hand', uttered at 2;3 years). In addition, the great majority occur in finite clauses, whereas nouns and other pronouns frequently occur with bare infinitives, e.g., \**toi venir* 'you come:INF' (but never \**tu venir*). These characteristics of early French language pertain to grammatical and discourse development (discussed in detail below). They mirror two properties of adult-spoken French: the abundance of particular structures, such as dislocations (practically nonexistent in English), which imply the repeated mentions of referents with nouns and pronouns within the utterance; the frequent reliance on overt subjects, even in contexts where the omission of subjects is grammatically allowed (see Appendix, points 3 and 4).

With respect to nominal determiners, studies of acquisition in several languages diverge in important ways as to the age at which they attribute to children mastery of the opposition between indefinite and definite forms: some conclude that this opposition is acquired very early (between two and three years), others that it is not mastered until very late (after seven years). Note that the determiners of many languages have a variety of functions, presenting children with a complex system to acquire (cf. Appendix, point 1). A synthesis of the studies based on French (e.g., Karmiloff-Smith, 1979) and other languages (cf. reviews in Hickmann, 1991, 1995, in preparation) lead to the conclusion that young children master some functions of determiners: they use indefinite forms correctly for deictic labellings (e.g., *Un chien!* 'A dog!', uttered in relation to nonlinguistic context to draw the listener's attention), for counting (*un chien* to mean 'one dog'), as well as for nonspecific reference (e.g., *Je veux un chien* to mean any dog). However, it is not until six or seven years that they begin to master discourse-internal functions (also see below).

**Prepositions.** The first preposition to appear before two years is the general *à* ('at/to'), used at first with various meanings, including spatial and possessive ones, illustrated in (24 and 25; cited in Clark, 1985). Other prepositions appear gradually during the following years. Relevant studies concern mostly the spatial domain (e.g., Laurendeau & Pinard, 1968; Lurçat, 1976; Pécheux, 1990; Piaget & Inhelder, 1947; Piérart, 1975, 1977, 1978a, 1978b; Vion, 1978a, 1978b) and they generally conclude that development in this domain reflects a universal sensorimotor and cognitive basis (but see below for recent controversies). Thus, one series of findings (Piérart, 1975, 1977, 1978a, 1978b) shows that the first French prepositions to be acquired mark neighbouring relations (*près de* 'near', *à côté de* 'next to') and containment (*dans* 'in'). Children then acquire prepositions involving the vertical axis. Before six years they oppose *sur* 'on' and *en dessous de* 'underneath' along the dimension of 'covering' (but use *au-dessus de* 'above' like *sur*). Later on, they further differentiate *en dessous de* from both *sur* and *au-dessus de*, and they oppose the latter two along the dimension of contact. Prepositions along the sagittal axis are acquired later. They are first used in relation to some intrinsic properties of the object serving as reference point (orientation, opacity): *derrière* ('behind') appears before *devant* ('in front of'), being first understood to mean 'hidden' or 'near the back of' (three years), and it is not until much later (eight years) that these prepositions take on adult meanings in relation to the speaker's point of view. Other spatial relations appear quite late, e.g., *entre* ('between') is not mastered until ten years.

23. \*Nini à bout [bouche]. ('in Nini's mouth')

24. \*Chaise à Pierre. ('Pierre's chaise')

#### Clause Structure

**Simple sentences.** As summarised by Clark (1985), errors in the word order of simple sentences have been observed in early French child language. Some 'noncanonical' orders or self-

corrections suggest that children are exploring different word orders. Placement errors with multiple pronouns show that the complex system of pronouns present additional ordering difficulties (see Appendix, points 1 and 3). However, many cases of orders that might be considered as 'errors' could simply result from common clause-structure variation in spoken French. Such variations are abundant in adult speech, as well as throughout development (also see below). In particular, all studies of French child language, from the earliest ones (since Guillaume, 1927; Grégoire, 1937, 1947) to the most recent ones (e.g., Champaud, 1996b; Labelle & Valois, 1994; Pierce, 1994), note structures involving postposed or preposed nouns in finite clauses that are akin to right- and left- dislocations (cf. Appendix, point 3). For example, Champaud (1996b) reports postverbal subjects such as (26) before two years, and at two-and-a-half years, with inclusion of modal and periphrastic constructions (e.g., 27 and 28). Preposed nouns are more difficult to identify at early stages when pronouns are still not used, but they become numerous from two years on (e.g., 29). It is also worth mentioning that French-speaking children frequently use some special constructions in order to express particular meanings. For example, Karmiloff-Smith (1979) reports a typical structural innovation, whereby children express possessives by a kind of overmarking, akin to a right-dislocated structure (e.g., \**la mienne de voiture* 'lit: mine of car', to mean 'my car'). Karmiloff-Smith interprets this phenomenon in light of other aspects of the determiner system as reflecting a reorganisation of the nominal system in a several-phase progression (also see below).

26. démarre voiture ('starts car'); est tombé éléphant ('fell down elephant')

27. veut monter Grégoire ('Wants to climb, Grégoire')

28. elle va manger la baleine ('it's going to eat, the whale').

29. le tracteur il prend des cailloux ('the tractor it takes stones'); Adrien il m'en a donné ('Adrien he gave some to me'); moi je veux regarder ('Me I want to look').

**Complex sentences.** Many observations relevant to the development of complex sentences in French can be found in Clark (1985). Roughly, children begin by juxtaposing utterances in order to express some relations (cause, condition, purpose, sequence). Complex sentences emerge from two to two-and-a-half years on, at first with coordinating connectives at around two years (*et* 'and', *mais* 'but', *et puis* 'and then', frequently reduced as *et pis*), then with some subordinating connectives (first *parce que* 'because', *si* 'if', *quand* 'when'). Many connectives, however, emerge much later (e.g., *avant que* 'before' or *bien que* 'although'). Detailed analyses of some early connectives also show that their functions change. For example, analyses of *et pis* ('and then'; Jisa, 1984/85, 1987) show that children of about five years narrow down their uses of this connective: they restrict it to temporally successive events and preplanning of coherent discourse, using other means for other uses observed at three or four years, such as *mais* 'but', relative clauses to further specify referents, and juxtaposition to step out of narration.

These observations provide evidence for the gradual development of children's ability to organise discourse (see below). Generally, experimental studies (see Clark, 1985) show that some connectives that emerge by two years may not yet have their full semantic and pragmatic values, giving rise to comprehension errors until relatively late, for example, some argumentative and temporal connectives, as well as conditional ones (see below).

Some information is also available concerning other types of complex sentences. With respect to complement constructions, studies show difficulties with particular verbs. For example, French children tend to avoid complements with the verb *vouloir* ('to want'; Stréri, 1979). Early relative clauses show an overgeneralization of the subject relative pronoun (*qui* 'who') to all relatives. As noted by Clark (1985), such difficulties may be due to the fact that the form of the object relative pronoun (*que* 'whom/that') is the same as that of other subordinating conjunctions (e.g., complement *que* 'that', *avant/après que* 'before/after'). Experimental studies (Kail, 1975a, b) also show that various types of substitutions or strategies persist until six or seven years, reflecting the impact of cognitive factors in children's comprehension and production. For example, when children are asked to reproduce embedded object relatives such as (30), they produce utterances such as (31) to (34). In addition, nonreversible sentences are easier than reversible ones and object relatives are easier if their word order is SV rather than VS (see Appendix, point 3).

30. Le bébé que lave la maman jette le savon. ('The baby that the mother washes throws away the soap.')

31. La maman qui lave le bébé... ('The mother who washes the baby...')

32. Le bébé qui lave la maman... ('The baby who washes the mother...')

33. \*Le bébé lave la maman jette le savon. ('The baby washes the mother throws away the soap.')

34. La maman lave le bébé, le bébé jette le savon. ('The mother washes the baby, the baby throws away the soap.')

### Sentence-internal Organisation

A number of studies have focused on French-speaking children's knowledge of rules governing sentence-internal organisation. This research stems from various theoretical frameworks, which have proposed very different accounts of language acquisition, testing hypotheses within or across a variety of languages, including French. I have grouped these studies into two types: syntactic approaches, particularly those inspired by Chomsky's (1981) theory of Government and Binding; and a number of functionally inclined approaches, particularly the Competition Model proposed by MacWhinney and Bates (1989). Table 2 summarises the main findings reviewed in this section.

#### Syntactic Approaches

Different aspects of children's syntactic knowledge have been studied on the basis of French data within the framework of Chomsky's theory (1981), as illustrated by three types of phenomena: reflexive and nonreflexive pronouns, null elements, and negation. In general, findings have been taken as evidence for several basic theoretical assumptions: that children's knowledge of general grammatical principles is innate and should therefore be manifested very early; that this knowledge is modular (i.e., highly specialised for language and distinct from other types of knowledge); and, that children are endowed with a

Table 2. Summary of findings concerning sentence organisation.

Child language area	Before three years	From three to five-six years	From six-seven years on
Reflexive pronouns	rarely produced <i>se</i> : correct comprehension and production <i>même</i> : incorrect	<i>même</i> : incorrect	acquisition of <i>même</i>
Nonreflexive pronouns	deictic uses and interpretations subject pronouns related to finiteness	deictic uses and interpretations comprehension errors in complex sentences	discourse-internal functions
Null elements	errors (null subjects in finite main clauses)	no errors, but rarely used	no errors, but rarely used
Negation	rare structural errors differentiated uses of <i>pas</i> and <i>plus</i> overextension of scope	correct scope	
Sentence comprehension	(few data)	word order strategy	reliance on local cues (morphology, animacy)

number of parameters accounting for crosslinguistic variation, their task being to discover the particular parametric values of their language.

*Pronouns.* Pronouns have been studied in this framework as a way of testing children's knowledge of the proposed universal Principles A to C (Chomsky, 1981), which define binding conditions for reflexive pronouns (e.g., *herself*) vs. nonreflexive pronouns (e.g., *she, her*) and lexical expressions (e.g., *the girl*).<sup>3</sup> Some experiments (Jakubowicz, 1991a, b, 1994), tested French children's comprehension and production of reflexive and non-reflexive pronouns (see Appendix, point 1). Comprehension was tested in a sentence-to-picture matching task with sentences such as (35) presented in the context of three pictures representing a reflexive action (Nounours washing himself) and two nonreflexive pictures (one character washing the other). Productions were elicited with these pictures in answer to questions (*Que fait X?* 'What is X doing?' or *Que fait X à Y?* 'What is X doing to Y?'). The results show that French children master reflexives at three years, particularly the reflexive *se*, replicating similar results reported across a number of languages.<sup>4</sup> However, they have great difficulties with the more complex reflexive *lui/elle-même*.

35. Kiki dit que Nounours se/le lave. ('Kiki says that Nounours washes himself/him.')

With respect to nonreflexive pronouns, some properties of early French child language provide evidence for related grammatical knowledge (also see Appendix, point 1). Analyses of French longitudinal corpora (e.g., Pierce, 1994) note the following co-occurring properties of children's early pronouns: the overwhelming majority of subject NPs consists of pronouns (rather than nouns); as noted above, subject pronouns most frequently co-occur with finite verbs (unlike nouns and other pronouns) and they are most abundant, even in contexts where omitted subjects are possible; and, they are never postposed (also unlike nouns or other pronouns). None of these properties apply to early English child language. These analyses suggest that French subject pronouns are not syntactically independent morphemes, but rather inflectional devices, providing morphological markings of person (and subject-verb agreement) in the form of preverbal prefixes from the earliest phases of development onwards.

*Null elements.* Parametric theory differentiates languages that allow null subjects in finite main clauses (e.g., Spanish, Italian) versus those that do not (e.g., English). French is somewhat controversial in this respect, being most often included within the first group, but recently considered to belong to the second group (see Appendix, point 1). Developmental research has aimed at explaining a number of facts, such as greater frequencies of null subjects in some early languages (e.g., Italian > English) or with some NP types (e.g., null subjects > null objects) and expected co-occurrences among various phenomena (e.g., between overt/null subjects and finiteness). For example, Hyams (1986, 1989, 1992) proposes that all children initially

assume a [+ null subject] value, thereby frequently dropping subjects even in languages that do not allow null subjects. Children acquiring a language that requires a [- null subject] value then reset this parametric value (e.g., when they are confronted with relevant input 'triggers', such as dummy subjects) and/or acquire properties of the language which provide licensing (agreement, tense).

Evidence based on early longitudinal data of French-speaking children (Pierce, 1992) shows an initial stage where both bare infinitives and (incorrect) null subjects are frequent, followed by the simultaneous emergence of verbal morphology and proper uses of null vs. overt subjects. However, some analyses (Weissenborn, 1992) show a long phase during which children do not use subjects like adults, despite the fact that they have acquired inflections. Thus, they use simultaneously correct values (e.g., 36) and incorrect ones (e.g., 37). As is the case in other languages, performance is nonetheless errorless (no null subjects) in embedded clauses with complementizers (e.g., 38), and with WH-questions (e.g., 39). These results suggest that children's discovery of the correct null-subject value in their language involves interactions among several properties of their input language (pro-drop, subordination, WH-elements, verb-movement) and that it might be uniquely triggered by subordinate clauses.<sup>5</sup>

36. Il pleut ('It is raining'), Je veux ça ('I want that')

37. \*Veux pas ('Want not'), \*Veux manger ('Want to eat')

38. Parce qu'elle est froide ('Because she is cold')

39. Où elle est la porte? ('Where it is the door?')

In addition, a number of studies have argued that children start out with the same grammar as adults, being only limited by performance factors resulting from an immature cognitive system. For example, such factors account for some findings observed in several languages, including French (Jakubowicz et al., 1996; Jakubowicz & Rigaut, 1997), such as the greater frequency of null subjects with long and complex utterances and/or verb phrases. Third, a number of other unresolved questions remain. For example, variations occur with respect to crucial indices, such as bare infinitives, which are either very rare in some French corpora (Jakubowicz & Rigaut, 1997) or have been interpreted as resulting from truncated structures, e.g., *manger* glossed as (*je veux/vais*) *manger* ('I want/am going to eat'; Bassano, in press; Champaud, 1994a).<sup>6</sup>

*Negation.* The development of negation in French has been studied from different theoretical perspectives. In addition to lexical negation, early negative operators consist mostly of *non* ('no') and *pas* ('not') by two years, other forms being less frequent and emerging later (e.g., *plus* 'not anymore', *rien* 'nothing'). Some results based both on longitudinal and experimental data with young children show that they are sensitive to a variety of semantic and pragmatic features (e.g., Bacri & Boysson-Bardies, 1977; Boysson-Bardies, 1976, 1977, 1996; Choi, 1988). Young children's uses of *pas* and *plus* have different functions (e.g., negation of presence or existence, as in 40; or, of processes,



as in 41, cited in Boysson-Bardies, 1996). In addition, experiments test children's interpretations by asking them to draw sentences with different predicates and determiners as in (42) and (43). Among other results, until eight years children overextend the scope of negation, particularly with indefinite forms and static predicates.

40. a pas nounours ('Have (there is) not nounours')  
 41. a plus musique ('Have (there is) no more music')  
 42. Le monsieur n'est/ne marche pas/plus sur la route ('The man isn't/doesn't walk on the road (anymore)')  
 43. Le lapin mange/ne mange pas une/la carotte ('Le rabbit does/does not eat a/the carrot')

Recent syntactic analyses (Weissenborn, Roeper, & de Villiers, 1991; Weissenborn, Verrips, & Berman, 1989) have also interpreted these available data in light of new evidence supporting particular views of grammatical development. The negator *non* is typically used in sentence-external position as in (44), the negator *pas* in sentence-internal position according to the adult pattern, i.e., after finite verbs, as in (44) and (45), and/or before nonfinite ones as in (46). This quasi-errorless pattern in French has been interpreted as showing that finiteness operates early in child language, that it is independent of subject-verb agreement, and that negation is one major type of evidence indicating that the child has learned V-movement rules early.

44. Non, je veux pas. ('No, I don't want.')
45. ça marche pas, le micro. ('It doesn't work, the microphone.')
46. Veux pas le mettre. ('Don't want to put it.')

### Functional Approaches

In contrast to the above innatist approaches to grammar development, other approaches have focused on a variety of functional determinants of sentence-internal organisation during the acquisition of French. The term 'functional' loosely refers here to a variety of semantico-structural factors affecting the organisation of the sentence (determinants specific to discourse organisation are discussed further below). Many studies have examined French children's sentence comprehension, with particular attention to their reliance on different cues for the retrieval of grammatical relations. Recent evidence has been collected in the framework proposed by MacWhinney and Bates' (1989) Competition Model. Briefly, this model accounts for language production, comprehension, and acquisition by postulating general cognitive mechanisms in a connectionist architecture, directly mapping the formal and functional levels of information structure onto each other. As a result, the human processor can use simultaneously multiple linguistic cues from the input (phonological, morphological, lexical, syntactic), all of which have several properties in a given language. Of particular importance is the notion of *cue validity*, which is itself a function of several properties: *availability* (the extent to which a given cue is present when necessary), *reliability* (the extent to which a cue leads to a correct interpretation), and *conflict validi-*

*ty* (the extent to which it will be selected towards an interpretation when it is 'in competition' with other cues leading to different interpretations). The typical experimental paradigm has involved asking subjects to determine the agent of strings consisting of two nouns and a verb, which vary along word order (NVN, NNV, VNN), semantic features (e.g., animate vs. inanimate nouns), and morphological markings (e.g., case, subject-verb agreement). In this situation, English-speaking adults rely mostly on word order (N1 is the agent), Italian-speaking adults on morphological and semantic cues (the animate N is the agent). Children from two years on follow the same pattern as the adults in their language group. Such results have been replicated on the basis of other experimental paradigms, relying both on off-line and on-line measurements of sentence processing (see the different contributions in MacWhinney & Bates, 1989).

The data concerning French (Charvillat, 1991; Charvillat & Kail, 1991; Kail, 1989, in press; Kail & Charvillat, 1986, 1988) show surprising results, which provide support for the Competition Model, as well as arguments for the need to introduce significant changes to this model. Using on-line measures, these studies present children with stimuli of different types, including correct simple sentences such as (47) and anomalous ones such as (48), as well as left- and right-dislocated ones such as (49) and (50). The findings show a reversal in processing strategy during development: while French adults rely more on semantic cues (like Italian ones), young children rely more on word-order (like English-speaking ones) than on semantic information. Roughly, between six years and adult age, children must reorganise their processing of the input from a system initially based on word order to one that is based on more 'local cues' (semantic content, morphology), presumably because of the high frequency of clause-structure variations (particularly dislocations). Furthermore, a comparison of French and Spanish shows again that adults in both language groups rely on local cues, rather than on word order. In contrast, children differ in the two groups: whereas Spanish children rely on the same local cue as the adults as early as four years, French children first rely on word order, even if they do so only partially (N1=agent, regardless of other types of information), before they learn to rely on local cues like adults.

47. Le garçon pousse le ballon. ('The boy pushes the ball.')
48. \*Le ballon le garçon pousse. ('The ball the boy pushes.')
49. Le loup la dévore la grand-mère. ('The wolf devours her, the grandmother. '; 'Literally: The wolf her[FEM-OB]] devours the grandmother.')
50. Le lapin blanc il la fait briller sa trompette. ('The white rabbit he polishes it, its trumpet. '; 'Literally: The white rabbit he[MASC-SUB] it[FEM-OB]] polishes his trumpet.')

Other results stem from a series of experiments examining how French children act out different types of sentences. In several studies (e.g., Vion, 1978a, 1978b, 1981, 1982), these sentences involved two nouns and a verb in different orders,

morphosyntactic cues (verb and preposition types), lexico-pragmatic cues (animacy and mobility of the agent), and NP positions in different structures, such as (51) and (52). Other studies (e.g., Vion & Amy, 1984) use active and passive cleft sentences such as (53) and (54). In general, these studies show that young children rely more on lexical and pragmatic cues, in comparison to older children, who rely more on morphosyntactic cues. Further research is necessary to determine the impact of different methodologies on these results (acting out, on-line measures), as well as the precise nature of the particular cues used by children in different structures (lexical, pragmatic, morphosyntactic).

51. La poupée va/entre dans la tente. ('The doll goes/enters in(to) the tent.')

52. Elle va dans la tente, la poupée. ('She goes in(to) the tent the doll.')

53. C'est le gendarme qui attrape le voleur. ('It's the policeman that catches the thief.')

54. C'est le voleur qui est attrapé par le gendarme. ('It's the thief that is caught by the policeman.')

### Discourse Development

In this final heterogeneous rubric, I grouped studies that have examined a variety of phenomena, all of which pertain in some way to pragmatic aspects of French child language. For ease of presentation, I have divided these studies into two groups. The first includes a variety of conversational skills, such as the uses of modal and argumentative devices, as well as the expression of different speech acts. The second group examines late development progressions in children's uses of a variety of linguistic devices in discourse, with particular attention to three main aspects of narrative cohesion: the marking of information status, spatial-temporal anchoring, and the grounding of information. Table 3 summarises the main findings of this section.

#### Conversational Skills

*Epistemic modality.* Recent studies have focused on the development of epistemic modality in French. Roughly, this category allows speakers of all languages to indicate their attitudes of certainty or uncertainty towards denoted propositions by various linguistic means, such as auxiliaries and other verbs, adverbials, and verbal morphology (e.g., It might/should/will rain, Maybe/I

**Table 3. Summary of findings concerning discourse skills**

Child language area	Before three years	From three to five-six years	After six-seven years
<b>Conversational Skills</b>			
Epistemic modality	emergence, utterances marking 'prediction'	increasing diversity of types and forms	gradual ability to judge rules of use
Argumentation	emergence of some adverbials and connectives	comprehension errors	development of argumentative functions: adverbs, connectives, conditionals, subjunctives
Speech acts	prosodic and elementary morphosyntactic markings of mood	development of lexical and grammatical markings of speech acts, context-based interpretations	more explicit linguistic markings of speech acts and more complex discourse uses
<b>Discourse Cohesion</b>			
Information status	emergence of determiners and pronouns abundant clause-structure variations (presentatives, dislocations)	deictic uses and interpretations of determiners and pronouns, undifferentiated uses of clause-structure variations in discourse	gradual marking of given/new and thematic status with determiners, pronouns, and clause structure (presentatives, dislocations)
Spatial reference	emergence of some locative prepositions emergence of some motion verbs	inability to provide spatial anchoring, greater reliance on states than on processes	gradual ability to provide appropriate spatial anchors in discourse
Temporal reference	emergence of some verbal forms, adverbials, connectives; 'defective tense'	temporal anchoring in the present, shifts in tense-aspect either erratic or based on predicates	gradual ability to 'ground' information: uses of complex sentences and of tense-aspect to differentiate the foreground and background of discourse.

think that it's going to rain). Other types of modality allow the marking of obligation (e.g., must), desire (want), permission (may), etc. Longitudinal analyses (Bassano, 1996) show that utterances containing prototypical markings of epistemic modality emerge later than other types of modal markings (around 2;6 years), although precursors occur earlier (2;3 years). The first type of marking occurs in 'predictive' utterances which express a judgement on the likelihood that a future event will occur (by means of the immediate future construction *aller + INF*, similar to English 'going to'). Other types of utterances emerge later on. Children confirm propositions and express approval of their content (with verbs such as *savoir* 'to know' or phrases such as *vrai/pas vrai* 'true/not true', *sûr/bien sûr* 'sure/of course'). They also question propositional content, by expressing ignorance, marking attitudes of possibility, belief, or probability (with lexical means such as *peut-être* 'maybe', *croire* 'to believe/think', *devoir* 'must'), and later on by means of hypotheticals and indirect interrogatives (which require grammatical means, such as conditionals).

Experimental studies (Bassano, Hickmann, & Champaud, 1992; Champaud, Bassano, & Hickmann, 1993; Hickmann, Champaud, & Bassano, 1993) also examined how four- to nine-year-old French children narrated filmed dialogues in which one of the participants produced a target utterance in several conditions: the utterance was modalised or not (*[Je crois que] c'est le lapin qui a renversé la tasse* 'I think/believe it's the rabbit that spilled the cup'); the proposition was true or false (e.g., the rabbit either had or had not actually spilled the cup); or, the speaker either had or had not witnessed the event. Children from four years on display an early sensitivity to some appropriate conditions of use for the modal verb, as shown by the ways in which they report speech during narration (e.g., they omit the modal verb if the speaker has witnessed the event). They also show developmental progressions in their ability to reflect on modal uses. For example, early judgements of why speakers should or should not use *croire* ('to think/believe') and related devices (e.g., *savoir* 'to know', *être sûr* 'to be sure') are typically based on truth or physical evidence. It is only later that children are able to link the uses of these devices to speakers' internal states and attitudes towards events. Note that related verbal morphology (e.g., conditionals, subjunctives) appears late and gives rise to many errors in production and in comprehension after five to six years (see Boloh & Champaud, 1993; Clark, 1985). In addition, uses and interpretations of related connectives such as *si* 'if' show important developmental progressions from five years on, particularly in indetermination or undecidability contexts, not mastered until 11 to 12 years (Berthoud & Sinclair, 1978; Champaud & Jakubowicz, 1979; Piérait-Le Bonniec, 1980a, b).

*Argumentation.* Studies have examined the development of a variety of linguistic devices relevant to argumentative activities (Bassano & Champaud, 1987, 1989; Champaud & Bassano, 1987, 1994; Champaud, 1994b). This group of studies generally shows different degrees of difficulty in the comprehension of these markings as a function of three factors: the type of cogni-

tive operation required, particular properties of the markings, and the nature of the linguistic context in which the devices are used. Among other results, comprehension studies show the earlier mastery of the argumentative function of some adverbials at six years (e.g., *à peine* 'only', *au moins/plus* 'at the least/most') as compared to others, not understood until at least ten years (e.g., *presque* 'almost'). In addition, children's comprehension depends on whether argumentative devices mark 'co-orientation' or 'counter-orientation', that is whether they indicate that the speaker's utterance goes towards or against an implicit argument. 'Co-orientation' markings (e.g., *même (pas)* '(not) even') are well understood at eight years, but not in all contexts, and they are better understood in negative sentences than in assertions. In contrast, most 'counter-orientation' markings are not mastered until ten years (e.g., *mais* 'but', *pourtant* 'nonetheless', *même si* 'even if', *bien que* 'although'), although some are understood by eight years (e.g., *quand même* 'nonetheless'). Related studies (e.g., Kail, 1979) testing children's comprehension of *seul* 'only', *même* 'even', and *aussi* 'also' show a progression between six and eleven years in their ability to take into account both the asserted and the presupposed components of sentences.

Other crosslinguistic studies (Kail & Weissenborn, 1984, 1991) show that young French children first understand *mais* ('but') as confirming or adding to a previous assertion. Thus, comprehension in utterances of the type 'P but Q' first depends on the contents of propositions P and Q (seven years), the connective itself playing a limited role. Furthermore, this connective is mastered later than the corresponding German ones (*aber* and *sondern*, both of which mean 'but'), which lexicalise a distinction not encoded in the French connective (roughly 'contrast' and 'negation'). Crosslinguistic analyses of longitudinal corpora also show that the first instances of *mais* typically occur in sequences where the child says 'mais Q' in reaction to the interlocutor or situation. These uses fulfil discourse functions such as contesting someone's assertion in P or an inference drawn from P. In comparison, German children also first use 'aber Q' structures with discourse functions, followed by 'P sondern Q' structures, which appear earlier than in French.

*Speech acts.* Some research has focused on French children's production and comprehension of prosodic and grammatical devices marking sentence mood. This category is central to differentiate speech acts, such as requests for information (interrogative mood), directives to act (imperative), assertions or descriptions (declarative), and exclamations (Bassano & Maillouchon, 1994, 1995; Mendès-Maillouchon, 1996). Longitudinal analyses of the earliest phases (14 to 21 months) show that declarative, exclamative, and directive utterances emerge earlier than interrogative ones, being largely marked by means of intonation and elementary morphosyntactic devices (interjections, imperative and indicative verbal forms, interrogative morphemes). Later phases (21 to 30 months) show the continuous increase of interrogative forms, as well as the gradual

development of different morphosyntactic markings from about 26 months on. These markings include direct markings (tense forms with declaratives, increasing interrogative markers) and indirect ones (e.g., modal verbs), which accompany longer utterances. They also include uses of nonclitic pronouns and dislocated structures as markers of emphasis, first used with exclamations, then with other utterance types.

Other studies have examined young French-speaking children's ability to organise social interactions and/or to perform various types of speech acts (e.g., Beaudichon, 1982, 1993; Bernicot, 1992a, b, 1994, 1995; Bernicot & Laval, 1996; Bernicot & Marcos, 1993; Hudelot, 1980; Marcos, 1992, 1995, in press; Marcos & Bernicot, 1994; Marcos & Kornhaber-Le Chanu, 1992). This research includes production and comprehension studies, based on naturalistic and experimental data, focusing on the verbal and nonverbal forms of various speech acts (approvals or refusals, assertions, directives, promises). Variations in the uses of different speech acts can be observed as a function of various parameters in the situation: familiarity with the interlocutor, type of interlocutor (e.g., mother, father, child), sibling relations (e.g., first- vs. second-born), surrounding activity (e.g., problem-solving vs. symbolic play), conditions of use for particular speech acts (e.g., the relevance of directives, the consequences of holding promises or not), utterance forms (e.g., 'direct' vs. 'indirect' directives, modal and temporal markings in promises). In addition, age variations occur. Among other results, a recurrent conclusion is that the older the children, the more their comprehension of various speech acts is based on linguistic cues, while younger children rely more on the situational context than on utterance form. For example, French children do not rely on the future tense as a cue to promises until ten years of age (Bernicot & Laval, 1996).

Finally, some research examines the impact of socio-cultural factors on interpersonal interaction by comparing adult-child conversations across cultures and/or languages (e.g., Bernicot, Comeau, & Feider, 1994; Rabain-Jamin & Sabeau-Jouannet, 1995). For example, a study (Bernicot et al., 1994) comparing interactions between mothers and their five- to six-year-old daughters in France versus Quebec shows that pragmatic aspects of speech in the same language partly depends on cultural factors. Notwithstanding differences linked to mothers' preferred child-rearing practice in both cultures ('coercive' vs. 'inductive' styles), Quebecois mothers and daughters are more productive overall (e.g., more speaking turns and utterances). They also produce more expressive and assertive speech acts as compared to the French dyads. These results are interpreted to show that the Quebecois mothers are more similar to American than to French mothers, in assigning themselves the role of stimulating and enriching the child's environment.

### Discourse Cohesion

*Discourse types.* Some research has compared French-speaking children's productions across different discourse types (e.g.,

Bronckart, Bain, Schneuwly, Davaud, & Pasquier, 1985; Bronckart & Schneuwly, 1991; Weck, 1991; Weck & Schneuwly, 1994). For example, children's performance was compared in 'situational discourse' (explaining how to construct an object), 'theoretical discourse' (describing an object), and 'conversational narratives' (telling what happened the day before). Analyses of 'textual organisers' show that they fall into five classes, depending on the operations performed: providing textual anchoring (e.g., *un jour* 'one day', *hier* 'yesterday'); marking the macrostructure of the text (e.g., *puis* 'then', *c'est alors que* 'at this point, so then'); contributing to cohesion (e.g., *tandis que* 'while', *puisque* 'since'); modalising (*malheureusement* 'unfortunately'); ensuring continuity of the textual chain (*bon!* 'well'). The results show differential uses of these devices by nine- to twelve-year-old children. For example, devices marking continuity are frequent in situational and theoretical discourse, but rare in narratives; inversely, those anchoring texts are frequent in narrative discourse, but rare otherwise. Comparisons across conversational narratives and picture-elicited ones (Weck, 1991) also show different types of 'anchoring', as reflected by a variety of devices, including connectives, verbal morphology (present vs. past), referring expressions (e.g., uses of pronouns).

Narrative discourse is characterised by two sets of properties. First, stories have a macrostructure, containing particular types of units arranged in a certain order (minimally a setting, a complication, a resolution). Studies focusing on this aspect of narratives with French-speaking children show a gradually developing story schema (Bronckart & Schneuwly, 1991; Espéret, 1991; Fayol, 1985, 1991, 1997; Kern, 1997) and an increasing awareness of its properties in tasks requiring judgements of sequences that are not 'story-like' (Espéret, 1991). Second, the production and comprehension of narratives also requires an understanding of some principles governing discourse cohesion. Roughly, cohesion involves the combined uses of a variety of linguistic devices which create links across utterances. Children's narrative productions clearly show an increasing degree of cohesion, which is illustrated in different ways below.

*Marking information status.* Information status concerns the extent to which information is presupposed as a function of mutual knowledge. Relevant developmental evidence concerns the uses of various devices to denote referents as a function of contextual constraints, such as introducing new referents and maintaining reference to them. In the past twenty or so years, quite a number of studies have focused on this aspect of French development, examining children's uses of nominal determiners, pronouns, and clause structure. Experimental studies of children's production and comprehension of pronouns show several results, suggesting the central role of coreference and thematic status.<sup>7</sup> Some production results (Stréri, 1980) show that children between three and six years have difficulty transforming pronouns in situations involving role switches, although their performance is better with coreferential than with noncoreferential pronouns, e.g., when presented with a sentence and a



question such as (55) in the presence of a doll. A series of comprehension experiments (e.g., Farioli, 1979; Kail, 1976, 1983; Kail & Léveillé, 1977) asked children to identify the referents of pronouns in sentences such as (56; followed by a question such as *Qui est entré dans la pièce?* 'Who came into the room?') or to act out sentences such as (57). From four years on children have a clear preference for coreference relations involving subject and/or agent NPs, even at the expense of violating lexical (gender) information. For example, with (56) they assign coreference between the masculine pronoun *il* ('he') and the feminine noun *la maîtresse* ('the:FEM teacher:FEM'). With (57) they assign coreference between the pronoun and the agent NP, whether there is a gender restriction (e.g., wrong coreference assignment between *la* 'her' and *le chien* 'the:MASC dog') or not (e.g., *le* 'him' and *le chien*). These findings indicate children's sensitivity to principles of discourse organisation, such as a preference to talk about a 'topic' or 'thematic' entity. In comparison, younger children follow a parallel role strategy, whereby they choose the referent of the NP in the same role (e.g., coreference between object pronoun and the preceding object noun; see also Sheldon, 1977). Another type of experiment (Hupet & Kreit, 1983) shows that when presented with pictures in different contexts (agent vs. patient contexts, as established by a prior narrative focusing on one of two referents), children of all ages (between four and twelve years) are able to differentiate new information (indefinite determiners) and given information (pronouns, definite determiners), despite developmental progressions in their ability to linearize information in discourse (new information in relation to given information).

55. Il veut que je lui/te donne l'orange. Dis-moi ce qu'il veut. ('He wants me to give him/you the orange'. Tell me what he wants')

56. La maîtresse a salué Marie/le directeur quand elle/il est entré(e) dans la classe. ('The:FEM teacher greeted Mary/the:MASC director when s/he entered the classroom')

57. Le chien blanc pousse le lapin bleu/la souris grise et le garçon rouge le/la tape. ('The:MASC white dog pushes the:MASC blue rabbit/the:FEM gray mouse and the red boy hits him/her').

Pioneering developmental research has also been carried out by Karmiloff-Smith (1977, 1979, 1980, 1981, 1987) in studies examining French- and English-speaking children's uses and interpretations of referring expressions. Experiments testing the comprehension and production of determiners show that young children depend on the nonlinguistic context, while older children (after 6 years) make 'intralinguistic' uses of these devices. For example, when asked to act out sentences containing indefinite and complex definite determiners such as (58), it is only from six years on that children use one and the same toy car to act out the two clauses, interpreting the expression *la même voiture* to mean the car mentioned before. In contrast, the younger children use two different objects, one for each clause, and refuse to act out the sentence if only one object is available.

Furthermore, analyses of narrative productions show that children go through three developmental phases. During a first phase, they rely on 'bottom-up' processes, using referring expressions deictically without linking their utterances together in discourse. The second phase witnesses the emergence of 'top-down' processes, whereby children organise their discourse around a 'thematic subject' (main protagonist of the story), at first rather rigidly, reserving all pronouns for this protagonist and using definite nominals for all others. The third phase combines both types of processes, showing a more flexible use of linguistic devices for reference maintenance.

58. Le garçon pousse la voiture et la fille pousse la même voiture. ('The boy pushes the car and the girl pushes the same car')

A number of other studies have examined how French children denote referents on first and subsequent mention in discourse. Using a picture-description task, some studies (Vion & Colas, 1987a, b) show that young children differentiate indefinite and definite determiners for the marking of new and given information, but that most of these uses are at first deictic (e.g., indefinite forms used for labellings, definite ones to point to referents) rather than discourse-internal. These studies also show the impact of several factors on children's uses of reference-maintaining devices, e.g., the oral versus written modalities, the extent and type of mutual knowledge, and the semantic role of the NP (Vion, Piolat, & Colas, 1989; Sauvaire & Vion, 1989). Generally, the results show late developmental progressions in children's ability to use different types of referring expressions in order to mark information status as a function of contextual constraints. From the youngest age tested (four years) on, children also rely heavily on particular clause structures specialised for the marking of information status in French, particularly two types of presentative clusters (*C'est... qui...* 'It's... that', *Y'a... qui...* 'There's... that', cf. Appendix, point 3).

Analyses of narrative productions elicited with a picture book (Kail & Hickmann, 1992; Hickmann, Kail, & Roland, 1995a, 1995b) compare how French six-, nine-, and eleven-year-olds denote referents in two situations (mutual knowledge of the story vs. no mutual knowledge because the interlocutor was blindfolded). With respect to referent introductions, the results show that children of all ages differentiate the two situations, using more indefinite forms in the absence of mutual knowledge. However, nine-year-olds display maximal differentiation, only using indefinite forms in the absence of mutual knowledge. In contrast, six-year-olds frequently use definite forms and eleven-year-olds generalise indefinite ones to both situations. With respect to reference maintenance, results also show that discourse-internal referential continuity becomes children's predominant organising principle by eleven years, for example determining their uses of pronouns in both situations, regardless of other factors which also affect these uses at younger ages. Results from another study (Kern, 1997) replicate the finding that indefinite determiners are a late form of referent

introduction and show the gradual development of the ability to switch reference.

Crosslinguistic analyses of discourse cohesion (Hickmann, in preparation; Hickmann, Hendriks, Roland, & Liang, 1996) examine narratives produced in the absence of mutual knowledge across four languages (French, English, German, Chinese) and age groups (four to ten years, adults). In all languages children begin to use indefinite determiners systematically for referent introductions only at six or seven years. However, they are sensitive to discourse coreference from four years on, using pronominals mostly in contexts of immediate coreference among subjects. Striking crosslinguistic differences also occur. For example, in comparison to children in all other language groups, the French children make the most use of clause structure to mark the status of information from preschool age on. They make frequent uses of presentative constructions to introduce referents (first mentions) and to 'reintroduce' them (non-coreferential subsequent mentions). They also rely heavily on dislocations, typically to mark topic switches. However, whereas young children (until seven years) use dislocations inappropriately with referent introductions such as (59), older ones use them appropriately to 'promote' newly introduced or to-be-reintroduced referents to the status of discourse topics (as in 60 or 61; see Appendix, point 3).

(59) Le chien il arrive. ('The dog it comes.')

(60) Y'a un chat qui arrive, le chat i regarde le nid, i voit les oiseaux. ('There's a cat that comes, the cat it looks at the nest, it sees the birds'.)

(61) Le chien fait tomber le chat et la maman elle revient. ('The dog makes the cat fall and the mother she comes back'.)

*Spatial anchoring.* Another aspect of discourse organisation, closely related to the marking of information status, concerns spatial anchoring or the setting of spatial parameters as reference points for the subsequent interpretation of discourse. For example, whereas (62) presupposes source and target spatial locations (leave, there), (63) requires the setting of a spatial frame (Peter's house), allowing the speaker either to presuppose this location subsequently (left) or to make further references to it (go back there).

62. If we leave now, we'll get there by 3 o'clock.

63. John went to Peter's house last night. He forgot his shoes when he left, so he had to go back there today.

Some research on narrative productions (Hickmann, in press; Hickmann, Hendriks, & Roland, in press) examines how French children provide spatial anchoring in narratives in comparison to children from other language groups. The analyses show important crosslinguistic differences in how spatial information is selected and distributed in the narratives. Thus, French children focus more on static information (particularly preschoolers) than English- or German-speaking ones. In addition, their uses of dynamic predicates to represent changes of location provide mostly information about the path of motion (e.g., *partir*, *arriver*). In contrast, English- and German-speaking children

express multiple sorts of information compactly (e.g., manner and presupposed source location in *run away* or *fly back*, causativity and direction in *pull down*). Both patterns replicate previous developmental findings based on related languages (Berman & Slobin, 1994). Both have been shown to follow the adult norm from the youngest ages on, reflecting the impact of typological properties (Talmy, 1985). Thus, languages such as English (satellite-framed languages) encode the manner of motion in the verb root and the path of motion in external devices, e.g., spatial particles and prepositions (*run away*, *run across*). In contrast, languages such as French or Spanish (verb-framed languages) encode the path in the verb root, manner being entirely peripheral (*partir en courant*, *traverser en courant*).

Despite these differences, however, strikingly similar developmental progressions can be observed across languages in children's ability to set spatial anchors. It is only from ten years on that children are able to introduce systematically spatial anchors at the beginning of their narratives and to use appropriate linguistic devices when doing so. Until this age, children frequently omit spatial anchors, introduce them inappropriately into the narrative, and/or rely much on inferences on the part of their interlocutor. For example, in (64) spatial anchors (underlined) are appropriately introduced. In comparison, the introduced nest in (65) allows inferences about the existence of a vertical axis (the tree, mentioned later on), but (66) provides no spatial anchors at all, making it difficult to interpret subsequent discourse (e.g., *monter* 'to go up' assumes a vertical axis).

64. Dans un arbre il y a un nid avec un oiseau et ses petits. [...] Pendant ce temps un chat s'approche et se poulèche les babines en regardant le nid et les petits. [...] Il monte à l'arbre pour dévorer les petits. [...] (Adult) ['In a tree there is a nest with a bird and its little ones. (...) In the meantime a cat approaches and licks its lips while looking at the nest and at the little ones. (...) It climbs up the tree to eat up the little ones.']

65. Alors un jour c'était un grand oiseau avec ses trois petits enfants. Ils étaient dans un nid [...] et y'a un chat qui arrive [...] et il grimpe à l'arbre. [...] (7 years) ['So one day it was a big bird with its three little children. They were in a nest (...) and there's a cat that comes. (...) and it climbs up the tree.']

66. Y'a un oiseau qui regarde dans les nuages. Après y'a un chat qui vient, l'oiseau i s'envole. [...] Après le chat s'assit. Après le chat monte. [...] (5 years) ['There is a bird that looks in the clouds. Then there's a cat that comes, the bird it flies away. (...) Then the cat sat down. Then the cat climbs up.']

*Temporal anchoring and grounding.* A third aspect of children's narrative productions in French concerns their uses of temporal-aspectual devices. As is the case in other languages, French tense and aspect (in conjunction with connectives) play a central role in the grounding of information in that they differentiate two aspects of discourse: the foreground, corresponding to the sequence of chronologically ordered events which make the plot line 'move forward', and the background,



which corresponds to other situations surrounding this foreground (cf. Hopper, 1979). Thus, consider again examples (7) and (8) above. The contrasted verbal forms in (7) create a distinction between the interval of John's reading (*John was reading a book*) and the point of Mary's arrival (*Mary arrived*), thereby backgrounding John's reading in relation to Mary's arrival. In comparison, both events are presented as foregrounded points in (8; *John read a book. Mary arrived*).

Some crosslinguistic analyses compare how French children use tense and aspect morphology in comparison to children of other language groups (Hickmann, 1996; Hickmann, in preparation; Hickmann & Roland, 1992). These analyses show that children's main temporal anchoring differs across languages: French (and German) children mostly anchor their narratives in the present, in contrast to English-speaking ones, who use the past either as often or more often than the present, depending on age. These results may reflect the fact that French (and German) verbal morphology is not as symmetric as in English: it neutralises aspect in the present, but requires aspect distinctions in the past, whereas English opposes the progressive and non-progressive in all tenses. Despite this difference, however, tense shifts in the narratives (e.g., from present to past or vice versa) show a striking developmental progression in all languages: from about seven years on, children shift tenses, as well as use relevant connectives and adverbials, to differentiate foreground and background, e.g., in contexts of overlaps among denoted situations such as (67). Other analyses (Kern, 1997) show that tense shifts serve different functions with increasing age, i.e., local functions for the youngest children, but more global functions for the older ones.

67. C'est un oiseau, elle a des petits et elle va chercher à manger pour ses petits, mais dessous il y a un chat et, *pendant qu'elle est partie*, le chat i regarde le nid et i commence à grimper dans l'arbre ... *au moment où* il atteint la branche pour attraper les trois petits oiseaux, y'a un chien qui arrive par derrière qui lui mord la queue et *à ce moment là* il y avait la mère qui arrivait et après le chat i retombe. [...] (10 years) ['It's a bird, she has little ones and she goes to fetch food for her little ones, but underneath there's a cat and, while she is gone, the cat he looks at the nest and he begins to climb in the tree... just when he reaches the branch to catch the three little birds, there's a dog that comes from behind him that bites him in the tail and at that moment there was the mother bird that was arriving and then the cat he falls down again']

### Concluding Remarks

In way of conclusion, I would like to highlight patterns that characterise the acquisition of French within a crosslinguistic perspective, some of which are still in need of further investigation. I suggest a few implications of observed crosslinguistic differences for our understanding of language acquisition, particularly their potential contribution to questions concerning the determinants and variability of language acquisition. Among the

findings that seem to be rather specific to French, clause structure and pronominalisation deserve some attention. Among other results summarised above, various studies show predominant uses of particular structures (presentatives, dislocations), both in early French child language and during subsequent development, as well as the strikingly precocious emergence of grammatical words (especially pronouns and determiners). These results may be related to several properties of adult French. For example, pronoun properties have been interpreted in different ways by researchers working within different approaches: as reflecting the impact of functional pragmatic factors, particularly information structure in relation to context (e.g., Lambrecht, 1981, 1987); or as reflecting grammatical processes, particularly the marking of finiteness and/or agreement (e.g., Jakubowicz et al., 1996; Jakubowicz & Rigaut, 1997; Pierce, 1994). In a diachronic perspective, pronoun properties and clause structure have been related to a relatively poor verbal morphology (e.g., few person distinctions with frequent verb classes) and to a process of change, during which pronouns have become verbal prefixes marking the agreement of the verb with the subject and/or topic.

From a functional point of view, note that pronoun properties amount to the partial grammaticalisation of the given/new distinction. Many languages seem to follow a universal principle, consisting of two related rules: new information is placed in postverbal position and given information in preverbal position (all other things being equal). However, languages differ in how they encode this principle structurally. In French presupposed information is obligatorily preverbal and new information is highly preferred in postverbal position. That is, speakers show a strong resistance to the placement of 'nonaccessible' information (e.g., the mention of referents that are new or difficult to retrieve) in preverbal position and this pattern is almost grammaticalised in spoken French. Consequently, clause structure is a more essential marking of information status in French than in a language such as English, where it is more centrally involved in sentence-internal organisation. These properties of French seem to have an impact on children's language very early on, suggesting that some care is necessary before drawing several types of conclusions. For example, conclusions concerning grammatical development (the development of word order, of grammatical parameters) clearly require an examination of functional factors which partially determine children's sentence comprehension and discourse productions.

Second, spatial reference remains a relatively unexplored area in the acquisition of French. Available studies of how French-speaking children represent spatial relations must be evaluated anew and extended, and children's representation of motion remains practically unexplored. Recent crosslinguistic research has begun to seriously question previous claims about universal sensorimotor and cognitive underpinnings of spatial devices that have been assumed to be necessary for the expression of location and motion (e.g., Bowerman, 1996; Choi &

Bowerman, 1991). The recent research mentioned above (e.g., Hickmann, in press, in preparation; Hickmann et al., in press) is in line with linguistic analyses (e.g., Talmy, 1985) and with other crosslinguistic studies of children's narrative productions (e.g., Berman & Slobin, 1994). It shows that children of different languages select and organise spatial information in strikingly different ways. For example, adults and children focus more on results and states in verb-framed languages such as French, but on processes in satellite-framed languages such as English. In some ongoing research, I have begun to examine how French children represent location and motion in various tasks involving controlled static and dynamic stimuli. This research tests the hypothesis that the ways in which French-speaking children from three years on represent some spatial relations and motion events may be highly language-specific.

Finally, other findings concerning the acquisition of French seem to reflect the impact of language-specific factors. Among them, verbal morphology shows a relatively long process of development before children master the relevant forms and their functions: errors in the forms of inflections continue to occur later than in other languages and their temporal-aspectual values change in relation to both predicate types and discourse context (as seems to be the case across languages). In this respect, research on the uses of verbal morphology in discourse shows that in several languages discourse-internal functions emerge rather late through a combination of grammatical, semantic, and pragmatic determinants. However, it also shows that some developmental patterns in French differ from those observed in English. For example, French-speaking children have a preference for anchoring in the present, whereas English-speaking ones frequently rely on anchoring in the past. This result might be related to properties of verbal morphology across languages, along several dimensions such as the relative complexity, transparency, and symmetry of verbal inflections. Further research should test this hypothesis across a wider sample of languages. In addition, French-speaking children make frequent use of compound past forms and/or focus on results, a finding which has been related to its typological properties as a verb-framed language in the spatial domain. That is, a possible explanation for the abundant use of *passé composé* in early French child language appeals to the greater orientation of French (and of other Romance languages) towards states and results, rather than processes (cf. Champaud, 1993, 1994a for discussion). Finally, crosslinguistic analyses of longitudinal data show that some early child languages do not show the expected pattern at all (e.g., Polish, cf. Weist, 1986) or that they show the expected pattern only at the earliest stages of development (Champaud, 1993, 1994a). Similarly, analyses of narrative productions (Hickmann, 1997) show an overall relation between verb semantics (resultativity) and perfectivity in all languages, but its strength depends on age and language groups. These findings cast doubt on some views, such as the 'defective tense' hypothesis discussed above, according to which children's

acquisition of verbal morphology is solely determined by underlying universal concepts of situations. As a result, this hypothesis should be at least strongly qualified in order to account for variations across ages and languages.

Further research concerning these and many other points should complement the available and ongoing studies on the acquisition of French. Crosslinguistic comparisons have especially become one of the most fruitful ways of addressing questions about language acquisition in the last twenty years. As is the case in other languages, early and subsequent developments during the acquisition of French show the impact of determinants at two levels of language organisation, the sentence and discourse. They also show some developmental patterns that are specific to French, suggesting that the systemic properties of each language (or language family) may have an impact on the developmental process. Studies of the prelinguistic period (not reviewed here) point in the same direction, showing both innate and language-specific aspects of development from birth on.

#### Endnotes

1. The studies reviewed are based on populations of children growing up mostly in France, but also in Belgium, Switzerland, and Canada. Although there are dialectical differences in the language spoken across these countries, I am not aware of systematic comparisons that would require modifying any of the main conclusions proposed here concerning the underlying process of acquisition. However, important differences across these populations are likely to result from cultural factors (e.g., see Bernicot, Comeau, Feider, 1994, discussed below) and/or linguistic factors linked to multilingual environments, in which different languages come into contact with one another (e.g., resulting in borrowings).

2. Tense/aspect markings are also closely related to verb semantics in adult language (e.g., Vendler's 1972 analysis of English, which has been extended to other languages). The impact of predicate types on verbal morphology has also been partially replicated with French adults and ten-year-old children (Fayol, Abdi, & Gombert, 1989; Fayol, Hickmann, Bonotte, & Gombert, 1993), although children overgeneralise the past imperfective, at least in the written modality.

3. These principles are briefly summarised below (where *bound* = *c-commanded* by an element in an argument position, *free* = not bound). Roughly, reflexive pronouns (which are one type of *anaphor* in this framework) must have an antecedent that is higher in the tree in the same clause, whereas nonreflexive pronouns and lexical expressions cannot be bound by such an antecedent: (a) an anaphor must be bound in its governing category, (b) a pronominal must be free in its governing category, and (c) an R-expression must be free.

4. However, different developmental studies across languages show children's difficulties with nonreflexive pronouns (interpreted as reflexives by children, against Principle B), as well as variations in children's performance across experiments. Such



findings have led to a variety of controversial interpretations, appealing to children's processing difficulties and/or lack of additional pragmatic and semantic knowledge (for a review, see Foster-Cohen, 1994, 1996). It also remains unclear why reflexives are rare in early spontaneous productions across languages.

5. In this respect, the great variability which characterises French question formation leads to the prediction that some parameters might only be set very late (with primary school literacy).

6. Larger methodological questions should be raised here. For example, divergent results concerning frequencies of nonfinite forms in early French may result from formal ambiguities with ER-verbs (e.g., between infinitival vs. past participial readings), which have different semantic-pragmatic values and can only be made less ambiguous on the basis of context (if at all).

7. Some studies not reviewed here focus on French children's anaphor resolution during reading comprehension (Bianco, 1992; Erlich, in press; Fayol, 1997).

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## Appendix

### Some Properties of French

#### 1. Types of NPs

*Nouns.* French nouns require nominal determiners. In addition to carrying morphological information (see point 2 below), determiners present an opposition between definite and indefinite forms (e.g., *le/un* N 'the/a N'). The indefinite form has a number of functions: it serves to introduce new referents, e.g., 1; to count, e.g., 2; to label referents, e.g., 3; to mark nonspecific reference, e.g., 4, except with generics such as 5.

1. J'ai trouvé un chien et je l'ai adopté. ('I found a dog and I adopted it.')

2. J'ai trouvé un chien, pas deux. ('I found a/one dog, not two.')

3. C'est un chien. ('It/That is a dog.')

4. Je veux un chien. ('I want a dog.')

5. Le chien est un animal domestique. ('The dog is a domestic animal.')

*Overt pronouns.* Personal pronouns consist of the double paradigm of 'clitic' and 'nonclitic' pronouns, traditionally defined in terms of formal structural properties. In particular, clitic pronouns are unstressed and frequently phonologically reduced

(il(s) 'he/they' is reduced to *i* in many phonological contexts), as well as obligatorily preverbal, e.g., *il, le, lui* in 6, *il* and *me* in 7. In contrast, nonclitics can be used in contrastive utterances, where they can be postverbal or dislocated, e.g., *lui, toi* in 7, *elle, moi* in 8. Note that the clitics used for direct objects have the same form as definite determiners: *le* ('him') and *le garçon* ('the boy'); *la* ('her') and *la fille* ('the girl'); *les* ('them') and *les enfants* ('the children'). Pronouns also include several types of reflexives: a featureless third person clitic *se*, which can be used together with a morphologically marked nonclitic (*pro*)-*même*, e.g., 9); and impersonal nonclitic forms *soi(-même)*, e.g., 10.

6. Il le lui a donné. (Lit: 'He him:MASC-SG-DO him/her:SG-IO gave'; 'He gave it to her')
7. Lui, il m'a donné un chien, mais pas toi. (Lit: 'Him, he gave me a dog, but not you')
8. Jean a donné un chien à elle, mais pas à moi. ('John gave a dog to her, not to me')
9. Elle/il se lave (elle/lui-même). ('S/he washes her/himself (by her/himself).')
10. Chacun est responsable de soi(-même). ('Everyone is responsible for oneself.')

*Null elements.* French (like English) has been characterised as a [-pro-drop] language, i.e., as a language that does not allow the subject to be dropped in finite main clauses (cf. Weissenborn, 1992). Such languages require an overt subject (e.g., the 'expletive' *il* 'it' is obligatory in 11), notwithstanding mixed contexts in oral speech (see point 4 below). In contrast, a language such as Spanish is a [+pro-drop] language: it allows null subjects in these contexts, as shown in 12, and consequently overt subjects optionally mark emphasis or contrast, e.g., 13. Recent proposals, however, consider that French might be a [+pro-drop] language, on the basis of evidence contrasting French and English child language, particularly the abundance, position, role, and tight relation attested between French clitic pronouns and the marking of finiteness (Pierce, 1994).

11. Je mange ('I am eating') / Il pleut ('It's raining')
12. Estoy comiendo ('(I) am eating') / Esta lloviendo ('(It) is raining').
13. Yo estoy comiendo ('(As for me) I am eating')

## 2. Morphology

*Nouns and pronouns.* French differentiates masculine and feminine gender, mainly on singular nominal determiners (definite *le* 'the:MASC' vs. *la* 'the:FEM'; indefinite *un* 'a/one:MASC' vs. *une* 'a/one:FEM') and on third person pronouns (*il/ils* or *i* 'he/they:MASC', *elle/elles* 'she/they/FEM'). Gender markings also occur on some adjectives (e.g., *gros* 'big:MASC' vs. *grosse* 'big:FEM') and past participles (e.g., *mis* 'put:MASC' vs. *mise* 'put:FEM'), but not on others (e.g., invariant *rouge* 'red' or *cassé(e)* 'broken'), especially in the oral modality (see point 4

below). It is partly linked to sex with animate NPs (e.g., *le garçon* 'the:MASC boy' vs. *la fille* 'the/FEM girl'), but grammatical gender is by far the most frequent (e.g., *la table* 'the:FEM table', *le livre* 'the:MASC book'). Gender indices occur on some nouns, particularly in relation to sex (e.g., *le chien* 'the:MASC dog:MASC' vs. *la chienne* 'the:FEM dog:FEM'; *le maître* 'the:MASC teacher:MASC' vs. *la maîtresse* 'the:FEM teacher:FEM'). Number is marked on nominal determiners, which oppose singular forms with a plural form neutralizing gender (*des filles/garçons* 'some:PL girls/boys', *les filles/garçons* 'the:PL girls/boys'). With the exception of rare irregular nominal forms (e.g., *le cheval* 'the:SG horse:SG', *les chevaux* 'the:PL horses:PL'), number is not marked on nouns and it is only partially marked on first/second person pronouns (*je/tu* 'I/you/SG', *nous/vous* 'we/you:PL') in the oral modality (see point 4 below). Case is only marked on pronouns with different forms depending on grammatical role, e.g., 14 for the third person singular.

14. SUBJECT: *il* (MASC), *elle* (FEM); DIRECT OBJECT: *le* (MASC), *la* (FEM); INDIRECT OBJECT: *lui* (MASC/FEM).

*Verbs.* Verbal morphology marks person distinctions which vary across different verb classes. Auxiliaries *être* 'to be' and *avoir* 'to have' present the most distinctions (e.g., five forms in the present). Other verbs present variable person distinctions (only some of which are frequent in the spoken input, see point 4), depending on the phonological properties of their infinitives: verbs ending in ER (e.g., *manger* 'to eat'), which are overwhelmingly the most frequent; most verbs in IR (e.g., *finir* 'to finish'); a third heterogeneous class comprising a number of verb forms. Verbal morphology also marks other distinctions, such as tense, aspect, modality, and mood, e.g., a present, unmarked for aspect (e.g., *Je mange* 'I eat/am eating'), except for periphrastic constructions (e.g., *Je suis en train de manger* 'I am eating'); an opposition between imperfective past (*imparfait*, e.g., *il mangeait* 'he was eating') and perfective past (*passé composé*, constructed with the auxiliaries *être* and *avoir*, e.g., *il a mangé* 'he ate', *elle est tombée* 'she fell down'), which serves discourse functions; future and conditionals (e.g., *Demain je serai loin* 'Tomorrow I will be far', *Le pape serait mort* 'Lit: The pope would be dead', i.e., 'it is thought/said that ...'); subjunctives (e.g., *Il faut que je dorme* 'I must sleep'); and imperatives (*Sois sage!* 'Be good').

## 3. Clause structure

Although French is traditionally classified as an SVO language, clause structure presents major variations. First, word order differs with nominals and clitic pronouns (also see point 1 above). For example, the direct and indirect objects are postverbal in 15, but the direct object in 16 and the indirect one in 17 are preverbal. Further order variations occur among preverbal clitics, e.g., the direct object precedes the indirect one in 18, but follows it in 19.

15. Jean a donné un cadeau à Pierre ('Jean gave a present to Pierre.')
16. Jean l'a donné à Pierre ('Lit.: Jean it gave to Pierre')
17. Jean lui a donné un cadeau ('Lit.: Jean him gave a present')
18. Il le lui a donné ('Lit.: 'He it him gave')
19. Il me l'a donné ('Lit.: 'He me it gave')

Second, French presents a great variety of clause-structure variations, among which two types are abundant in adult and child speech (see point 4 below): presentative structures such as 20 and 21; left- and right-dislocations, in which one or more definite nominals are coindexed with clitic pronouns and preposed (e.g., 22), postposed (e.g., 23), or placed on both sides (e.g., 24). Presentative structures typically introduce or reintroduce referents, while dislocations have a variety of functions in reference maintenance, such as switching topics. Dislocations have a number of other properties, e.g., indefinite forms cannot be dislocated (e.g., 25), except if reference is nonspecific, requiring a different pronoun (e.g., 26). Both types of structures have been taken as evidence that the basic French sentence form is not SVO (Lambrecht, 1981, 1987).

20. Il y a un/le garçon (qui...) ('There is a/the boy [that...]')
21. C'est un garçon (qui...) ('It's a boy [that...]')
22. Le garçon il a donné un chien à Jean. ('The boy he gave a dog to Jean.')
23. Il a donné un chien à Jean le garçon. ('He gave a dog to Jean, the boy.')
24. Le chien, le garçon il le lui a donné à Jean. ('The dog, the boy gave it to him, to Jean;') ('Lit.: The dog, the boy he:MASC-SUB it:MASC-DO him:MASC-IO gave to Jean.')
25. \*Un chien, le garçon l'a donné à Jean. (\*'A dog, the boy gave it to Jean.')
26. Un chien, ça tient compagnie. ('A dog, that keeps company.')

Third, other clause-structure variations occur in particular types of clauses. For example, relative clauses display OSV and OVS orders with object relative pronouns (e.g., 27). Question formation in spoken speech is typically characterised by the absence of inversions in a variety of question forms (see point 4 below): initial WH-element with the question marker *est-ce que* (e.g., 28), without this marker (e.g., 29), or WH-element in situ (e.g., 30).

27. le lit que Pierre a acheté / le lit qu'a acheté Pierre ('the bed that Pierre bought' / 'the bed that bought Pierre')
28. Où est-ce que t'étais? ('Where-QU you were?')
29. Où t'étais? ('Where you were?')
30. T'étais où? ('You were where?')

French presents important variations across the written/spoken modalities and/or the formal/informal registers. Many of the written morphological distinctions are not phonologically distinct in oral speech: gender endings on many adjectives and participles; number endings on nouns, pronouns, adjectives, and participles; many person endings on verbs. In addition, some existing distinctions are rare in the child's input, e.g., first person plural nous 'we' is typically replaced by colloquial third person singular on, second person plural vous 'you:PL' is mostly restricted to the polite form; future forms are replaced by the present or periphrastic constructions (e.g., 31); some verbal forms never appear (the passé simple marking the perfective past, some subjunctives); disjunct negation with finite verb forms (ne...pas) is practically nonexistent (replaced by single pas). Contexts relevant to the prodrop parameter also vary, e.g., omitted subjects in modalized utterances are typical in the oral modality, (e.g., 32), but subject deletion is otherwise extremely rare, even in contexts where it is grammatically permitted (e.g., coordinate constructions such as 33). Some types of clause structure are typically used in the spoken/informal modality, e.g., presentative clusters or dislocations such as 20 to 24 above, others in the written/formal one, e.g., inversions in questions (cf. 34) or for referent introductions (cf. 35).

31. Demain je fais (vais faire) un gâteau. ('Tomorrow I (am going to) make a cake')
32. Faut pas pleurer. ('(One) must not cry')
33. Jean est arrivé à 9h, il est passé à la maison et il est reparti tout de suite. ('John arrived at 9 o'clock, he came by home and he left right away')
34. Où étais-tu? ('Where were you?')
35. Derrière la porte se trouvait un enfant. ('Behind the door was a child')

#### 4. Variations across modalities and registers