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Children's Discourse

CHILDREN'S DISCOURSE

PERSON, SPACE AND TIME ACROSS LANGUAGES

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1 *Introduction*

Two questions are central to the psycholinguistic study of first language acquisition. What structural and functional factors determine the acquisition process? What are universal and language-specific aspects of this process? This introductory chapter first presents the general theoretical thrust adopted in this book to address these two questions (Section 1.1). Particular attention is placed on the distinction between the forms and functions of language, the need to relate the sentence and discourse levels of linguistic organisation, and the importance of cross-linguistic comparisons for the study of language acquisition. I then indicate more specific developmental questions that arise in three domains of language to be examined thoroughly in this book: reference to entities, the expression of motion and location, and temporal organisation in discourse (Section 1.2). Finally, this chapter closes with an overview of the contents to be found in subsequent chapters (Section 1.3).

1.1 Acquiring language

First language acquisition is a complex process involving two facets: all children acquire the type of semiotic system that is characteristic of our species (human language), while acquiring the particular language that surrounds them (their native language). Providing an adequate account of both facets is perhaps the most difficult puzzle to be solved by theories of language acquisition. The central developmental argument put forth in this book is twofold and can be summarised as follows. First, regardless of their particular native language, children's main task is to relate the forms and functions of language (Section 1.1.1). Second, some aspects of this universal process are nonetheless variable across languages, because the properties of the particular systems with which children are confronted can influence the course of development (Section 1.1.2). I briefly introduce below each part of the argument, contrasting the functional view adopted here with other views that make very different assumptions.

1.1.1 Acquiring the forms and functions of language

A central claim of the functional approach adopted here is that children's main task during language acquisition is to map onto each other sets of linguistic units that have particular formal structural properties and the multiple functions that can be served by these units in communication. As a result, children acquire an intricate system of forms and functions, which implies multiple relations at different levels of linguistic organisation. At this point, it may be of some use to illustrate different views of language in order to highlight what underlying questions arise when we attempt to relate forms and functions. As will be shown, some approaches focus mostly on formal aspects of language, whereas others focus mostly on functional aspects, and little is yet known about how to relate these two aspects of language development. These different foci have resulted in a theoretical gap concerning the determinants of language acquisition and have raised methodological questions concerning adequate units of analysis. In particular, I illustrate in this chapter aspects of language that cannot be analysed exclusively on the basis of formal properties of the sentence level, requiring recourse to functional properties at the discourse level. Subsequent chapters will also discuss some formal correlates of functional principles of linguistic organisation and show how an adequate functional account requires a consideration of general and variable aspects of language structure.

1.1.1.1 Forms vs. functions

Throughout the book, I use the term *linguistic form* as a non-technical shorthand for different types of formal units in language. These units include the smallest building blocks of linguistic stuff at the phonological level (with which we will not be centrally concerned in this book), the unit of the clause (roughly encoding a proposition), the unit of the sentence (which may contain several clauses), different types of intermediary units constitutive of clauses and of sentences (e.g. verbal or nominal morphology, prepositions, particles, noun phrases, verb phrases, and so on), and larger discourse units that go beyond isolated sentences and involve a relation between utterances and their contexts. Depending on one's theoretical viewpoint, such units might be defined in different ways, each of which has consequences for our understanding of language and its development. In some theories, they might be defined strictly in formal structural terms, considered to be the essence of human language and to be available to children at birth. In other theories, the semantic and pragmatic properties of linguistic units are central, and they are viewed as providing a powerful mechanism for developmental change.

Consider some aspects of the acquisition of verbal morphology. As will be shown later on (Chapters 5 and 6), particular developmental patterns can be observed as

children gradually acquire various morphological markings, such as the English markings for third person (*-s*), past tense (*-ed*), or progressive aspect (*-ing*). Such patterns might include the presence or absence of particular markings and/or of different types of errors at particular points, which might lead to various conclusions concerning the acquisition process. The interpretation of the results might differ a great deal depending on one's approach to language. For example, one might view the emergence of these forms as exclusively reflecting grammatical knowledge, for example as showing children's discovery of finiteness, which provides evidence for subject-verb agreement and therefore for their reliance on the formal category Subject. Such a view leads to further predictions concerning co-occurrences between finiteness and other aspects of child language, for example the presence or absence of null elements within and across languages (see further discussions in Chapters 2 and 3). According to other views, however, the emergence of these forms reflects children's reliance on semantic and/or pragmatic categories, which must be related to other aspects of development: their developing ability to use linguistic devices to explicitly differentiate participants from non-participants in the speech situation, to mark the ongoing nature of events or their results, or to temporally relate denoted events to speech time or to other events that are denoted in discourse.

More generally, theories diverge with respect to what aspect of language is most fundamental. For example, Chomsky's (1981) theory of Universal Grammar views language as a structure defined by general and particular formal properties, regardless of whatever (system-external) functions it might serve. This structure is innate and as such it is therefore not 'acquired': developmental change is seen as resulting either from sheer maturation or from a number of factors, including the alleviation of constraints due to an immature cognitive system ('processing' or 'performance' constraints) and 'discovery procedures', whereby children determine the properties of the particular system that surrounds them. In contrast, functional theories view first language acquisition as a process whereby children learn linguistic devices as 'tools' to help reach particular communicative goals. That is, linguistic forms are not acquired 'for their own sake', so to speak, but because they serve crucial functions when we communicate with others. Such functions include the encoding of propositional content in our messages, such as the expression of semantic relations within sentences (who did what to whom, when and where). They also include relating our messages to the immediate linguistic and non-linguistic context of utterance, which allows propositional content to be constructed in cohesive discourse (e.g. as a function of what is mutually known, most presupposed, in focus) and social relations to be secured in the discourse situation (e.g. what is socially appropriate in relation to role relations among the interlocutors). All of these functions of language constitute a major driving force in development, providing a dynamic mechanism for why and how children acquire language. A number of recent models, including

the one to be proposed in this book, now attempt to provide explanations in which development is centrally determined by functional factors, while making room for complex innate predispositions and endogenous processes. Such views acknowledge the role of structural factors in determining some patterns of development that are characteristic of human language acquisition, as well as some patterns that are specific to the particular language to be learned.

1.1.1.2 Sentences vs. discourse

Related to the distinction between form and function is the existence of two levels of organisation in language: the sentence level and the discourse level. Theories diverge fundamentally with respect to which level they take to be most central. Correspondingly, some consider that the most fundamental basic unit of analysis is (maximally) the sentence, while others consider that the basic unit is discourse, requiring that we necessarily go beyond the sentence to include (minimally) an intrinsic relation between utterances and their context of use.[1] Implicit in this choice is a focus on different aspects of language, such as the syntactico-semantic properties of linguistic devices within the sentence or their pragmatic properties in discourse. Examples (1.1) to (1.8) illustrate these different theoretical foci. Within a first type of approach, the sentence is a necessary and sufficient unit of analysis to determine a number of crucial properties of language, such as role relations among noun phrases (hereafter NPs) and uses of reflexive pronouns. In the absence of context, it is possible to determine in (1.1) and (1.2) which NPs are subject (*John*, *he*) vs. object (*Peter*, *him*). It is also possible to specify possible and impossible coreference relations within sentences: the pronoun *him* in (1.3) and in (1.4), as well as the pronoun *he* in (1.7) cannot refer to John; the pronoun *himself* can only refer to John in (1.5) to (1.7) (and it is obligatory in these cases); the pronouns *he* and *himself* in (1.8) must denote the same referent, either John or some referent not identified in the sentence (see further details in Chapter 3).

(1.1) John washed Peter.
(1.2) He washed him.
(1.3) John washed him.
(1.4) Peter said that John washed him.
(1.5) John washed himself.
(1.6) Peter said that John washed himself.
(1.7) He said that John washed himself.
(1.8) John said that he washed himself.

This first type of approach, then, provides powerful principles accounting for various types of sentence-internal relations. However, it cannot account for many

other aspects, particularly those that depend on a relation between the sentence and context. Thus, it cannot account for why non-reflexive pronouns rather than nominal forms are used in (1.2) (*he*, *him*), in (1.3) (*him*), in (1.4) (*him*, when it does not refer to Peter), in (1.7) (*he*), and in (1.8) (*he*, when it does not refer to John). Furthermore, determining which particular entity is picked out depends on relations that are established within discourse between the pronouns and some previous form introducing the referents or on mutual knowledge established in other ways (e.g. because the referents are present in the immediate non-linguistic context or are otherwise familiar). More generally, with most of the sentences we produce, and regardless of whether they contain proper names (*Peter*), definite expressions (*the boy*), or pronouns (*he*), the sentence level of analysis cannot account for how the interlocutor is to retrieve the identity of the denoted referents in the context of utterance. As will be shown, these problems are pervasive in language, applying to other domains of language, such as the expression of time and space.

Such problems are at the heart of functional pragmatic approaches, which consider that the basic unit of analysis must go beyond the sentence and postulate that context-dependence is a fundamental inherent property of language. In this respect, context contributes to mutual knowledge, a complex notion that has been characterised in terms of a number of dimensions affecting the 'accessibility' of referents in the universe of discourse (whether their existence and identity are mutually known, whether they are attended to, salient or otherwise familiar from previously established background knowledge, etc.). Consider examples (1.9) to (1.13), in which sentences containing third person reflexive and non-reflexive pronouns are preceded by a context sentence. Although the context sentence is superfluous to specify why the reflexive *himself* is used in (1.9), it contributes in accounting for the uses vs. non-uses and interpretations of the non-reflexive pronouns *he*, *her*, and *him* in all examples (for further details, see Chapter 3). All other things being equal and in the absence of competing referents in the context, the clauses *he told him/her* would typically be interpreted as involving a subject pronoun *he* that refers to Peter and object pronouns *him* or *her* that refer to John or Mary, respectively. Several factors converge towards such a preferred interpretation: the fact that the two NPs *Peter* and *he* are both in subject role across successive clauses, making a coreference relation most likely to be established between them; gender markings, which exclude some coreference relations; the semantics of the main predicates, that is, the nature and relatedness of the verbs *reassure* and *say*; and the fact that *Peter* constitutes the topic of discourse. However, other interpretations are possible, particularly in relation to the context of this two-sentence universe in which the existence and identity of other referents are assumed. All the non-reflexive pronouns could also denote external referents and, indeed, some such referents must be involved in examples (1.12) (the referent of *her*) and (1.13) (the referent of *him*).

(1.9) Peter reassured John. He told him that he had washed himself.
(1.10) Peter reassured Mary. He told her that he loved her.
(1.11) Peter reassured John. He told him that he would not fire him.
(1.12) Peter reassured John. He told him that he loved her.
(1.13) Peter reassured Mary. He told her that he had not fired him.

In subsequent chapters I argue that both levels of linguistic organisation, the sentence and discourse, are necessary in understanding such phenomena and, more generally, in understanding the nature of language and the process of language acquisition. Our linguistic competence simultaneously requires knowledge of the syntactic and semantic properties of well-formed sentences and knowledge of the pragmatic properties of well-formed discourse. I furthermore argue that these two types of knowledge partially interact, casting some doubts on (formal or functional) theories that view them as entirely unrelated and/or that view one or the other aspect as exclusively criterial for an adequate account of our linguistic competence.

1.1.2 Acquiring a particular language

The second part of the argument to be put forth in this book concerns invariant vs. variable aspects of languages. Language acquisition is characterised by two types of processes: some that seem to be universal and others that vary from language to language (or across language families). Depending on the foci of particular theories, different types of universals have been postulated and different reasons invoked to explain the existence of such invariants across languages. At the same time, the existence of wide cross-linguistic variation suggests that language-specific factors may have an impact on language development (its rhythm, its course) and perhaps even on cognitive development itself. Indeed, such variation has recently been at the centre of some controversy concerning the relation between language and cognition, reviving a recurrent debate in the history of language-related disciplines, best known as stemming from Whorf's (1956) *hypothesis of linguistic relativity*.

1.1.2.1 Universals

The vast literature devoted to language universals (among others, see discussions in Comrie 1981; Croft 1990; Greenberg 1963) suggests the existence of different types of universals, which will recur in the discussions of subsequent chapters. In order to highlight theoretical contrasts, I briefly present universals as falling into two groups, *formal* and *functional* universals, despite the fact that this division could be somewhat misleading for two reasons: each group includes a variety of universals that have different theoretical implications, and the interrelations among them raise some deeper controversial questions (see Chapters 2 and 3 for further discussion).

Formal universals correspond to invariant properties characterising the forms of necessary and possible rules of the grammar. Chomsky (1957, 1965, 1968) originally contrasted these universals to *substantive* universals that define the categories that are necessary and possible in human languages (e.g. nouns, noun phrases, subjects, etc.). Roughly, Chomsky's (1981) later version of his theory of Universal Grammar is built around the central idea that all linguistic systems share common formal properties, which are criterial in defining human language. These properties are organised in a structure that is both modular and innate. Children are endowed at birth with a pre-programmed system of rules and relations specific to language and therefore entirely distinct from other types of knowledge relevant to other domains of human behaviour. For example, the rules that are necessary to allow or prevent coreference relations between reflexive pronouns and other NPs, illustrated in examples (1.2) to (1.8) above, are assumed in this framework to be part of our knowledge of grammar, which is universal, innate, and independent of whatever knowledge might be necessary to account for form use as a function of presupposition and for the identification of denoted referents in relation to context.

Functional universals include at least three types of related but distinct universals: cognitive, semantic, and pragmatic universals. Despite wide differences in their nature and theoretical implications (see Chapter 2), they all directly reflect and/or are constrained by more general properties of human cognition and communication. Cognitive universals have been typically invoked to account not only for language development, but also for other aspects of child development. Thus, Piagetian theory postulates that children's cognitive development follows a universal sequence of stages, stemming from endogenous processes, leading them to continuously construct and reconstruct gradually more abstract representations during the course of their interaction with the world. According to this approach, the same cognitive mechanisms underlie all of child development, including children's reasoning capacities in problem-solving situations across domains, as well as their developing ability to use language in interpersonal interaction. For example, as will be shown in more detail (Chapters 5 and 6), Piagetian theory typically assumes that the acquisition of linguistic devices such as referring expressions, spatial prepositions, or temporal-aspectual morphology follows universal and language-independent cognitive stages, determining a variety of children's concepts (classes of entities, spatial relations, the temporal structure of situations), which underlie particular sequences in their uses and interpretations of these linguistic devices.

Such general cognitive universals must be distinguished from semantic universals, which have also been postulated to account specifically for language development. The distinction between cognitive and semantic universals is a delicate one, which has not always been properly made in developmental psychology, perhaps because its importance is most evident within a cross-linguistic perspective that goes

beyond the facts of any one particular language. It was only during the second half of the twentieth century that such a perspective gradually imposed itself in the study of child language, becoming necessary in order to generalise or to invalidate claims about the universals of language acquisition. Within such a perspective, the distinction between cognitive and semantic universals becomes necessary if one's aim is to consider not all of children's conceptual capacities, but rather those that define the organisation of particular linguistic categories in one or another domain across languages. More generally, although language is frequently said to 'encode' the reality we perceive, it organises the flux of our perception into discrete and interrelated categories that form a system, thereby 'regimenting' this reality according to its own semiotic principles. Some general semantic properties may characterise language as a sign-system, perhaps reflecting universal aspects of human cognition. However, careful cross-linguistic comparison shows that seemingly identical categories may actually differ a great deal across languages and/or may overlap differently with other categories, resulting at best in a partial correspondence, rather than in a relation of one-to-one correspondence.

Earlier claims about the existence of some conceptual universals have been based on the study of only one language, with the illusion (or a priori assumption) that such universals were basic to all languages. As will be shown (Chapters 5 and 6), such claims have been recently questioned in several domains on the basis of cross-linguistic evidence. For example, although the organisation of the categories and structures that define the universe of spatial semantics (e.g. as reflected in the use of spatial prepositions or verbs of motion) might seem 'natural' in one language, they may not correspond to the prototype that is natural in another language. Similarly, although some aspects of the temporal structure of situations are encoded in all languages, some may be more or less important or salient depending on the particulars of a given language system, such as its morphological richness. Furthermore, the fact that some aspects of child language may be found in all languages need not reflect underlying language-independent universals of human cognition, but could rather entail a much more complex relation between universals of human cognition and of semantic systems across languages. As will be shown, an extreme version of this view is that the systemic organisation of language (and of particular languages) has an impact on how the cognitive system organises itself during child development. This view is compatible with a variety of developmental and/or linguistic theories. For example, the theory sketched by Vygotsky (1962) in developmental psychology views language as partially structuring human cognition, and the linguistic tradition represented by Whorf's (1956) hypothesis of linguistic relativity further postulates that each particular language shapes the world view of its speakers (see Chapter 2).

Finally, pragmatic universals concern properties of language as a tool for communication in interpersonal situations. This heterogeneous class of universals includes a wide range of diverse phenomena, such as the marking of subjectivity, of sociocultural roles, or of information structure in discourse. These language properties all have in common that they are best suited for interpersonal interaction, both reflecting and being partly constitutive of our social communicative behaviour. In this respect, some basic common properties to be found across languages concern the ways in which linguistic structure itself encodes the different personal, temporal, and spatial components of the speech situation. Thus, all languages allow speakers to mark the roles of participants (first/second persons) vs. non-participants (third persons), to locate denoted events in time and space, to mark the temporal structure of these events, and to regulate information across utterances in cohesive discourse as a function of mutual knowledge and of communicative focus. This aspect of language structure is universal, despite the fact that very diverse means are available for these purposes across languages. Among such universals, those that are related to information structure in discourse are at the heart of this book and will be further illustrated throughout subsequent chapters.

1.1.2.2 Particulars

The existence of wide variations across languages has led to different accounts of how children come to acquire their particular native language. For example, as previously mentioned, Chomsky's (1981) theory of Universal Grammar postulates the existence of an innate universal structure, which either matures as children develop or is gradually uncovered by children through various discovery procedures. This theory further postulates the existence of innate *parameters* with different *settings*, along which languages differ, providing the main locus of children's learning during language acquisition. Being simultaneously equipped with a universal structure and with parameters at birth, children's task is to discover the particular settings that characterise the language that surrounds them. For example, languages provide different settings on the *null subject parameter*: some allow (and require in some contexts) null subjects in independent finite clauses, whereas others require overt subjects in the same contexts. In Spanish (1.14) and (1.15) the subject NP can only be formally identified on the basis of verbal morphology, but the English equivalent of (1.14) requires an overt subject (the pronoun *I* denoting the speaker or the pronouns *he/she* denoting a singular third person) and the English equivalent of (1.15) requires the use of a special non-referential (*expletive*) subject pronoun *it*. Much developmental evidence concerning children's uses of null elements has indeed been taken to support the theory of parameters, despite controversial issues

concerning the precise nature of children's initial states and subsequent discovery procedures (see further discussions in Chapters 3 and 5).

(1.14) Estóy comiendo una manzana. / Está comiendo una manzana.
('[I] am [1st p.] eating an apple.' / '[S/he] is [3rd p.] eating an apple.')

(1.15) Está lloviendo.
('[It] is raining.')

In contrast, the relativist view first put forth by Whorf (1956) postulates that fundamental differences across languages have an impact on how speakers conceptualise their surrounding reality. Over decades, this hypothesis of *linguistic relativity* has been largely rejected on the basis of various arguments, most of which have recently been shown to be based on misunderstandings and/or reductionistic interpretations of Whorf's original claim (e.g. Lucy 1992a, 1992b, 1996). Furthermore, recent research has extended this thesis to a variety of domains in the study of adult or child language (Berman and Slobin 1994; Bowerman and Levinson 2001; Gumperz and Levinson 1996; Nuyts and Pederson 1997). Depending on the particular version of the Whorfian view that is adopted, the thrust of this research need not be to show that speakers of different languages may or may not at all display certain types of concepts or reasoning. Rather, in some cases the evidence suggests that the different ways in which linguistic systems are organised lead speakers to 'habitually' attend to different aspects of the world that surrounds them, making some aspects more or less 'salient' in comparison to others and therefore more or less 'accessible' in their everyday behaviour. This impact of linguistic organisation on our cognitive system is most evident when we use language to engage in communicative and/or reflexive verbal action, but it may also have a broader impact on non-verbal behaviour and on our underlying cognitive organisation more generally (Gumperz and Levinson 1996; Lucy 1992a, 1992b).

Further extensions of this claim have begun to explore not only semantic and grammatical categories such as those discussed by Whorf, but also pragmatic ones that are at the centre of functional theories (Gumperz and Levinson 1996). Roughly, the aim here is to examine how variations in form–function mappings across languages might have an impact on how speakers engage in various activities involving discourse. In line with other studies (e.g. Berman and Slobin 1994), the research presented later in this book (in Chapters 8 to 10) illustrates some aspects of this view, focusing on the impact of cross-linguistic variation on narrative organisation. At the centre of this research is the idea that the particular devices available to speakers for the construction of cohesive discourse vary along a variety of dimensions, presenting children and adults with different problems to solve. For example, as will be shown, these devices might be obligatory vs. optional, local vs. global, more or less rich, symmetric, or transparent, intricately tied or not with other subsystems, and

functionally simple vs. complex. More generally, such variations reflect different mappings among forms, on the one hand, and syntactic, semantic, and/or pragmatic functions, on the other hand.

1.2 Domains of child language

Some examples below illustrate the consequences of the general distinctions and approaches described above for more specific questions within each of the three domains to be explored by subsequent chapters: reference to entities (Section 1.2.1), space (Section 1.2.2), and time (Section 1.2.3). Within each of these domains, I first summarise some major distinctions encoded by all linguistic systems within the sentence and in discourse, then describe some differences in how these distinctions are marked across languages, and finally indicate some of the specific developmental questions that must be addressed in the light of these observations.

1.2.1 Denoting entities

1.2.1.1 Universals

All languages provide means of marking both grammatical relations within the sentence and pragmatic distinctions in discourse. For example, at the sentence level, subjecthood is marked in English by some morphological properties of pronouns (e.g. case distinctions in *he/him*, *she/her*, *they/them*), by the position of noun phrases (preverbal and/or sentence-initial subjects), and by subject-verb agreement through verbal and nominal morphology (e.g. *The dog/it comes* vs. *The dogs/they come*). At the discourse level, the English forms in (1.16) show a continuum ranging from the least to the most presupposing types of NPs. Indefinite determiners introduce referents that are not known to the interlocutor, thereby marking *new* information, while definite ones and pronouns denote mutually known entities, thereby marking *given information* (e.g. Chafe 1974, 1976, 1979; Halliday and Hasan 1976). As shown in (1.17), uses of presupposing forms involve a number of factors, such as the presence of competing referents in the universe of discourse, requiring the use of definite nominals to disambiguate reference before pronouns or zero forms can be used.

(1.16) indefinite nominal < definite nominal < overt pronoun < zero pronoun

(1.17) I bought an orange and an apple. I ate the orange, but the apple was rotten and (0) stunk, so I threw it away.

In addition, clause structure also contributes to the marking of information status. In particular, many languages follow a general principle, according to which new information is placed towards the end of the utterance by means of various structures.

Thus, in English, in addition to a structure such as (1.18), other structures allow the placement of indefinite referent introductions after the verb, for example existentials (1.19) or subject-verb inversions (1.20).

(1.18) A man was standing behind the door.
(1.19) There was a man behind the door.
(1.20) Behind the door stood a man.

1.2.1.2 Variability

Although all languages provide markings of sentence-internal and discourse distinctions, they vary in many ways, as briefly illustrated here (see further discussion in Chapter 3). Depending on the language, the marking of grammatical relations may rely to different degrees on word order or on morphology. In the absence of morphology, a language such as Chinese relies more on word order than a language such as Italian, which presents a rich morphology. Furthermore, nominal determiners might serve a number of functions, such as carrying morphological distinctions, counting (e.g. French *une pomme* 'a/one apple'), marking non-specific reference (*I want a dog*) or labelling referents (*This is a dog*). Finally, languages rely differentially on various markings to distinguish newness from givenness. The opposition between indefinite and definite nominal determiners is obligatory in English to distinguish newness from givenness, while clause structure is entirely optional. Romance languages are similar to English in this respect, although they partially grammaticalise the given/new distinction, since all clitic (unstressed) pronouns must be preverbal (e.g. (1.21)), whereas no such rule applies to nominals (e.g. (1.22)). In sharp contrast to these languages, nominal determiners are entirely optional in other languages. For example, although Chinese determiners can be used to differentiate newness (numerals) from givenness (demonstratives), these devices are optional, while position in the clause is obligatory to mark information status (new information must be postverbal).

(1.21) Il l'a mangé.
('$\text{He}_{[\text{Sub}]}$ $\text{him}_{[\text{Obj}]}$ ate' → 'He ate him.')
(1.22) Le chat a mangé le rat.
('The cat ate the rat.')

1.2.1.3 Developmental perspective

In summary, then, all languages provide devices to simultaneously mark sentence-internal and discourse-internal distinctions, both of which are necessary for speakers to denote entities. However, the relative importance and functional complexity of one or the other type of device varies across languages. Further discussion (Chapter 3) will show that the relative contribution of different devices

to the marking of information status must be examined within a cross-linguistic perspective in light of all of the functions they serve in a given language, including their (syntactic and semantic) functions within the sentence and their discourse functions in organising information flow. As will also be shown (Chapter 5), studies focusing on sentence comprehension across languages suggest that markings present different degrees of difficulty to children (e.g. Ammon and Slobin 1979) and that their use depends on their relative availability and reliability (MacWhinney and Bates 1989). Little is known, however, about how discourse and sentence factors might jointly affect uses of devices within a cross-linguistic perspective. From a developmental point of view, some of the research presented in this book examines whether several properties of the relevant devices affect development, such as their local vs. global nature, their optional vs. obligatory nature, and their functional complexity. One of the main hypotheses examined in Chapter 8 is that children's reliance on different devices when denoting entities is related to both the formal and functional properties of their language.

1.2.2 Space in language

1.2.2.1 Universals

A number of phenomena in language are related to the expression of motion and location. Examples (1.23) to (1.25) illustrate two basic distinctions encoded by all languages in this domain. First, (1.23) involves a static situation, while (1.24) and (1.25) involve dynamic ones. Second, both (1.23) and (1.24) involve a general location which situates a referent (the baby in the kitchen), whereas (1.25) implies a change of location (from outside to inside).

(1.23) The baby is sitting in the kitchen.
(1.24) The baby is running in the kitchen.
(1.25) The baby is running into the kitchen.

The denotation of entities in such utterances is directly related to the marking of information status. More generally, the expression of motion and location requires the *linearisation* of space in discourse (Levelt 1981), that is, the organisation of spatial information into a sequence of successive utterances. Among other problems to be solved in this process is the management of presupposition. For example, the speaker must provide some minimal *spatial anchoring* enabling the interlocutor to reconstruct the space that is represented in discourse, including locations and location changes that may be implied across utterances. As illustrated in (1.26), once locations have been introduced in the universe of discourse, they become accessible and can serve as spatial anchors for further clauses in discourse. Consequently, if some relevant conditions are met, speakers can presuppose the identity of the

relevant referents, using pronouns, omitting to mention them altogether and/or relying on world knowledge.

(1.26) Watch out! The baby is in the kitchen and it's running.

1.2.2.2 Variability

Languages present great variations in the particular ways in which they mark general universal distinctions such as the ones described above. Variations include first the particular systems of devices provided from language to language. For example, whereas some languages express spatial relations by means of prepositions, others do so by means of postpositions (e.g. Turkish). Some languages provide case markings to distinguish general locations from changes of location (e.g. the German dative and accusative case, respectively). Languages such as English or German provide spatial particles (e.g. English *up/down*, *away*, *back*), which do not exist in other languages (such as Romance languages). Second, languages partition in different ways the semantic universe of spatial relations. Thus, prepositions that are seemingly similar across languages need not encompass the same set of spatial relations, for example everything that can be expressed by English *on* need not or cannot be expressed by French *sur*.

Yet a third type of cross-linguistic variation concerns the ways in which languages organise different types of spatial information across various elements in the clause. This type of variation involves the structure of the entire clause as a result of a relative reliance on grammatical vs. lexical processes. In this respect, Talmy (1975, 1983, 1985, 2000) distinguishes several language families depending on how they express motion events, among which the following two will be relevant in subsequent chapters. *Satellite-framed* languages, which include Germanic languages such as English or German, encode the manner of motion in the verb and information concerning the path of motion in verbal satellites such as prepositions or particles. In contrast, *verb-framed* languages, which include Romance languages such as French or Spanish, express the path of motion in the verb, only expressing manner peripherally, if at all. This difference is illustrated in the French equivalent (1.27) of English (1.25) above. As shown by the literal translations below, it is the main verb (*entrer* 'to enter') which expresses the change of location.

(1.27) Le bébé entre dans la cuisine (en courant).
[Lit.: 'The baby enters in the kitchen (by running).']

1.2.2.3 Developmental perspective

In summary, despite the universals that characterise this domain, there are wide variations in how languages express motion and location. Recent cross-linguistic research (discussed in Chapter 6) shows different developmental patterns,

which have led to a revival of the linguistic relativity hypothesis, according to which language-specific factors affect development. Such results are observed with respect to both static spatial relations or dynamic motion events, in comprehension or in production, at the sentence or at the discourse level, during the emergence of language or during later phases of development. As will be suggested (Chapter 11), other more wide-ranging cross-linguistic differences in child development may be related to the variations that can be observed in this domain. As will be shown, however, more cross-linguistic research is still necessary to determine the relative contribution of sentence and discourse factors in determining the developmental process. Relevant evidence will be presented (Chapter 9) on the basis of children's narrative productions across several languages.

1.2.3 Time in language

1.2.3.1 Universals

Time in language involves two tightly related but distinct types of markings: temporal and aspectual ones. The linguistic category of *tense* typically relates the time of a denoted situation to the time of the immediate speech situation, although other types of uses are also possible (for more details see Chapter 3). Thus, example (1.28) presents an event as having taken place at some point situated before the immediate speech time, whereas example (1.29) presents an event as occurring during speech time.

(1.28) John ate an apple.
(1.29) John is eating an apple.

The related category of *aspect* makes a universal distinction between *perfective* vs. *imperfective* aspect. As will be shown subsequently (Chapter 3), these aspect markings are tightly related to the semantic nature of predicates, such as their *resultativity*, which determine some interpretations of verbal inflections and their co-occurrences with other temporal-aspectual devices. In addition, in all languages they make a central contribution to the distinction between the *foreground* and *background* of discourse (e.g. Hopper 1979a, 1979b, 1982). Roughly, the foreground corresponds to the chronologically ordered events that make up the main plot line of a narrative, while the background corresponds to more secondary situations that surround this foreground. For example, (1.30) presents Mary's arrival in the foreground as a point that occurs during the interval of John's eating in the background. In contrast, in (1.31), Mary's arrival would typically be interpreted as a point that occurs after John has finished eating his apple, both events being foregrounded.

(1.30) John was eating an apple. Mary came in.
(1.31) John ate an apple. Mary came in.

1.2.3.2 Variability

Although some temporal and aspectual oppositions are universal, wide cross-linguistic variations exist in the particular systems of devices available to mark them (e.g. Comrie 1976, 1985; Dahl 1985; Smith 1983, 1986, 1991). For example, whereas English provides an imperfective progressive (*-ing*) with all tenses (*he is/was/will be running*, etc.), French provides aspectual oppositions only in the past (e.g. *il a couru* 'he ran/has run' vs. *il courait* 'he was running'), neutralising aspect in the present (*il court* 'he runs/is running'), despite optional periphrastic constructions explicitly marking the progressive (*il est en train de courir* 'he is in the course of running'). Furthermore, a language such as Chinese has practically no morphology. As a result, it provides no grammaticalised tense forms, optionally locating the time of events by means of adverbials and marking aspect by means of particles or adverbials (e.g. perfective particle *le*, imperfective particle *zhe*, imperfective adverbial *zai4*). In addition, some properties of Chinese are related to its agglutinative nature, such as complex verbal forms, often called *resultative verb constructions*, which involve several verbs to express simultaneously different information components (e.g. *pao3-guo4-qu4* 'run-cross-go').

1.2.3.3 Developmental perspective

From a developmental point of view, some hypotheses have been put forth according to which children's acquisition of verbal morphology reflects the existence of universal grammatical categories such as subjecthood (Chapter 5). According to other hypotheses, acquisition is determined by universal semantic dimensions such as resultativity, which give rise to similar patterns across languages (Chapter 6). In particular, some results suggest that children's uses of verbal morphology is determined by universal situation types, leading them to mark at first only aspect and not tense. Such findings have led some to put forth the *defective tense hypothesis*, according to which children should associate particular markings with particular event types, because their cognitive immaturity leads them to focus on the immediately perceptible results of events. However, two types of evidence go against such hypotheses. The first type shows that the predicted patterns simply do not hold in some languages, casting some doubts on the universal impact attributed to grammatical or semantic categories. The second shows evidence for other types of determinants, not taken into account by the hypothesis, particularly functional factors, such as the marking of various distinctions in interpersonal interaction and the grounding of information in discourse. Although some research has begun to address such questions, little is known about how sentence and discourse factors might jointly determine the acquisition of temporal-aspectual devices by children within a cross-linguistic perspective. The research presented subsequently (in Chapter 10)

will address both of these questions, examining the relative impact of semantic and discourse determinants on the acquisition of temporal-aspectual markings across languages.

1.3 Overview of contents in subsequent chapters

The remainder of the book is divided into two parts. In the first part, Chapter 2 compares different approaches to language acquisition with respect to a number of controversial issues, further showing how functional approaches account for the regulation of personal, spatial, and temporal information in discourse. Chapter 3 then discusses some general similarities and differences across linguistic systems, which are shown to be relevant for our understanding of language. Chapter 4 examines studies of children's discourse, including their early conversational skills, their increasing ability to decontextualise information in communication, and their reliance on cognitive *macrostructures* to represent event sequences. Chapter 5 reviews studies of children's comprehension and production of referring expressions, which present strikingly divergent claims about the acquisition of the nominal and pronominal system. The evidence suggests that discourse-internal functions are a late development in comparison to other uses, but little is still known about children's discourse-internal uses of clause structure across languages. Chapter 6 discusses the acquisition of spatial and temporal-aspectual devices. In both domains, studies have invoked either language-independent factors or language-specific ones to account for recurrent and variable developmental patterns. Some evidence suggests that children have difficulties with the linear organisation of spatio-temporal information and that typological factors influence their discourse organisation.

The second part of the book first pursues this literature review in Chapter 7, which focuses on pervasive methodological problems in the study of language acquisition. The remainder of this chapter describes the design of the study presented in subsequent chapters, which examines the narrative productions of children and adults in four languages (English, German, French, and Chinese) in order to address some of the unanswered questions previously raised. Chapter 8 examines how animate characters are introduced and mentioned subsequently in the narratives. It is shown that the relative functional complexity of these devices, which contribute to two levels of organisation (the sentence and discourse), accounts for the cross-linguistic similarities and differences that can be observed in the acquisition process. Chapter 9 examines the expression of motion and location within and across utterances. It is concluded that sentence factors (grammaticalisation or lexicalisation) and discourse factors (spatial anchoring and marking the status of spatial information) both affect children's uses of spatial devices and interact during acquisition, resulting in invariant as well as language-specific developmental patterns. Chapter 10 examines the

uses of temporal-aspectual devices in the narratives. The evidence partly supports the 'defective tense hypothesis', but also shows the impact of language-specific and discourse factors on uses of tense/aspect markings.

Chapter 11 synthesises the results, comparing them with those of previous studies. The discussion highlights three main recurrent points across domains. First, discourse-internal functions develop only gradually in all languages, allowing children to organise discourse without reliance on non-linguistic context. Second, the evidence shows the impact of – and interactions among – two main types of determinants: syntactic and semantic factors affecting how children learn to represent events within well-formed utterances, and functional factors affecting how they learn to regulate information flow across these utterances within well-formed discourse. Third, only some aspects of the developmental process can be generalised to all languages, while others are clearly language-specific. In each domain, cross-linguistic similarities and differences are shown to either complement or invalidate the conclusions of previous studies. Finally, more general conclusions are drawn in the context of available models of language acquisition. It is argued that the simultaneous contribution of linguistic devices to the organisation of the sentence and of discourse is a crucial key to understanding language acquisition. This type of multifunctionality is universal, even though cross-linguistic variations result from the different ways in which languages map sentence and discourse functions onto forms. An adequate model of acquisition therefore requires an account of how the sentence and discourse levels of organisation are related within a cross-linguistic perspective. Concluding remarks make some suggestions for future lines of research that still need to be further explored.