

Clare Painter

Learning through Language in Early Childhood



CONTINUUM STUDIES IN LANGUAGE AND EDUCATION

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Preface

For children of many different literate societies, all over the world, the age of 5 to 7 years heralds the beginning of their formal education. At this point in their lives they are deemed ready to undertake learning within an institutional setting, in line with a common intuition that some kind of developmental watershed has been reached. While there are doubtless a number of factors which could be proposed as relevant to our feeling that a 5-year-old is 'ready' for schooling, a significant one must relate to our perceptions of the child's stage of cognitive development. The theme of this book is that this cognitive readiness can be explained in terms of crucial linguistic developments and experiences, particularly in the years between the ages of 3 and 5.

In reflecting on children's readiness for school, we cannot but recognize that the key characteristic of learning within the setting of the institution is that it will be dominated by language. At the outset, it will involve learning to use language in a new (i.e. written) medium, but quite apart from the achievement of initial literacy itself, everything else the child is learning will be accessed through language: from the construal of new symbol systems (mathematics, music) to the construal of the various bodies of 'knowledge' formalized within the culture. In addition, all the evidence for the child's success or failure in acquiring new knowledge is provided by his or her spoken and written discourse. Given all this, there are strong grounds for arguing that learning cannot fruitfully be considered apart from languaging, and that developments in learning, whether conceived of in terms of cognitive skills or knowledge acquisition, will also constitute developments in language.

These thoughts prompted the longitudinal case study of informal learning through language presented in this book. It is an account of one child's development and use of language between the ages of 30 months and 5 years, in which the enterprise of making sense of the world is seen to provide the impetus for linguistic developments, which in turn enable further conceptual development. The case study suggests strongly that in this pre-school period there are a number of key developments in the language which, taken together, constitute changes in conceptual resources which are highly relevant to the child's pending move into school education.

The case study itself forms Chapters 3 to 6 of the book, each taking a different facet of the experiential world that the child is coming to understand and exploring how language is used in its construal. Chapter 3 takes the world of things, Chapter 4 the world of events, Chapter 5 the interior realm of thinking and its external face as saying, while Chapter 6 looks at relations of cause and effect. The case study is oriented to describing how the developing language functioned for the child in the service of interpreting these facets of experience.

The linguistic descriptions provided are underpinned by the theoretical framework of systemic-functional linguistics (SFL), as developed by M.A.K. Halliday (e.g. 1978a, 1994) and J.R. Martin (1992a). SFL is chosen as a linguistic theory whose particular orientations allow it to be seen simultaneously as the basis for a theory of learning. This is a position which will be argued in Chapter 2, following a consideration of various alternative and/or complementary theoretical approaches with which the book opens. By the final chapter, the findings of the case study can be summarized in terms of both the linguistic developments which have taken place up to 5 years of age and how they prepare the child cognitively for school learning.

The goals of the research reported here are both descriptive and theoretical. On the one hand, the account of language development, based on a rich, naturalistic, longitudinal data set, collected during the third, fourth and fifth years of the child's life, adds to the picture of children's language provided in the literature, including earlier SFL case studies of younger children (e.g. Halliday 1975, Painter 1984, Oldenburg 1987, Torr 1998). On the other hand, the account is framed in terms of the non-linguistic understandings being construed so as to argue the thesis that learning is a linguistic enterprise and that 'cognitive' processes, such as classifying, generalizing, inferring and reasoning, can most usefully be considered as semiotic processes observable on occasions of language in use.

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1 The ontogenesis of language and learning: a survey of approaches

This book will examine one child's language development from the perspective of how the language grows in response to being used as a tool for learning about the world. Since a dialectical relation is proposed between the learning of language and the learning of other things, the study needs to be located with respect to both language acquisition research and strands of research in developmental psychology. This chapter will therefore outline a variety of approaches to the development of language and/or thought, as a background against which the theoretical perspective informing this research – that of systemic-functional linguistics – can be presented and understood. The literature to be discussed here has been grouped into two main sections, those approaches which focus on the individual in relation to the universal character of language and thought and those which focus on the social-interactive character of language and learning.

1 Universalist/individualist approaches to the development of language and thought

There is a wealth of literature which addresses the ontogenesis of language and thought within essentially universalist frameworks. These concern themselves with unchanging, common properties of the human mind and of language, construing the latter 'monologically' in terms of the individual's knowledge rather than 'dialogically' as an interpersonal system. Three main approaches will be considered here: first that of mainstream American linguistic theory; then a less theoretically cohesive body of psycholinguistic research that has investigated early language development and its relation to conceptual development; and finally the developmental psychological theory of Jean Piaget.

1.1 Linguistics and language acquisition

Within twentieth-century linguistics, the area of 'language acquisition' was made a central concern by Chomsky in the 1960s when he postulated that

every child possesses an innate language faculty, as an autonomous component of the mind. This component was said to specify a 'Universal Grammar' (Chomsky 1976: 36) – a kind of innate universal blueprint to which the syntax of any particular language would conform. On the basis of this Universal Grammar (UG), the language faculty constructs the grammar of the particular language found in the child's environment, such a grammar taking the form of 'a finite algebraic system that can "generate" an infinite range of expressions' (Lightfoot 1991: 4).

One characteristic of this approach is that it draws a sharp distinction between 'competence' and 'performance', that is, between knowing a language and using it:

The language faculty creates a grammar that generates sentences . . . We say that a person knows the language generated by this grammar. Employing other related faculties of mind . . . he can then proceed to use the language that he now knows. (Chomsky 1976: 36)

The knowledge/use duality authorizes linguists to concern themselves solely with the former, also called 'internalized language' (Chomsky 1986: 22), and to ignore all aspects of language as a phenomenon of human social life. In this way it becomes unremarkable to describe a grammar as 'usable for such purposes as speech production and comprehension' (Lightfoot 1991: 3), as though these were optional and somewhat incidental and marginal aspects of the phenomenon. The idealization of the object of study as 'internalized language' reflects Chomsky's motivation for concerning himself with language at all, which is to 'discover abstract principles that govern [the mind's] structure and use, principles that are universal by biological necessity' (1976: 4). For him, the commonality of human thought is assumed and poses the following question for science:

How comes it that human beings with such limited and personal experience achieve such convergence in rich and highly structured systems of belief . . . ? (Chomsky 1976: 5)

His answer to this question is to look to the universal structure of the human mind including the 'component' that is human language, though it should be noted that these are construed without reference to their neurophysiological embodiment.

In the thirty years or so since Chomsky presented his 'innateness hypothesis', many linguistic theories have come and gone, including his own theory of the time, transformational-generative grammar. But neither the kind of formalist linguistics espoused by him, nor the centrality of innateness (nativism) as an issue within such theories, has lost favour. As with Chomsky, the current interest in language acquisition by American linguists is unrelated to any more general interest in child development. The goal rather is that theorizing about language acquisition should

provide criteria by which to evaluate competing models of abstract representations of English syntax, or to identify what the form of the proposed innate UG might be. An 'idealized' child is simply equated with a 'language acquisition device' (Williams 1987: ix), having the task of applying hypotheses and principles to sample utterances as a means of generalizing to 'the correct infinite set [of sentences] that defines the adult language' (Pinker 1986: 54). Questions of interest within this paradigm concern the innate 'principles' (Wexler 1982), 'parameters' (Lightfoot 1991) or 'constraints' (Behrend 1990) which will enable a child to form correct hypotheses about the mother tongue.

To construct the appropriate grammar in line with UG principles, the child needs some exposure to speech, but it is assumed that only a minimal kind of 'triggering' input is sufficient:

We may persist with the idea that the trigger consists of nothing more than a haphazard set of utterances in an appropriate context. (Lightfoot 1991: 13–14)

In the terms of this theory, language used in the child's social environment is haphazard and 'degenerate' (Lightfoot 1991: 3) because it lacks any overt information on disallowed forms, and without this no learner could correctly hypothesize the kind of abstract formal grammar proposed.

Given all this, the key issue for language acquisition research has become that of 'learnability', of solving the 'logical problem' of language acquisition in the face of inadequate input data, as discussed in Baker and McCarthy 1991, Saleemi 1992, Crain 1993 and elsewhere. A frequently cited example of a linguistic generalization unavailable to the child from speech data concerns the relationship between certain English declaratives and corresponding interrogatives (see e.g. Cook and Newson 1996: 8–10, Gleitman 1986: 11, Lightfoot 1991: 3–4). Gleitman, for example, explains that an English interrogative sentence made up of two clauses involves 'fronting' of the auxiliary verb of the *main* clause. For example, *Is the man who is a fool amusing?* and not **Is the man is a fool who amusing?* She argues:

The important point here is that it is hard to conceive how the environment literally gives the required information to the learner. Surely only the correct sentences, not the incorrect ones, appear in the input data. But the generalization required for producing new correct sentences is not directly presented, for no hierarchy of clauses appears in real utterances – only a string of words is directly observable to the listener. And certainly there is no instruction about clauses. Even if mothers knew something explicit about these matters, which they do not, it would not do much good for them to tell the aspiring learners that 'It's the *is* in the higher clause that moves'.

In a similar way, Lightfoot (1991: 4) notes:

Children are not systematically informed that certain forms do not exist, or that they are 'ungrammatical', and so the crucial evidence – the nonoccurrence of

forms like [**is the book which on the shelf is dull?*] – is not contained in normal childhood experience.

On this reasoning, it becomes necessary to account for the above examples by positing an innate principle of ‘structure-dependence’ which guides children to perform formal operations in a way that respects grammatical structures. The formalist view of language as an abstract algebra and the accompanying conception of the learning task as one of working out just what is permissible among the myriad of formal possibilities inevitably make the whole business of language acquisition appear mysterious and impossible unless one grants that the individual possesses an innate grammar.

However, exploring this particular example in the light of child language data makes matters less mysterious. There is no question that children are able to assemble and reassemble items into structures long before using multi-clause questions. The understanding of the hierarchical nature of the constituent structure of language is after all the achievement of the ‘two-word period’. This understanding is not one that the child has to come to when beginning to use questions containing embedded clauses. On the contrary, any child will have spent months or years interpreting and using language on the basis of gradually accumulated understandings about its constituent structure, before any such interrogatives are essayed (see Chapter 3 for some accounts of one child’s use of embeddings). Moreover, the language development literature abounds in descriptions of children who plainly shift from treating ‘pieces’ of input as unanalysed chunks initially, to disassembling and reassembling the parts into structures (e.g. Brown 1973: 399, Peters 1983). Given the data available, the assertion that by the time the child is considering the more complex sentence types, s/he has available only an input accessible in terms of ‘a string of words’ cannot be accepted as a compelling argument for assuming an *innate* cognitive principle that language is configurational.

Attending to empirical data on children’s changing speech patterns, however, has not been a feature of linguistic work on language acquisition. This is because ‘the issue of learnability, as formulated and used in Language Acquisition, does not require looking at acquisition data’ (Ingram 1989: 29). As argued in one of the standard texts:

We are . . . under no obligation to pay special attention to child grammars . . . Idealizing to ‘instantaneous’ acquisition, i.e. ignoring data about developmental stages for the moment, does not seem to us to introduce significant distortions. (Hornstein and Lightfoot 1981: 30, note 8)

Thus, while some linguists working within the UG framework do see the relevance of investigating ‘intermediate grammars’ based on child language data (e.g. Hyams 1986), the principle of idealizing to

instantaneous acquisition has led many to support their arguments with constructed example sentences, sometimes accompanied by intuitions about their plausibility in an input corpus.

Lack of concern with child language data is often matched by an equal lack of interest in research which has addressed itself to investigating such data. This is evident from the way problems in language learning are conceived and discussed. One example given by Gleitman concerns the problem a child will have at the beginning of the language acquisition process. She suggests a situation where a mother says *rabbit jumps* on observing a rabbit jumping, and argues that if the child believes that things are nouns, then that child

can suppose English is a noun or subject-first language, in which case *rabbit* is the required noun; or he can suppose English is a verb or predicate-first language, in which case *rabbit* is the required verb. Given all this, it's hard to know how the child gets started. (Gleitman 1986: 20)

This view of the problems of getting started in language learning appears to be uninformed by the wealth of work in developmental psychology and functional linguistics of the 1970s, such as Newson's (1978), Brazelton and Tronick's (1980), and Trevarthen and Hubley's (1978, Trevarthen 1980) work on intersubjectivity, Ninio and Bruner's (1978) work on early naming, the research of Dore (1975) and Bates (1976) on early speech acts, Bloom's (1973) study of the one-word stage and Halliday's (1975, 1979a) account of the protolanguage phase and subsequent transition into language. Familiarity with such work (to be discussed below in Section 2.1) would make it clear that interpreting a phrase like *rabbit jumps* should not be seen as where the child gets started at all.

An even more thoroughgoing version of the theory that language structure itself is innate comes from Bickerton (1982, 1984) who has argued that some children have no input data at all. Bickerton (1982) claims that research into adult-infant linguistic interaction as a means of understanding language learning is necessarily irrelevant, because there are particular generations of children in history who could not have learned language in such a way. These are 'the first generation' of human language users, and the first generation of speakers of a creole. His argument is that these speakers must have relied upon an innate 'bioprogram' which determined the form of language which emerged. Given the fact that we have no recorded text data available in either case, Bickerton's argument has rested heavily on other sources of evidence. These are the alleged syntactic similarity between different creoles with different parentages and the alleged dissimilarity between creoles and their parent languages.

The validity of one or both of these claims has been contested by other creolists (e.g. Foley 1984, Goodman 1984, Samarin 1984, Seuren 1984), but whatever the facts of the creole situations Bickerton refers to, there is

no logical necessity to assume that language could only have arisen in the first place through an innate bioprogram which specifies particular abstract syntactic structures. Foley (1984) argues that because the genetic encoding of adaptive change lags very far behind the actual implementation of the changes (Bateson 1978), any genetic encoding of language must anyway have happened much later than the first acquisition. Thus, he concludes, 'hundreds of generations must have acquired language without a genetic program' (Foley 1984: 343). And a plausible account of how those early generations may have done so is offered by Halliday on the basis of an analogy with the observed evolution of symbolizing in the individual.

According to Halliday's (1989: 8–9) account,

language would have begun in the form of a small number of signs for expressing general meanings relating to the needs of human beings in their relations with others: meanings such as 'give me' (some object), 'do (some service) for me', 'behave (in a certain way) for me', and also 'be together with me', 'come and look (at this) with me', 'I like (that)', 'I'm curious (about that)', 'I don't like (that)', and so on. The essential function of the symbol is that of sharing: shared action, or shared reflection.

He then goes on to argue that these signs could have evolved into names:

Then (following the model of the child), particular (individual) persons and particular (classes of) objects come to be associated in regular, repetitive contexts with general meanings of this kind. So a particular sign evolves as 'I want to be together **with you**' and that becomes a name of a person or a kin relationship; another evolves as 'give me (a particular kind of) food', and so becomes the word for food, or some class of edible things; another as 'I'm curious about (the animal that's making) **that noise**', and so becomes the name of the animal species; and so on.

The development of language described here, where general vocal symbols (with general meanings of demanding and expressing curiosity or reaction and the like) evolve into names, matches Halliday's (1975) description of the ontogenetic development of language, which will be discussed further in Chapter 2. It has recently been echoed in Aitchison's contention that ontogeny correlates with phylogeny in the gradual development of the 'naming insight' following earlier simple communicative signs (Aitchison 1996). More importantly it is also compatible with recent biological theory on the evolution of mind and language, which finds the view of language as hard-wired into the brain to be 'not in accord with the known facts of human biology and brain science' (Edelman 1992: 211, 228).

Halliday's suggestions on phylogenetic human symbol development stand in stark contrast to Bickerton's more recent account, which also draws on child language data to hypothesize about phylogenesis – in his

case to argue that language is a universal inbuilt cognitive structure. Bickerton (1990) insists that language did not evolve initially as a communicative system but as a 'system of representation' of the properties of the world. He thus looks no earlier than the one-word stage of children's speech as exemplifying the evolutionary transition between no language and language, arguing that since the shift to true language in the child is abrupt and without intermediate stages, so the evolutionary transition must have been sudden – the result of a single mutation. Quite apart from the fact that the evidence he provides – a few dozen utterances from two separate points in the child's development – can hardly prove his point, Bickerton's *a priori* privileging of the representational function of language ignores longstanding criticism of this position from child language researchers (e.g. Bruner 1975, Bates and MacWhinney 1979, Painter 1984). Adopting the stance he does means that he is never led to explore the ontogenesis of the symbols used in the single-word stage and thus to address evidence for the communicative beginnings of linguistic development.

Ultimately, the claims about language acquisition made by linguists arguing for innate universal grammar derive from their premises about language. While specific pieces of evidence in favour of UG can be challenged piecemeal, the claims for it are in the end unconvincing to the extent that the basic conceptions about language are not accepted. If language is not construed in terms of the specified properties of an infinite array of sentences, if the primary function is not construed as that of mirroring the observed world, if it is not seen as desirable to dichotomize between knowledge of language and its use and to ignore the latter, then the case for UG will not appear a strong one. It will appear even less compelling if adult speech to children is not considered to be a deficient and degenerate sample and if human belief and knowledge are not seen as strikingly similar across different cultures.

So while Chomskyan linguists apparently believe that 'We must all be nativists of some sort by now; the arguments developed by Chomsky and his associates . . . and by Fodor in philosophy of language have carried the day' (Atkinson 1992:2), their arguments in fact 'carry the day' only among those who are prepared to accept all their questionable premises, premises which one philosopher of language has recently characterized as 'initial missteps . . . so destructive and far reaching that, once taken, they make it impossible to achieve a coherent theory of language' (Ellis 1993: 15).

Because the nativists characterize language as an abstract representation of syntactic structures, universal to humankind and inborn, requiring only minimal or no triggering data in order for the mature form of a specific language to emerge, they are not led to explore questions relating to the role language plays in the life of the developing child. And clearly theories building upon these premises are ill-suited to address questions of interest to educators, such as the way language might develop or fail to develop as

a response to educational praxis, or how it might be implicated in children's varying success in acquiring knowledge in school, or how children's early experience of language at home constitutes a preparation for formal instruction.

Indeed, the way language is frequently characterized in terms of a set of sentence structures has encouraged the idea that language acquisition is complete before children reach school age:

By about 4 years of age the speaker sounds essentially adult, though his sentences tend to be quite short because the use of embeddings is limited . . . (Gleitman 1986: 6)

Such a view, which regards discourse from a pre-schooler as 'essentially' indistinguishable from adult discourse, clearly removes entirely from the educational agenda any issue of language development as a responsibility of the school during the period when literacy is developed and the knowledge of specialized disciplines is confronted through language.

Thus, it can be seen that the major approaches to language acquisition from within mainstream linguistic theory are premised upon certain axioms about language (and learning) which preclude them from raising, let alone answering, any questions related to the way language is developed in the processes of learning.

1.2 Language and thinking: psycholinguistic approaches

Although, as discussed above, most linguists who write about language acquisition have given no priority to investigating the speech of young children, this is by no means a neglected area of research. On the contrary, children's early talk has been of particular interest to developmental psychologists as a means of examining the relationship between the acquisition of language and the acquisition of concepts. The researchers being grouped here do not share any single theoretical position in relation to either psychology or linguistics, but have tended to agree on the general nature of that relationship. Whereas Chomskyan linguists stress that some kind of universal grammar is a quite distinct cognitive structure, the psycholinguists have generally preferred the position that language (or a language) develops in order to encode cognitive categories. The question of whether the cognitive categories are innate or learned is then a separate matter for debate, on which different stands are taken. The position can be seen as similar to the linguists' in that linguistic and non-linguistic aspects of cognition are distinguished, but it is fundamentally different in that the two are seen as related, with conceptual development most commonly regarded as a necessary precursor of language development.

This view has been articulated, for example, in Bloom's (1993) study of initial word learning, in which she defines language as 'a system of

expression', designed 'for taking the internal, personal, private mental meanings of individuals and making them external and public' (Bloom 1993:19). Here, meaning is unequivocally located in the mental realm external to language and language is viewed as an expression form for non-linguistic thoughts. This is a position which has been pervasive in the language acquisition literature coming from developmental cognitive psychology, as can be seen in the metaphors used for discussing language acquisition, particularly that of 'mapping' language onto a non-linguistic representation of knowledge:

It could be the case that words map directly onto the child's cognitive representations. (Barrett 1986: 65)

It is often argued that words must map onto concepts that have already been worked out nonlinguistically. (Markman 1989: 36)

Children could begin by mapping words onto preestablished conceptual categories. (Clark 1991: 60)

A variation on this is the image of elements of language as material capable of 'attachment' to concepts:

Conceptual theories assume that the child attaches a language term to one of his concepts. (Nelson and Lucariello 1985: 69)

... the traditional child language 'mapping problem': how children attach the forms of language to what they know about objects, events and relations in the world. (Bloom 1993: 21-2)

[Words] are attached to either object concepts or to actions and relations. (Dromi 1993b: 57)

Particularly with respect to the literature on lexical development, there has been variation and sometimes ambiguity as to whether the extralinguistic meaning to which language is 'attached' consists of material reality (Greenfield and Smith 1976, Waxman 1990: 143), perceptual constructs (Clark 1973), or concepts (e.g. Slobin 1973, Johnston 1985, Nelson and Lucariello 1985), as well as considerable debate about the way concepts are formed and stored. (See Merriman 1986, Dromi 1987, 1993a for reviews of approaches here.) But until recently a uniform trend has been to see language as mirroring some prior reality, concept or meaning outside of itself and for that reality or meaning to be viewed either as given or as formulated before language arises. There is a compatibility here with formalist linguistic theories in the exclusive focus on the representational function of language, in the assumption that what is to be represented is universal in character and in the view of language as form rather than meaning.

Twenty years ago Bruner could claim this to be the consensus view, citing researchers working within various psychological paradigms:

The work of Sinclair de Zwart (1967), of Roger Brown (1977) of Katherine Nelson (1978), and more recently of Rosch (1973) and of Anglin (1977) argues overwhelmingly that the child sorts out his universe conceptually into categories and classes, is able to make distinctions about actions and agents and objects before he has the language for making those distinctions in speech. 'The concept is . . . there beforehand, waiting for the word to come along that names it' (Brown 1977). It still remains a mystery how the child penetrates the communicative system and learns how to represent in language what he already knows in the real world – i.e. conceptually. (Bruner 1978: 245)

However, even then, the consensus was not total and there have always been arguments from among the ranks of cognitive psychologists themselves (e.g. Schlesinger 1977, Gopnik and Meltzoff 1986, Nelson 1991b) that in fact language may have a role to play in shaping, rather than just expressing, cognition, and that what is to be cognized is not simply available ready-structured for the child to perceive. Schlesinger (1977), for example, mounts a case against 'cognitive determinism' on the grounds that categories such as the case roles of 'agent' or 'affected' could not be inferred from extralinguistic experience. He exemplifies this by suggesting that the experiences of Mummy giving a bottle, Mummy holding a bottle and a bottle holding milk are events with various interpretations of agency possible, while those of the child bumping a wall or sitting on a bed will not reveal whether or not bed and wall should be understood, and therefore expressed linguistically, as 'affected'. He also points out that the way these roles are construed by different languages is in any case too varied for it to be reasonable to assume that they are cognitively sorted out before language is used. (See Painter 1984: 7–8 for a similar argument.)

More recently qualifications to a strict cognitive determinism have been expressed more frequently by psycholinguists (e.g. Gelman and Coley 1991, Bowerman 1993). However, their reservations tend to be based on doubts as to whether empirical data on children's speech and comprehension can be said to confirm the position, rather than from theoretical misgivings about the conception of language implied. Consequently the view of language as a form of expression for some non-semiotic order of reality still prevails in work such as that of Bloom (1993), or Johnston (1985), who asserts that 'unless language is viewed as potential nonsense, conceptual notions must be acquired prior to their verbal expression' (p. 963). Yet this view of language fundamentally contradicts the principles of the most widely known theory of the linguistic sign – that put forward by Saussure at the beginning of the century.

Saussure argued that a sign has two components – a 'signifier' and a 'signified' – which are generally glossed as 'sound image' and 'concept image' respectively. While these glosses offer a duality that can be readily

appropriated by the view that signifiers (read as words) stand for signifieds (read as non-linguistic concepts), this would be a misunderstanding. It is the conjunction of the signifier and the signified which constitutes the sign, and it is the sign, comprising both the signifier and signified, which may 'stand for' or denote something external to itself. Saussure's point is precisely that a linguistic sign such as a name is two-faced – the expression in sound, such as /haʊs/, and the concept 'house' being mutually delimiting. Saussure (1978: 112) describes a linguistic sign as serving 'as a link between the uncharted morass of thought and sound so that there is necessarily a reciprocal delimitation of units'. And since the expression image and the conceptual image are mutually constitutive, there is no distinction implied between constructing a lexical class and a conceptual one – it must amount to the same thing.

Moreover, conceptual meaning in semiotic theory involves at least two aspects: that of value (sense) and signification (denotation). The value of a signified lies in its meaning as defined by its relation to other signs in the system. Thus at the simplest level, the meaning of *cottage* has to be understood in relation to *terrace*, *townhouse*, *semi*, *villa*, *mansion*, etc. The signification of a name, on the other hand, concerns its referential or denotational function: what counts as examples of objects, qualities or actions belonging to the class represented by the name. This is the aspect of meaning most transparent to us in general, but a key point of Saussure's argument is that this denotational or signifying relation is itself determined by the value relations between names. (That is to say, without knowing the 'house' paradigm we cannot be sure of the signification of any name belonging to it such as *cottage* or *villa*.)

Without a perspective on value relations, language acquisition theorists will not be led to explore meaning in terms of oppositions inhering within the child's language at any point. Instead they will speak of 'correct mapping' of linguistic forms and will require adult language forms as evidence that meanings are being encoded. For example, Slobin (1973), in a classic paper, looks for evidence that his Hungarian subject is encoding locational meaning in the child's production of the prepositions of the adult language. However, when children's linguistic systems are analysed in terms of their own value relations, the speakers can be seen to realize some semantic distinctions in formally different ways from the adult language. For example, the child subject described in Painter 1984 at first constructed locational meanings using nouns such as *garden*, *chair*, *drawer* rather than prepositional phrases such as *to the garden*, *on the chair*, *in the drawer*. Evidence that these locational nominals constituted a distinct class lay not only in their exclusive use in contexts implying a locational meaning (and never for example in naming contexts), but also in the grammatical fact that they were never modified with adjectives in the way that other nouns were (p. 189). It is also possible for children to construe quite different semantic distinctions from those found in the adult language, as evidenced by Halliday's (1975) child subject, who used