Chapter 7  Learning to read with grammatics

7.1  Introduction

The foundation exercises of Montessori pedagogy, the practical life and sense exercises, were introduced in the previous chapter. The practical life exercises engage very young children in everyday domestic routines as a means of developing and extending voluntary attention and the memorisation of complex activity sequences. The sense exercises ritualise the everyday sensory experience of very young children, systematising and organising it into meaning systems which foreshadow the organisation of educational knowledge. The recontextualisation of everyday knowledge in Montessori pedagogy is, therefore, the origin of the development of educational knowledge, or scientific concepts in Vygotsky’s terms. The Montessori study of geometry, for example, originates in the exercises of the senses. It then progresses along a decontextualisation pathway, comprising incremental steps through which the combined use of objects and language evolves into abstract mathematical knowledge. This chapter traces a parallel pathway in the area of literacy development, with particular emphasis on the study of grammar, which, in Montessori pedagogy, is a key component of reading pedagogy.

The review of Montessori reading pedagogy in this chapter exemplifies how a model of language which accounts for the *multiple strata of linguistic organisation*, as introduced in Section 5.5.4, can be used to clarify, and move forward, debates about optimum approaches to early literacy development, which continue to the present day. The chapter also introduces the way Montessori pedagogy *recontextualises* abstract grammatical knowledge as semiotically-rich ensembles of manipulable objects and language use. This chapter reviews these ensembles as a means of not only making grammatical knowledge accessible to young children, but, even more significantly, making it a tool children can use to interpret written language.

The chapter begins by sketching in a background to the study of grammar in Montessori schools. This includes a review of unresolved debates about the role of grammar in language education over the century since Montessori first began designing grammar-based reading activities. Included in the review is an account of
Vygotsky’s endorsement of the study of grammar as an aid to literacy development, as well as recent proposals from the field of social semiotics for resolving the debates about learning grammar in schools. This first section of the chapter culminates in a discussion about the potentially fruitful relation between grammar study and the way young children enjoy playing with language, a discussion which combines both Montessori’s and Vygotsky’s understandings of the relation between ‘serious play’ and the genesis of imagination and abstraction, with particular reference to literacy development.

The next section of the chapter begins by reviewing contemporary debates concerning the ‘basics’ of literacy pedagogy. This is followed by an account of the way Montessori literacy pedagogy introduces entry-level literacy skills, showing how the pedagogy shunts across the multiple strata of language through realisation relationships. The chapter concludes with an investigation of how, in contrast to more conventional grammar activities for children, ensembles of multimodal resources are deployed in Montessori grammar pedagogy. The investigation uses analytical categories drawn from systemic functional linguistics. On the basis of this analysis, it will be argued that the systematised, functional orientation of the Montessori multimodal resources, and the playful way children use them, represent a pedagogy with the potential to draw young children’s attention to meaning-making in a way which enhances literacy development.

7.2 A background to the study of grammar in schools

7.2.1 Grammar as parsing and etiquette

The grammar taught in Italian schools during Montessori’s era comprised exercises in parsing using the nine parts of speech, followed by the analysis of sentences. This approach, and the place of grammar in the curriculum, had much in common with the following description of the place of grammar in literacy teaching in Australia during the first half of the twentieth century:

The first years of a primary education were devoted to copying first letters, then words, then simple phrases and sentences. Once children had learned these, they graduated to learning the parts of speech and to parsing, while sentence analysis, considered an advanced activity
appropriate to the later stages of cognition, belonged to the upper primary school and the secondary school. (Christie 1990, p. 6)

In other words, literacy teaching began with the smallest units of language, the letters of the alphabet, and progressed step by step to the larger units of word classes and sentences and their parts. Underpinning this teaching practice was the idea that language carried meaning and could be studied separately from meaning, in contrast to thinking about language as a meaning-making system for construing experience and social relationships.

School children were required to copy the letters of the alphabet so they developed neat handwriting. Similarly, the purpose for exercises in parsing and sentence analysis was to implant a neat literacy, based on rules for overcoming untidiness in logical thinking, spoken expression and written composition (Christie 1990, p. 9). This kind of grammar is described by Halliday (2002 [1996], p. 385) as ‘rules of language etiquette’, comprising ‘an inventory of certain marginal features’, features concerned with correctness rather than meaning. Under this focus, the study of grammar is ‘weakened and impoverished’ (Christie 1990, p.11).

From the middle of the twentieth century, studies in English-speaking schools seem to show that this kind of grammar study makes little impact on the development of literacy.¹ The study of grammar, therefore, gradually declined in English-speaking countries, except, notably, where it was used to teach foreign languages and English to speakers of other languages.² This has been reversed at the end of the twentieth century with the partial return of the study of grammar to the English curriculum, in response to concerns about literacy standards and calls to bring back the basics, although this return is highly politicised and hotly contested.³

The continued use of grammar to teach foreign languages and English to speakers of other languages suggests that the study of grammar supports students, at some level,

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¹ For recent reviews of this literature see Andrews, Torgerson, Beverton, Locke, Low, Robinson and Zhu (2004); Gregory (2003), Hudson and Walmsley (2005) and Wyse (2001).

² My own experience suggests that grammar continued to be taught widely throughout this era in non-English speaking countries with a less mono-cultural worldview. In Italy, for example, students, with a European perspective, expect to learn to speak at least one language other than their mother tongue fluently.

³ For an overview of these debates in Australia, see Gibbs (1998), and in the United Kingdom, see Carter (1996) and Keith (1990).
as they learn to use an unfamiliar language. In English-speaking classrooms where grammar has been abandoned students are left to work out for themselves how to expand the meaning potential of the English they learned at home to meet the unfamiliar demands of school English. For some time it has been evident that children from backgrounds where language use at home supports pedagogic discourse in school typically achieve better educational outcomes than those for whom language use at home is less in accord with the school (See, for example, Hasan and Cloran 1990; Heath 1983). This point is emphasised by those who argue for the reinstatement of grammar in the curriculum as a means, among other benefits, of achieving more equitable educational outcomes (Carter 1996; Christie 1990; Christie and Martin 1997; Hasan 1996a; Martin 1985, 1993, 1998, 1999, 2000; Rothery 1996; Schleppegrell 2004; Williams 1998, 1999b, 2004, 2005).

The reinstatement of grammar in school English, and its contested contribution to literacy development, is often debated in terms of whether grammar is concerned with policing standards of correctness, or whether something more is at stake. A contrasting line of enquiry has emerged where, instead of asking whether the study of grammar is valuable, the question posed is what kind of grammar might be valuable (See, for example, Gregory 2003 and Myhill 2000).

7.2.2 Grammar as function and meaning

In response to the question about what kind of grammar, Halliday (1979, p. 184) proposes that a grammar for schools should be ‘functional rather than formal’ and oriented to meaning rather than to a set of rules based on word classes, or ‘parts of speech’, which he describes as merely ‘the dictionary entries of a grammar’. Rather than being based on sentences isolated from a meaningful context, a functional approach to grammar will be concerned with ‘passages of real text’ or ‘discourse’ (Halliday 1979, p. 185).

Halliday’s proposal has been taken up by researchers concerned with ensuring that the reinstatement of grammar in schools becomes more than a return to studies in ‘verbal etiquette’, which terms such as back to basics seem to suggest (Butt et al. 2000; Cope and Kalantzis 1993; Derewianka 1998; Unsworth 1993; 2001; Williams 1999a,
1999b, 2004). Teaching ‘basic grammatical ideas’ is interpreted by Williams (1999b, p.1) as teaching parts of speech so children learn ‘basic rules of language use’ to remedy breaches of grammatical etiquette. While recognising that knowledge of word classes is very valuable, Williams questions whether beginning ‘children’s reflection on grammatical structure through parts of speech is a very useful thing to do’. An alternative approach is found in research data which tracks the introduction of a functional, ‘meaning-oriented grammatical study’ (Williams 2004, p. 241) into Year 1 and Year 6 classrooms, revealing the way children in these classrooms learnt to use their knowledge of grammar as ‘an intellectual, semiotic tool in Vygotsky’s sense’.

7.2.3 Vygotsky and the study of grammar

The value of grammar for school-aged children was supported by Vygotsky, but not, as Williams (2004, pp. 241-242) notes, in the narrow remedial sense. Significantly, Vygotsky (1986 [1934], p. 183) recognised the redundancy inherent in the study of grammar when he wrote that ‘[u]nlike other school subjects, it does not give the child new skills’. Nevertheless, he disagreed with those who suggested ‘grammar could be dispensed with’. Through the study of grammar, Vygotsky (1986 [1934], p. 184) argues, the school child becomes ‘aware of what he is doing and learns to use his skills consciously’. This conscious reflection is important, not because the child becomes skilled at checking for superficial errors, but because of the very nature of written language and the way it differs from spoken language, in both its development in childhood and its use throughout life.

Speaking and writing differ, Vygotsky (1986 [1934], pp. 182-183) writes, because a child is ‘hardly conscious’ of speaking, and certainly not conscious of the ‘mental operations’ involved, whereas ‘[w]ritten language demands conscious work’ and ‘must explain the situation fully in order to be intelligible’, requiring ‘deliberate semantics – deliberate structuring of the web of meaning’. From the time children’s written language starts to develop, it is characterised by ‘[c]onsciousness and volitional control’ and is ‘acquired consciously’, leading to increased ‘intellectuality’ and ‘awareness’ (Vygotsky 1986 [1934], p. 183). In summary, spoken language is ‘spontaneous, involuntary and nonconscious’ in contrast to writing, which is ‘abstract, voluntary, and conscious’. If abstraction, voluntary control and consciousness are
defining characteristics of written language, they are implicated in its development, as Vygotsky (p. 184) claims his study shows. Vygotsky’s claims suggest instruction in the study of grammar enables conscious reflection on the meanings made by written language and, therefore, enhanced control of written language.

Vygotsky reached his conclusions without the benefit of linguistic studies in the latter twentieth century, including work in systemic functional linguistics, which provide detailed linguistic evidence of the patterns of similarities and differences between spoken and written language (For example, Halliday 1985; Halliday and Martin 1993). In summary, ‘written language tends to be rather more highly coded, more removed from – or less directly related to – the categories of our experience’ (Halliday 1985, p. 96; emphasis in the original). In other words, written language has less of the fluidity and immediacy of spoken language. Writing is less directly related to immediate experience because the meanings of written language are designed for a reader who does not share the temporal or spatial context of the writer. Furthermore, writing structures meaning more densely, making meaning harder to interpret for those with experience of spoken language only.

The ways in which spoken and written language differ mean that readers, especially beginning readers, must attend to written language consciously and work harder to construe meaning from it. Vygotsky’s arguments suggest that the study of grammar has the potential to guide this attention in productive ways. Foreshadowing Vygotsky, Montessori (1964 [1909/1912] pp. 310-325) recognised that children on the threshold of literacy are learning to control language of a different order from the spoken language they learned as infants. On the basis of this understanding, she developed a reading pedagogy in which children learn to attend to written language in terms of grammar categories.4

4 Montessori’s first outline of grammar materials and activities appeared in The Advanced Montessori Method Volume II, published in Italian in 1916, and in English in 1918. A more comprehensive account is said to be found in the unpublished work Psico Gramática, written in 1934, the year Mussolini closed all Montessori schools in Italy. The work remains unpublished, but it is understood to be the basis of the grammar pedagogy handed over to trainee Montessori teachers today. In an interesting quirk of historical timing, Vygotsky’s arguments supporting the study of grammar for children appeared in Thought and Language, a work published in the year of his death, also 1934, before being suppressed in Stalinist Russia.
7.2.4 Grammar, grammatics and redundancy

Recalling Firth’s description of linguistics as ‘language turned back on itself’, Halliday (2002 [1996], p. 384) describes linguistics as the metalanguage used to study the phenomenon of language. He proposes an equivalent term, *grammatics*, for the metalanguage used to study the phenomenon of grammar. Distinguishing between grammar and grammatics redirects many of the unresolved debates about grammar teaching at school into more productive territory.

Children have developed the basic grammar of their mother tongue by the age of two and a half years (Halliday 1975; Painter 1984, 1990; Torr 1998). By the time children arrive at school, they have unconsciously learned grammar, and the learning of grammar at school is redundant. This fact, at first glance, appears to support those who claim that learning grammar is unnecessary. A contrary view is that the redundancy relation central to the study of grammar is educationally valuable. The redundancy relation between grammatics and grammar offers children the chance to attend to the grammar they use everyday, and to develop that grammar consciously as one significant resource for meeting the demands of school education.

The analysis in Chapter 6 drew attention to the role of redundancy in Montessori ensembles, the multimodal resources of the ensembles representing knowledge redundantly in three-dimensional concrete mode, two-dimensional graphic mode and linguistic mode. Following this pattern, Montessori grammatics represents grammatical categories using the external material redundancy of concrete, graphic and linguistic modes as a multimodal means for conscious reflection on language and its use.

7.2.5 Parts of speech: word class and word function

The grammar taught in the early twentieth century Montessori (1965c [1916/1918], p.7) describes as ‘the cruel assassin that tears the sentence to pieces so that nothing can be understood’. She did not, however, dispense with grammar. Instead, building on Itard and Séguin’s use of grammar to teach literacy to the developmentally-impaired, she refashioned the study of grammar into exercises for directing and
stabilising the literacy emerging so rapidly in the young children in her classrooms, turning it into ‘an amiable and indispensable help to “the construction of connected discourse”’! (Montessori 1965c [1916/1918], p.7). This was achieved by recontextualising the study of grammar into the instructional pattern established by the foundation exercises: educational meanings, redundantly represented in the coordinated use of objects and language, configured into dynamic activity sequences and synoptic arrays. Although Montessori’s grammar pedagogy differed markedly from contemporary instructional methods, she nevertheless retained the grammatical metalanguage of her day, the names of the nine parts of speech.

The names of the nine parts of speech comprise the metalanguage which continues to be associated with traditional grammar, a metalanguage based on word classes. Typically the study of grammar begins with students being taught to recognise the parts of speech as if this were basic knowledge. In contrast, Williams (2004, pp. 243-244) argues that recognition activities based on parts of speech cannot be presumed to be basic, particularly if the study of grammar is to mediate literacy development. Instead, he proposes a semantically-oriented metalanguage be provided to children, that is, a metalanguage which enables them to reflect on language and the work it does. Having reviewed studies, spanning several decades, which suggest that children’s spontaneous language play is developmentally motivated by their interest in how language works, Williams (2004, pp. 244-246) claims that the way a semantically-oriented metalanguage regulates what the teacher and children attend to during literacy activities enhances the quality of children’s independent reflection on language and meaning. The value of learning this type of metalanguage is described by Williams (2004, p. 246) in the following way:

Studying grammatics while reading and writing texts in order to complete a practical activity creates a potential for children to attend to the grammatical features precisely as they are using the features to complete the activity. As a result, the functionality of the grammatical features is visible in a qualitatively different way from approaches which begin with word class identification, then apply the definitions to the identification of grammatical items in texts.

Although Montessori retained the metalanguage of word classes in her grammatics for young children, the activity sequences she designed make visible the functionality of grammatical features, as evidenced by the title of the first series of Montessori grammar exercises, *The function of words*. These activities do not turn children’s
attention to word class definitions alone. Instead, they give children the opportunity to play with language and its functionality.

7.2.6 Play and work, imagination and abstraction in literacy development

The way children play with language is identified by Williams (1999b, 2004) as evidence of their curiosity about language and its use, as well as evidence that language play is significant in language development. For this reason, he argues that language play deserves to be a part of language learning and teaching, in particular, the study of grammar. Williams (1999b, p.91) clarifies, however, that he does not mean play which makes grammar merely more ‘picturesque and palatable’. To support his argument, Williams cites Chukovsky (1968 [1925]) and Bateson (1972), contemporaries of Montessori and Vygotsky. Chukovsky describes children playing with nonsense verse as pushing the limits of meaningful language use and Bateson describes serious, collaborative, engaged play, which again, pushes against the limits of functionality in order to build new understanding.

A distinguishing feature of the Montessori approach is to identify children’s independently-chosen developmental activity as work, rather than play. This distinctive Montessori conception of a child’s activity as work ‘substantially revises prevailing assumptions about the nature of childhood, the roles of teachers, and the purposes of schooling’ (Cossentino 2006, p. 63). The conception is based on a view of work as intellectualised, transformative process:

5 Over the last century the Montessori method has been regularly criticised as being opposed to children playing. This misconception probably arose because Montessori discarded objects in the classroom which she perceived did not interest children. Toys were placed in the earliest Montessori schools, but the children chose the real objects and ignored the toys (Montessori 1983 [1936], p. 130). Montessori also stopped telling fairy tales to children under six, again because they seemed less interested in these stories than being told about real phenomena.

Mario Montessori (1965, p. x) responds to criticisms of his mother’s views about play and fantasy: ‘If she seemed to dispraise play as well as fantasy, it is not that she did not recognise the value of play … But at that time fantasy and play, combined with the natural child’s credulity were veritable weapons in the hands of adults who used them to make the child ‘behave’ “Go and play” was the most frequent expression of those who did not want to be bothered by children. Fairy tales were used not only to enchant and amuse them, but to reduce the children to immobility, to obtain obedience with threats …
The transition from one state to the other always follows a piece of work done by the hands with real things, work accompanied by mental concentration (Montessori 1982 [1949], p. 178).

Montessori activities identified as work can equally be recognised, however, as a kind of play, but, as Montessori (1982 [1949], p. 156; emphasis added) explains, this kind of play is effortful and future-oriented:

It is true in all these activities, the child may be said to be playing. But this kind of play is effortful, and it leads him to acquire the new powers which will be needed for his future.

Play is also described by Montessori (1982 [1949], p. 23; p. 145) as a way of ‘working out, and making conscious, something that [the child’s] unconscious mind has already absorbed’.

The Montessori conception of play has, therefore, much in common with the serious, engaged play described by Bateson. Montessori teachers are trained to remove obstacles, such as distractions or interruptions, when children are absorbed in activity marked by effort. The use of the word work to describe this type of activity indicates the level of respect Montessori believed this type of activity demanded, a level of respect not usually accorded to children’s activity by adults of her era.

Play linked to future-oriented effort in the Montessori tradition has much in common with play as described by Vygotsky. In play, writes Vygotsky (1978, p. 93) ‘a child creates an imaginary situation’, but not a fantasy ‘play world’ (p. 102). With a background in psychiatry, like Montessori, Vygotsky saw living in a fantasy world as a symptom of illness. Instead he describes play as:

... more nearly a recollection of something that has actually happened than imagination.
It is more memory in action than a novel imaginary situation (p. 103).

In common with the Montessori tradition, play for Vygotsky is a developmental phenomenon, in the sense that it is oriented to what a child will be able to do in the

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6 Vygotsky (1978, p. 102) writes: ‘To behave in a real situation as in an illusory one is the first sign of delirium.’ Similarly, Montessori (1997 [1915], p. 43) writes, partly also to deflect criticism of her method as stifling creativity:

More serious forms of ‘illusions’ are the beginning of false reasoning for adults and are concomitant with delirium. The insane create nothing, but neither do those children who are condemned to the restrictions of an education which would unconsciously tend to develop childish manifestations into illusions, that is to say, to develop manifestations of immaturity in normal development.
future. Play creates ‘a zone of proximal development’ in which ‘a child always behaves beyond his age, above his daily behaviour’ (Vygotsky 1978, p. 102). When children play, they plan to achieve a purpose beyond their current level of functioning. They voluntarily submit to rules that regulate their behaviour in order to achieve the imagined future purpose. Thus, the play Vygotsky has in mind is ordered, not chaotic. When, as part of this activity, a child imagines an object fulfilling the function of a different object, or undertakes an action to represent another action, the child is operating with what these objects and actions mean, rather than with what they actually are. When children play, therefore, they are only free to act within the limits imposed by the meanings given to the objects and actions that constitute the play.  

In summary, when a child realises an imagined situation in play, the child’s activity is regulated by meaning, that is, the activity is semiotically mediated, leading the child to a higher level of functioning. Through play children extend themselves, beyond what they immediately perceive, to a domain of new meaning, that is, a domain which is governed by rules generated, not by material reality, but by meaning relations. Vygotsky (1978, p. 101) identifies two specific higher functions which are enhanced in this way: the ability to make conscious choices and the ability to think abstractly. In what could be understood as theoretical support for the developmental value of the Montessori exercises of practical life, Vygotsky (1978, p. 101; emphasis in original) identifies relations which tie these functions to the objects and movements through which play is enacted.

[O]perating with the meaning of things leads to abstract thought … the development of the will, the ability to make conscious choices, occurs when the child operates with the meaning of actions.

In other words, Vygotsky proposes a genetic relation between imaginary play and abstract thought. This relation, as enacted in and transformed by the zone of proximal development, is represented in Figure 7.1.

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7 As Vygotsky (1978 p. 103) points out, strikingly in accord with Montessori’s emphasis on order as a developmental imperative, ‘[s]imply running around without purpose or rules is boring and does not appeal to children.’
The serious imaginary play of the preschool child, in which the imaginary situation is not separate from the real one, is transformed, according to Vygotsky (1978, p. 104), into the play of the school child, in which a new relation is forged between the field of meaning (abstract thought) and the visual field (material reality). Play, at this point, becomes internalised, and is incorporated both in athletic-type activities and in instruction and school work (‘compulsory activity based on rules’).

Imagination and abstraction, in the Montessori tradition, are interdependent functions extending the power of the human mind beyond simple perception of the immediate environment (Montessori, 1982 [1949], p. 160). *Imagination* is the ability to think of things not immediately present, and *abstraction* is the ability to extract commonalities from material reality in order to refine and order perception, and to build a framework for the intellect. In other words, abstraction draws attention to meaningful elements of material reality and orders the raw material of the imagination in terms of meaning. Thus, where imagination is unlimited, abstraction sets limits by directing and structuring, and, in the process, making conscious, attention, as well as choice, on the basis of culturally-shared meanings. In this view, the ‘keystones of abstraction’ are order and precision, and these developmentally precede imagination and creativity’ (Montessori 1982 [1949], p. 161). Imagination collects the raw material and abstraction simplifies and unites it ‘so that the mind can succeed in expressing infinite immensities in a determinate form ... embodied in simplified symbols’ (Montessori, 1982 [1949], p. 164). For this reason, Montessori (p. 161) argues against an unbalanced emphasis on imagination in children’s activities.
At first glance Montessori’s view of the relation between imagination and abstraction in development appears to be a mirror image of Vygotsky’s model of play, in which imagination is a developmental precursor of abstraction, ‘an imaginary situation [which] can be regarded as a means of developing abstract thought’ (Vygotsky 1978, p. 103). An alternative perspective would be to think of Montessori’s view as the other half of a spiral in a developmental helix emerging out of the transformative interplay between imagination and abstraction, as represented in Figure 7.2.

![Figure 7.2: Developmental interplay between imagination and abstraction](image)

Vygotsky’s model, as described above, offers an extra dimension which, arguably, underpins Montessori’s grammar-based literacy pedagogy: the developmental link between play and abstract thought. Vygotsky exemplifies this link in his description of the development of written language. In play, the actions which represent other actions are identified by Vygotsky (1978, p. 108) as symbolic gestures. It is these gestures which ‘assign the function of sign to the object and give it meaning’. A stick can only become a sign for a horse if it is possible to incorporate it in a gesture which designates riding a horse. As the child develops, these meaningful gestures evolve into symbolic representation. Based on his observations of the differences in the play of three-year olds and six-year-olds, Vygotsky (1978, p. 111) interprets this evolution in terms of mode: from play (action as gesture), to drawing (marks on paper as gesture) and finally to writing (marks on paper as symbol). The way children use spoken
language shifts as the evolution from play to writing unfolds. Initially children speak about gestures and drawings in the same way as they do objects. Gradually there is a transformation as children use marks on paper to represent speech, as represented in Figure 7.3.

![Developmental spiral from play via drawing to writing](image)

**Figure 7.3: Developmental spiral from play via drawing to writing**

This developmental transformation is described by Vygotsky (1978, p. 111) in the following way:

... symbolic representation as play is essentially a particular form of speech at an earlier stage, one which leads directly to written language ... As development proceeds, the general process of naming shifts farther and farther toward the beginning of the process, and thus the process itself is tantamount to the writing of a word that has just been named.

Vygotsky’s trajectory from play to written language via drawing resonates with Montessori’s interpretation of Séguin’s view of literacy development:

According to Séguin ... we do not need to teach writing. The child who draws, will write (Montessori 1964 [1909/1912] p. 246).

By *draw*, Montessori suggests, Séguin means drawing as design, that is, planned, ordered and controlled activity, not scribble. In her pedagogy this view is transformed into two separate but parallel strands of skill development, an approach to teaching writing which captured Vygotsky’s attention.
Vygotsky (1978, p. 117) cites contemporary research which claims that most three-year-olds and all six-year-olds ‘can master an arbitrary combination of sign and meaning’. From this he draws the conclusion that ‘development between three and six years of age involves not so much mastery of arbitrary signs as it involves progress with attention and memory’. Progress with attention and memory achieved through the Montessori foundation exercises is exploited in the earliest exercises of the Montessori literacy pedagogy. It is not surprising, therefore, that in advocating preschool children (from three to six years) should learn writing, Vygotsky (1978, pp. 117-118) cites Montessori’s schools as an example of how it might be done.

Montessori has shown that kindergarten is the appropriate setting for teaching reading and writing, and this means that the best method is one in which children do not learn to read and write but in which both these skills are found in play situations. For this it is necessary that letters become elements in children’s life in the same way, for instance, that speech is … Reading and writing should become necessary for [the child] in her play (Vygotsky 1978, p.118).

Vygotsky’s support, however, is qualified. He argues that Montessori’s approach does not go far enough in making writing relevant and meaningful for children of this age. The critique of Montessori’s literacy pedagogy mounted by Vygotsky, and a response to that critique, is the topic of the next section.

### 7.2.7 Writing as mechanics and writing as meaning-making

When describing the writing of children in Montessori classrooms, Vygotsky refers only to the formulaic greetings the children in Montessori’s preschool wrote for visitors less than two months after their first literacy lessons (Montessori, 1964 [1909/1912], p. 270). Vygotsky (1978, p.117) criticises Montessori for merely teaching writing as ‘a motor skill and not a complex cultural activity’. He argues that Montessori’s approach, which he describes as ‘organised development rather than learning’, should be applied to ‘developing the internal aspect of written language’. He did not take into account, however, Montessori’s description of the explosion into writing in which four-year-old children in her school suddenly began using chalk to cover the walls and floor of the classroom with words familiar to them from their social context, as well as the explosion of interest, as small children rushed to read
and act out commands she wrote on the blackboard and on little cards (Montessori, 1964 [1909/1912], p. 289).

That there is more to writing than motor skill is repeatedly emphasised by Montessori, for example:

> Writing is a complex act which needs to be analyzed. One part of it has reference to motor mechanisms and the other represents a real and proper effort of the intellect (Montessori 1967 [1948], p. 203).

In order to stabilise and develop the reading and writing emerging so spontaneously and abundantly in her classrooms, following the ‘natural’ development of the mechanics of writing praised so highly by Vygotsky, Montessori designed reading exercises which demanded ‘a real and proper effort of the intellect’. These activities constitute the pedagogical grammatics which is the focus of this chapter. 8

The ensembles in which the Montessori grammar-based reading pedagogy is realised follow the pattern established by the foundation exercises of practical life and the senses: objects are used, in ‘play-like’ settings of the kind Vygotsky advocates, in activity sequences culminating in arrays materialising systems of meaning relations. The children for whom this pedagogy is designed are in transition between the play of the preschool child, described by Vygotsky as play in which the imagined and the real are identified, and the play of the school-aged child, in which, according to Vygotsky,

8 Montessori’s first published description of the ‘mechanical’ development of writing and reading appeared in The Montessori Method (Montessori 1964 [1909/1912] pp. 246-325). It is possible that Vygotsky had access to this publication, although he may have only had less comprehensive access to Montessori’s method, through some of the many often fragmentary and poorly translated newspaper and popular journal articles written by Montessori, or in her name, at the height of her fame between 1910 and 1915. Current editions of Vygotsky’s writings do not reveal which editions or translations of Montessori’s books he had access to, nor when or where he was able to observe a Montessori classroom, if at all. Kozulin (1985, p. lvi) points out that Vygotsky’s illness while he was writing Thought and Language left him unable to prepare complete references for the 1934 edition of this work. It is difficult to know whether this fact can be extrapolated to Vygotsky’s reference to an Easter greeting written by children in an Italian Montessori school to ‘Engineer Talani and Headmistress Montessori’ (Vygotsky, 1978 [1935], p. 117). Here Vygotsky refers inaccurately to the facsimile of a message written by a five-year-old child addressed to ‘all’ingegnere Edoardo Talamo e alla principessa Maria’ which appeared in Montessori’s first book on her method (Montessori 1964 [1912], p. 270). The ‘Princess Maria’ was a member of the Italian royal family, not Maria Montessori. This trivial, yet verifiable, inaccuracy points to the fact that Vygotsky’s access to Montessori’s work may have been incomplete and inaccurate.

An account of Montessori grammar activities for children over six was first published in Italian in 1916 and in English in 1918 (Montessori 1965c [1916/1918], pp. 11-184). The description of the activities is preceded by a chapter entitled ‘The transition from mechanical to intellectual development of language’, in which Montessori explains at length her understanding of the pivotal role of grammar in that transition. Montessori expanded this area of her pedagogy during the 1920s. The complete Montessori grammatics for young children, however, has never been published.
a new relation between imagination, abstraction and reality emerges. Before returning to Montessori’s grammatics from this perspective, however, the following section will review contemporary debates about the teaching of literacy, and position Montessori grammatics in relation to these debates.

7.3  

**Phonics is not the whole language story**

7.3.1  

**A review of contemporary debates**

Contemporary debates surrounding the teaching of literacy are often portrayed in the English-speaking world, both in the academy and the popular media, as battlegrounds between two irreconcilable perspectives, generalised by Schleppegrell (2004, pp. 148-149) as “‘meaning’ versus ‘form’”, and exemplified in the distinction made between the whole language and phonics approaches to reading instruction. Recast in linguistic terms, the debate represents a polarised opposition between either semantics or phonology as the best doorway into literacy. In the context of this opposition, if grammar is included at all, it is a rule-oriented grammar introduced after literacy has been achieved.

The poverty of the whole language versus phonics debate has been addressed very helpfully by Schleppegrell (2004) and Purcell-Gates, Jacobsen and Degener (2004). For Schleppegrell (2004) neither approach is sufficient and she argues for a richer, text-based functional approach derived from social semiotics. Similarly, the debate is portrayed by Purcell-Gates, Jacobsen and Degener (2004) as a stand-off between those who support an approach based on cognitive skill development and those who support a social practice approach, in contrast to a more productive combined approach based on evidence that ‘learners develop print literacy skills as they participate in real-life uses of literacy’ (p. 158).

Real-life uses of literacy are functional uses, and how these uses relate to print literacy skills can be tracked along the realisation dimension of the language model used in this study. This dimension models language as redundant strata of meaning and expression realising the context of language use.

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9 An account of the history of this debate in Australia can be found in Gibbs (1998).
7.3.2 Applying the stratified model of language to literacy development

Describing contemporary approaches to literacy development in terms of semantics and phonology as competing alternatives, with grammatics as supplementary or optional, becomes unsustainable when reviewed from the vantage point of a stratified model of language (as introduced in Section 5.5.4). From this viewpoint, semantics, grammatics and phonology, located along the realisation dimension of language, each provide a different perspective on the same phenomenon, language. The redundancy built into this layered model is a resource offering rich possibilities for exploitation in pedagogy. The possibilities for pedagogy are skewed and diminished if one perspective is favoured at the expense of another.

In practice, teachers of literacy inevitably find themselves grappling, even if not consciously, with all three strata of language, coded in terms such as phonics, grammar and vocabulary, and whole language or whole texts. Different approaches to literacy pedagogy, however, vary in terms of which layer of language is favoured, how explicit and systematic the teaching oriented to each layer is, whether a metalanguage for one or more layers is shared with the students, and if so, what kind of metalanguage. The phonics approach to literacy pedagogy, described by Purcell-Gates, Jacobsen and Degener (2004) as the skills development approach, for example, favours systematic instruction focusing on the expression layer of language.

The favouring of the expression layer in the context of a skills development approach to literacy pedagogy is exemplified in a recently released and influential handbook (CIERA 2003). This handbook foregrounds phonology, under the headings Phonemic Awareness Instruction and Phonics Instruction. Instructional approaches concerned with this layer of language are accompanied by a generous metalanguage, including terms such as phoneme, grapheme, phonics, phonemic awareness, phonological awareness, syllable, onset and rime. In comparison, ways of talking about the layer of lexicogrammar are very restricted. Under the heading Vocabulary Instruction teachers are offered some terms related to morphology (word parts such as prefixes and suffixes), lexical cohesion and spelling, but the Fluency Instruction chapter uses a sparse non-technical metalanguage, for example ‘meaningful chunks’ (CIERA 2003, p. 23), with only a passing reference to clauses and phrases. Furthermore, the chapter concerned with semantics, Text Comprehension Instruction, stresses the importance of
metacognition in successful reading, but there are no metalinguistic tools offered to achieve this. Instead teachers are provided with a list of teaching strategies and target behaviours.

Montessori literacy pedagogy comprises exercises which progressively and systematically shunt children’s conscious attention between expression, grammar and meaning, perspectives portrayed as irreconcilable in many contemporary debates. The next section will briefly review the Montessori approach to teaching what is termed in the Montessori tradition as the ‘mechanics’ of writing and reading, that is, knowledge about graphophonic relations between letters and sounds, knowledge, so often, and so reductively, referred to as phonics.

7.3.3 The passage from a sensory to a literate culture

The trajectory of Montessori literacy pedagogy has its origin in the practical life and sense exercises. A parallel series of spoken language activities (for example, vocabulary building, conversation games, sound and rhyming games, story-telling and poetry) precede and accompany children’s first steps into literacy, offered to children between the ages of three and four years. From the perspective of the stratified model of language, these first lessons turn children’s conscious attention to the expression plane of language.

Two discrete, but parallel, strands of mechanical skill development were developed by Montessori in response to Séguin’s view that drawing, in particular drawing as design, naturally leads to writing. The first strand develops motor skills needed for handwriting (holding and controlling a pencil), in children aged from three to six, through design activities using plane geometry insets, but metal insets rather than the wooden geometry cabinet ones. The movement used to trace around the geometry cabinet insets with fingers is transformed into tracing around the metal insets with coloured pencils in order to create increasingly complex designs. The considerable enjoyment children derive from this work, combined with the conscious control
needed to complete the exercises effectively, gives it the qualities of *serious play*, play which emerges from the interaction between abstraction and imagination.\(^\text{10}\)

**Illustration 7.1: Presenting the metal insets**

In the parallel strand of mechanical skill development children learn to distinguish and retrieve salient individual sounds from the stream of spoken language, and to match those sounds with graphic signs. This strand has its origin in the iconic Montessori *sandpaper letters*. The sandpaper letters represent letters, the smallest units of the writing system (Halliday 2004a, p. 6-7), in a tactile form. The letters are cut out of fine sandpaper and glued onto smooth coloured cards, traditionally red cards for vowels and blue cards for consonants, although this colour scheme is sometimes reversed by commercial manufacturers.\(^\text{11}\)

Use of the sandpaper letters combines sensory contrast (auditory and tactile) and a tracing movement with a naming lesson, the pattern established in the sense exercises. In a further echo of the sense exercises, the sandpaper letters materialise sensory qualities (letter shapes) as a system of values, each with a ‘name’ (that is, a sound used to label the shape). Thus, in the same way as children learn to *read* the sensory alphabet of the culture in the sense exercises, they learn to *read* the sensory expression of spoken language, enabling them to attend analytically to the stream of

\(^{10}\) Montessori designed the metal inset exercises to replace the copybooks of her time (Montessori 1964 [1909/1912], p. 273).

\(^{11}\) Traditionally, sand paper letters are cursive letters because Montessori observed that the flowing gestures used to trace cursive letters were more closely aligned to children’s natural movement than were the movements needed to draw the straight lines and curves of print. Montessori (1964 [1909/1912], pp. 311-312) also argues against breaking letters into smaller components such as lines and hooks, and forcing children to practise these, because such exercises distance children from meaning: ‘the analysis of writing into little straight lines and curves has brought us to present to the child a sign without significance, which therefore does not interest him …’
spoken language, a prerequisite for accessing the meaning potential of written language.\textsuperscript{12}

After extended experience playing a sound game similar to \textit{I Spy}, in which children learn to distinguish and attend aurally to the initial, final and median sounds of words, children aged about three years are presented with sandpaper letters in sets of three or four letters at a time. They trace each letter and say the sound as they finish the movement, as shown in Illustration 7.2.

![Illustration 7.2: Using the sandpaper letters](Photo: Nienhuis Montessori (2006))

The first sets of letters presented to children comprise shapes, and sound \textit{names}, which contrast strongly, for example, \textit{a}, \textit{t} and \textit{m}. The sound names of the shapes are learnt in three-period lessons and memory games, following the pattern established in the sense exercises.\textsuperscript{13}

Learning three letter-sound combinations at a time contrasts with approaches in which children build an inventory of these combinations one by one. Rather, a Montessori child’s first experience with each letter is as a value in a system, foreshadowing its future role in meaning-making. While the tactile contrast between the rough sandpaper and the smooth card gives the letters a heightened sensory quality, there is

\textsuperscript{12} Specifically, the \textit{metal insets} exploit the \textit{alphabet} of abstract shapes children learn to distinguish when they trace the frames and insets of the \textit{geometry cabinet}. The \textit{sandpaper letters} exploit the tactile discrimination between \textit{rough} and \textit{smooth} that children learn with the \textit{touch boards}, as well as auditory discrimination developed through work with the \textit{sound boxes} and the Montessori \textit{bells}.

\textsuperscript{13} In English-speaking classrooms children also work with a set of sandpaper letters representing key digraphs such as \textit{th}, \textit{er} and \textit{qu}.
no attempt to embellish the letters with meanings which set up distracting or misleading meaning relations. The letters are never distinguished on the basis of fantasy characters or settings, design elements characteristic of early literacy workbooks, but rather on the basis of redundant sensory attributes - rough feel (touch), letter shape (sight) and phoneme sound (hearing) - related as values in abstract systems of comparison, as illustrated in Figure 7.4.

![Figure 7.4: A typical entry-level system of sandpaper letter shape-/sound/ contrasts](image)

A three-year-old child using the Montessori sandpaper letters attends to the letters of the alphabet as objects. Intriguingly, in her study of one child’s ‘natural’ language development from two to five years in a middle class setting, Painter (1999) found that from the age of three and a half, the child began to attend to the letters in words and to display interest in how the letter shapes are formed. At this stage, however, although the child was ‘talking about symbols, he was considering them as material entities’ (p. 115). Just before the age Painter’s subject is attending to individual letters in words, children in Montessori schools are building systematic knowledge about the formation of letter shapes as they trace sets of sandpaper letters, objects which materialise the expression plane of written language, as illustrated in Figure 7.5.
Nevertheless, knowledge about the expression plane of language, however systematic, takes children only so far into the domain of written language. Graphophonemic knowledge makes it possible to attend to and distinguish particular sounds in the stream of spoken language, sounds which are salient to written expression, but for this knowledge to be transformed into literacy it needs to be connected with meaning. In Montessori literacy pedagogy the connection with meaning begins with the moveable alphabet.

7.3.4 Analysing the sounds of spoken language: the moveable alphabet

As soon as children have built a repertoire of vowel and consonant sounds and letters using the sandpaper letters, they are introduced to the moveable alphabet. The moveable alphabet is a set of loose letters stored in a box. The letters of the moveable alphabet are the same size as the sandpaper letters, colour-coded to sustain the latent vowel-consonant distinction. When children can analyse and decompose their own spoken language into constituent sounds, they use the letters of the moveable alphabet to recompose these words.

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14 The vowel-consonant distinction is not taught explicitly until after the age of six years.
as *writing* on a mat. Work with the moveable alphabet is described by Montessori (1967 [1948], p. 216) as ‘an exercise of the intellect freed from mechanical activities and not held down by the need to imitate letters in writing’. It is with the moveable alphabet that children in Montessori classrooms begin to make meaning in the form of written language by composing their own meanings, rather than interpreting the meanings of others. ‘The ability to write [is] the result of the analysis of the words [the child] possesses’ (Montessori 1955, p. 97).

Illustration 7.3: Using the moveable alphabet in 1914 and 2006

From the age of four years, in the Montessori tradition, children experience an intense interest, or sensitive period, in written language, enabling the transition to writing and reading to occur with ease if graphophonic awareness and design skills are developed in the lead up to this period. The existence of such a sensitive period is again supported by Painter’s data from an ‘everyday’ context (1999). The child in Painter’s study becomes interested in analysing words for sounds from the age of four. During this period the child makes the transition from conceiving of letters as objects to using them as representations of phonemes. The distinction between letters as objects and letters as representations of phonemes is described by Painter (1999, p. 125) in the following way:

> As a graph, a letter is a material object to be discriminated and decomposed … But as a representation of a phoneme, a letter construes something much less tangible – not just a sound qua sound, like a bark or a crash, but a sound as a form of semiotic realization.

This transition is formalised in the Montessori tradition in the move from sandpaper letters to the moveable alphabet. The child’s choice of letters from the moveable alphabet is regulated by the sounds of the child’s own language, language which is meaningful to the

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15 Children’s attention is not drawn to spelling conventions until after they are able to read back the writing they have composed.
child. By four and a half, therefore, children in Montessori classes, no matter their social background or first language, are decomposing their own language into sounds, and recomposing it as writing with the moveable alphabet, bringing to consciousness the relation between graphophonic knowledge and meaning-making, as illustrated in Figure 7.6.

![Diagram](image)

**Figure 7.6:** The moveable alphabet: attending to the relation between the semantic and expression strata of spoken and written language

Eventually children find the moveable alphabet too laborious to maintain the flow of meaning. The children’s work with the metal insets prepares the hand to be ready to take over when the child abandons the moveable alphabet for chalk or a pencil. At this point, the child is said by Montessori teachers to ‘explode’ into writing (See Montessori 1964 [1909/1912], pp. 287-296). This transition often occurs around the age of four and a half. The ‘explosion’ into writing exemplifies the type of developmental transformation most valued in Montessori classrooms. It is the development which children achieve independently through indirect preparation, which, in the context of writing, is described by Montessori (1964 [1909/1912], p. 292; emphasis added) in the following way: ‘written
language is acquired and improved through exercises which are akin to, but which are not, writing.\(^{16}\)

It was Montessori’s use of indirect preparation (metal insets, sandpaper letters and moveable alphabet) to teach the mechanical skills of writing which Vygotsky (1978 [1935] p.118) endorsed, describing it as ‘organised development rather than learning’. He advocated the same approach to teach ‘the internal aspect of written language’, criticising Montessori for not taking this step. Montessori, however, apparently unknown to Vygotsky, did take this step, by using grammar as a means for organising the next phase of literacy development, a phase in which children’s attention is turned to connected discourse. This phase is initiated by children themselves as described in the next section.

### 7.3.5 From decomposing the sounds of speech to interpreting written words

Initially, the moveable alphabet work is an analytical, experimental activity and children do not read the words they have composed. After some time, however, children often realise that they can decode the words they have laid out on the mat. This developmental transition occurs typically, but not always, from the age of four and a half or five years.

When children begin to read the words they have written with the moveable alphabet, they are demonstrating readiness for the transition to reading. Initially, children tend to read ‘the component sounds [of words] with the same slowness with which he would have written them’ but ‘the sense’ becomes evident when words are pronounced with ‘the phonetic accent’ (Montessori 1964 [1909/1912], p. 297). In other words, if the child can place the accent correctly on a decoded word, the child understands the meaning of the word. The accent on the syllable of an isolated word is equivalent to the beat in the rhythm of ‘connected speech’ (Halliday 2004a, p. 11).

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\(^{16}\) It was the sight of street children from the slums of Rome ‘exploding’ into writing after only a few months of instruction in 1907 that propelled Montessori and her pedagogy into the international spotlight.

\(^{17}\) Montessori (1964 [1912] pp. 307; emphasis in the original) observed that for children in the first plane of development, ‘composition [with the moveable alphabet, for example] must precede logical reading, as writing preceded the reading of the word’. For children becoming literate in the second plane, after about the age of six, reading tends to emerge before writing.
Finding the accent in a word takes the child from individual sounds, with a tenuous relation to grammar and meaning, to rhythm, a prosodic feature of language with a systematic natural link with grammar and meaning, penetrating the otherwise arbitrary interface between expression and lexicogrammar. Once children have reached this level, called the word-reading level in the Montessori tradition, they are presented with a wide variety of word-reading exercises. These include labelling everyday objects and images, actions and qualities, as well as concrete and graphic representations of categories of educational knowledge.\(^{18}\) At the same time, children’s attention is drawn incrementally to the conventional spelling patterns of the language, as illustrated in Figure 7.7.

\(^{18}\) In her earliest schools Montessori (1964 [1909/1912], pp. 303-304) noticed that five-year-old emergent readers loved to decode individual words written on slips of paper, not out loud, but to use them as labels for objects, actions and qualities in the classroom, that is, they loved combining practical action with word reading. Later, also on slips of paper, Montessori wrote simple commands for children to act out. She monitored reading skills by observing the accuracy of the children’s labelling and actions, adapting the word labels and commands to each child’s interest (pp. 305-306)
Word reading games in the context of Montessori pedagogy can be represented as entry-level grammatics. These games draw attention to the organisation of meaning at the word and morpheme levels of the grammatical rank scale, introduced in Section 5.5.6, while introducing features which reappear later in games concerned with units of grammar higher on the rank scale.

First, the games challenge children to match a word written on a label to an object or image, a typical Montessori exploitation of material redundancy for pedagogic advantage. Moreover, the material setting and the surrounding interactive spoken language supply a text-like cohesion between the single words the child is decoding. This is achieved, for example, through the role the objects or images play in the child’s everyday life, or the values the objects or images acquire in Montessori activity sequences, arrays and naming lessons which materialise fields of educational
knowledge. The word level games also foreshadow the use of colour as a means of distinguishing grammatical function. In this case, red is used to colour-code action words. Children read the words on these cards and perform the actions.

Second, the games draw children’s attention to transferable knowledge about word parts (morphemes), by challenging children to mix and match parts of compound words, as well as affixes and word bases. In addition, when children label representations of categories of educational knowledge, they experience the challenge of decoding technical terms. This labelling always occurs in the context of cohesive taxonomies materialised in objects or images, for example, labelling the parts of a flower (composition taxonomy/meronymic relations), or the seven triangles of reality (classification taxonomy/hyponymic relations) (Martin 1992).

Engagement with morphemes and the lexical taxonomies of educational knowledge written on manipulable labels gives emergent readers early experience with the Graeco-Latin vocabulary of educational knowledge, for example, corolla (a part of a flower) and isosceles (a type of triangle), and the morphological systems underlying this vocabulary (Halliday and Martin 1993, p. 12). Graeco-Latin vocabulary is implicated as one of the barriers to educational success for children whose socioeconomic positioning limits access to interactions deploying this vocabulary during childhood (See, for example, Corson 1997). In Montessori classrooms the three-period lesson is used to teach technical terms to preschool children. After the age of six, naming lessons include not only the technical term, but also its etymology, giving ‘access to the more concrete roots’ of the term (Corson 1997, p. 708) and the transportability of these concrete semantic origins, at the grammatical rank of morpheme, to other educational contexts. This is exemplified by the etymology of
corolla (from Latin meaning a concrete object, crown) and isosceles (from Greek meaning a quality of concrete phenomena, equal legs).\textsuperscript{19}

Children who can decode individual words are described by Montessori teachers as being at the threshold of the doorway to reading. They have achieved mechanical reading, but have not yet fully entered the domain of written language, a level of reading known in the Montessori tradition as total reading. Recast in terms of the stratified model of language, children who have found the accent of decoded words are reading units of grammar at the lower level of the rank scale (morphemes and words), and are on the threshold of conscious awareness of higher level units of lexicogrammar (groups/phrases and clauses), and the cohesive relations which tie these together as text. This linguistic view reinforces the semiotic logic of Montessori’s next pedagogic move. To power the transition from mechanical to total reading, Montessori developed a pedagogic grammatics, a study through which children attend to the lexicogrammatical patterns of written language, the strata of language which systematically links meaning with expression.

7.4 Grammatics as mediational means towards ‘total’ reading

Vygotsky’s support for Montessori’s literacy pedagogy was qualified because he did not think that what the children in Montessori schools were writing and reading was relevant or meaningful. This view, however, is contradicted by the Montessori grammatics, an extended series of games which prepare children for reading, where reading is viewed as a meaning-making activity of a higher order than mere decoding. As a means of comparison, in order to highlight the degree to which the Montessori grammatics foregrounds the meaning potential of written language, the next section begins by reviewing a contemporary grammar-teaching resource, designed in response to the recent revival of grammar teaching in Australian schools. This resource is

\textsuperscript{19} The value of etymology is expressed in the Montessori tradition in the following way:

To give the etymology of a word means to go back to that point in the word’s history when we can touch the essence, the ‘etymon’ or heart of the word; and it also usually gives the reason for that word. In the Children’s House the children touch the form; in the elementary school the children touch the heart, the essence, by tracing the history of the word (Grazzini 1984-85, lecture, Montessori Elementary Diploma course, Fondazione ‘Centro internazionale di studi Montessoriani’, Bergamo, Italy).
introduced to children who are already reading and appears to have quite a different pedagogic function despite the surface similarities in considering grammatics.

7.4.1 Contemporary grammar teaching resources

With the recent reintroduction of grammar into many syllabus documents, contemporary textbook writers have designed appealing resources to introduce grammar to young learners, as exemplified in Australia in two series of workbooks by Clutterbuck (1998, 2000), under the titles *Good Grammar!* and *Grammar with a Grin*.

The wording of these titles, and the light-hearted illustrations, echo the long-held tradition that grammar is a domain of knowledge which needs to be made palatable for children (for further critique, see Williams 1999b, p. 90), a tradition exemplified from before Montessori’s time by Walter Crane’s illustrated *Grammar in Rhyme* (1868). Earlier generations of school students would find the orientation of Clutterbuck (1998; 2000) familiar. First, the recontextualisation of grammatical knowledge, and the presentation of the metalanguage which encodes it, is achieved through definitions, exemplified in sets of grammatically parallel phrases, sentences or short texts written to highlight grammatical categories rather than to achieve a genuine social purpose. Second, metalinguistic terms are represented, in images and language, as if they were characters in a children’s storybook.

The Clutterbuck publications achieve a high standard in terms of design, the introductory spoken language games which prepare children for the written exercises and the link made between each metalinguistic category and the work it does (its function). The workbook’s presentation of grammatical metalanguage, however, remains problematic for several reasons. First, the technical terms which label the word classes are associated with non-technical descriptive adjectives:

*Agile Articles, Nifty Nouns, Vital Verbs, Amazing Adjectives, Peculiar Pronouns, Cool Conjunctions, Puzzling Prepositions*

In this way, metalinguistic terms are presented as a cast of imaginary characters, rather than as a set of abstract categories. Furthermore, categories above the rank of word are presented in a way which obscures the distinction between the
lexicogrammatical system (*Pesky Phrases, Crafty Clauses*) and the writing system (*Sensible Sentences, Perfect Punctuation*), as well as distinctions between ranks within these systems. Finally, and most significantly of all, the difference in meaning between the adjectives, for example, *nifty* and *vital*, has no correlation at all with the distinction between the general categories *noun* and *verb*, and in fact makes the category relation impossible to retrieve. The Montessori grammar-based reading pedagogy, in contrast, demonstrates that it is possible to engage young children in playful interaction with this field of knowledge, without having to distort its meaning potential.

### 7.4.2 Montessori grammatics: a passage from the mechanical to logical reading

‘Our grammar’, Montessori (1965b [1916/1918], p. 9) writes, ‘is not a book’. Children are not ready to read books, in the Montessori tradition, until they can read *logical language*, that is, they can transform *mechanical reading* (decoding the letters of words into sounds) into *total reading* (the interpretation of written connected discourse). The distinction between mechanical and logical reading is made by Montessori (1964 [1909/1912], p304) in the following way:

> The book has recourse to logical language, not to the mechanism of language. Before the child can understand and enjoy a book, the logical language must be established in him. Between knowing how to read the words, and how to read the sense, of a book there lies the same distance that exists between knowing how to pronounce a word and how to make a speech.

In Montessori pedagogy the distance between knowing how to decode letter patterns and how to read the sense, or meaning, of written language is bridged by a grammatics which draws on the potential of the Montessori ensemble, the active use of objects combined with language use:

> ... just as the mechanisms of writing have helped us to integrate it with speech in the first stage of our experiments, so here also language written grammatically, by means of objects, games, and written words, can help a higher spoken language ... which consists in the expressing of ideas (Montessori 1967 [1948], p. 259).

In other words, just as children use the manipulable letters of the moveable alphabet to compose words from the *sounds* of their own language, they use units of grammar (words, groups of words, phrases and clauses) written on manipulable slips of paper to
compose discourse from the *meanings* of their own language. Thus, the recontextualisation of knowledge about grammar in Montessori pedagogy includes an emphasis on composing written language from the meanings made independently by the child, rather than analysing meanings made by an adult. In this way, knowledge about grammar ‘becomes the amiable and indispensable help to the construction of connected discourse’ (Montessori 1965b [1916/1918], p. 7).

Montessori found children’s interest in grammar games resulted in high levels of effort, enjoyment and concentration, the characteristics of *serious play*. The key, as predicted by the evaluative rules of Bernstein’s pedagogic device, is to bring the child’s activity in this field of knowledge into relation with the child’s age:

> ... the four-year-old child, when he passes from those meaningless sounds to the composition of a whole, which corresponds to an idea and represents a useful and wonderful conquest, is just as attentive as the philologist and perhaps even more enthusiastic. He will find the same joy in grammar ... (Montessori 1965b [1916], pp. 7-8).

Just as the four-year-old is at an optimum age for analysing sounds to build the mechanical skills necessary for writing, Montessori (1965b [1916], p. 8) asserts that the five-year-old is at the age when knowledge about grammar can be used in the service of learning to read:

> Similarly the analytical study of parts of speech, the passionate lingering over words, is not for children of all ages. It is the children between five and seven who are the *word-lovers*.

Children of this age, she continues, have a ‘thirst for words’ and an ‘inexhaustible’ capacity to learn them. The study of grammar gives them a system for organising as discourse the large number of words they are accumulating.

The earliest published record of Montessori grammatics (1965c [1916/1918]) is in the context of the *grammar boxes*, a series of grammar games designed for children over six. In the decades that followed, Montessori observed that younger children were also interested in grammar so she designed another series of grammar-based games, the *functions of words* (developed in the 1920s or 1930s). These games are presented to children once they can read single words *mechanically*, around the age of five. After about the age of six, children progress to a parallel set of reading games based on sentence analysis and to the grammar boxes. From about eight years, children use
their knowledge of grammar to explore different styles of discourse and to study grammar as it is taught in their own language and culture.20

Thus, there are Montessori grammar games for absorbent mind children under six, or, in Vygotskian terms, the period during which real objects and actions are the vehicles for imagination and the construal of meanings not present in the material domain, as well as for children aged from six to twelve, in the second plane of development. The child’s consciousness during this plane is described in the Montessori tradition as the reasoning mind. For Vygotsky, it is during this period that a more complex relation emerges between imagination, abstraction and reality, a period during which there emerges the potential for children to use abstract meta-tools to regulate perception and choice.

The remaining sections of the chapter will select examples from the Montessori grammatics to illustrate how the pedagogy engages children with the meanings of written language in a serious, but playful, and systematic way, from the preschool to the school years. The examples are selected to demonstrate how objects and actions are used in combination with an abstract metalanguage to regulate children’s attention to the stream of meaning, just as the sandpaper letters and moveable alphabet regulate the way younger children attend to the stream of sound. The relation between meaning and grammatical structure, and the way this relation is brought to children’s attention in the Montessori grammar pedagogy, is analysed using the categories of systemic functional grammar, as introduced in Section 5.5.6 and elaborated in Section 5.6.

The three areas of the Montessori materialised grammatics are: the function of words, the reading analysis and the grammar boxes. The grammar pedagogy extends from the Children’s House to the school. Children’s House presentations include less detail and fewer technical terms than presentations for school-age children. An overview of the progression of the Montessori grammatics is provided in Table 7.1.

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20 The functions of words exercises are not published. Training courses integrate material from a range of unpublished works written in the 1920s and 1930s, including Psico-Gramática and The Parts of Speech.
7.4.3 **Functions of words: from meta-representation to metalanguage**

The *functions of words* reading games are described in Montessori training courses as *grammatical morphology*. They are a study of the parts of grammatical structures, and the function of each part, analogous to studying the parts of a flower, such as the corolla, and its function. This approach is, again, a feature of the way Montessori recontextualises educational knowledge for young children. The design of the functions of words is distinctive, however, because it accounts for the nature of language as a semiotic, rather than a material, phenomenon. The parts of speech are abstract categories without the tangible qualities of, for example, the parts of a flower. This is addressed in the Montessori grammatics by representing the parts of speech in the form of manipulable symbols, *the grammar symbols*.

The grammar symbols are incorporated into ensembles of multimodal resources in which knowledge about grammar is presented as a tool for learning to read. This knowledge can be presented to children soon after they have reached the word-reading stage, from the age of about four years. At this early stage the presentations are impressionistic and do not include technical terms such as *noun* or *verb*. After children turn six, the functions are presented, using the technical terms, in ways which are designed to capture children’s imagination. Usually grammar presentations are given to small groups of about three children. During the activity sequence of the presentation the teacher writes ‘messages’ on slips of paper in ways which draw
children’s attention to a grammatical function. For example, to teach the function of adjectives in the nominal group, or *noun family* as it is termed in Montessori pedagogy, the teacher might write the following on a slip of paper.

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the pencil
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After the child has read the label and fetched a pencil to match, the teacher might say, with a theatrical flourish:

That’s a very nice pencil... but... it’s not the one I want. I’ll give you a clue.

The teacher will then tear apart the article and the noun, and insert an adjective, written in red to give it salience.

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the green pencil
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The child is now able to fetch the pencil the teacher wants. When all children have had a turn, there is an array of labels and objects which foreground the function of adjectives.

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the green pencil
the purple pencil
the yellow pencil
```

During the presentation the children change the order of the words, a step called *transposition* in the Montessori tradition, playfully experimenting to see which word order sounds right. When the word order sounds odd (*pencil the green, green pencil the* etc), there is usually much laughter, a reflection of the latent knowledge children bring to the study of grammar. The children are given the name of the function with
its etymology (The word *adjective* means *thrown together*), its symbol (a blue pyramid/triangle) and a probe question to identify words realising this function.

In an echo of the three-period naming lesson, introduced in Section 6.7.2, probe questions link a concrete representation with a symbolic one, as exemplified in this question probing for the adjective in a nominal group:

*What word tells you which pencil I wanted?*

As in the naming lesson, this probe question represents a gateway along a developmental pathway which has its origin in the use of a term as a *signal* for something physically present in the material environment and which moves towards the use of this term as a transportable abstract *symbol*. In this case, however, the question is configured around the process *tells*, which can be interpreted in this context both as a verbal process (an external orientation), and as an identifying relational process (an internal orientation). Verbal processes and identifying relational processes are, following Matthiessen (1991), both sign-producing resources of the grammar.

From this perspective, a child’s first response to the question might be the externally oriented one, in which the child responds as Receiver of what the word *tells*. That is, when the child indicates the word physically present on the label, it is interpreted as Sayer and its meaning (*which pencil I wanted*) as Verbiage. This response, however, conflates with the corresponding internal orientation, in which the nominal group *what word* represents a Token and *which pencil I wanted* its Value, leaving an ‘impression’ of an adjective’s function. On the basis of this interpretation, the child becomes the Beneficiary of the impression. Recalling the geometry insets, this grammatical impression leaves a ‘contour’ with the potential to be deployed in the future as a semantic frame into which can be fitted the meaning [*green* is an *adjective*] where the specific word, *green*, is a Carrier of the transportable abstract Attribute *adjective*. This progression is illustrated in Table 7.2.
Table 7.2: Probe question as a gateway from signal to symbol and future-oriented semantic contour

In the context of the study of the noun family the probe question for the adjective is asked after the probe questions for the noun and the article, each of which represent the same type of semantic gateway.

What word tells you the name of what I wanted?
What word tells you that I wanted one particular pencil?

To answer a probe question, the child responds through action, indicating, or signalling, a word by pointing. This indication, or signalling, is captured, in a material form, and transformed, still in a material form, into symbolising, when a concrete grammar symbol is placed above the indicated word.

At the end of the presentation there is an array of objects and labels, with grammar symbols arranged above each of the words, as depicted in Illustration 7.5. The reading needed to complete this task has been part of an activity sequence incorporating repetition and movement, which both consolidates decoding skills and presents reading as active and fun.

<table>
<thead>
<tr>
<th>Element</th>
<th>Element</th>
<th>Element</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘physically-present label’</td>
<td>‘signalling/symbolising’</td>
<td>‘child’</td>
<td>‘specified pencil’</td>
</tr>
<tr>
<td><strong>What word</strong></td>
<td>tells</td>
<td>you</td>
<td>which pencil I wanted?</td>
</tr>
<tr>
<td><strong>SAYER</strong></td>
<td><strong>VERBAL PROCESS</strong></td>
<td><strong>RECEIVER</strong></td>
<td><strong>VERBIAGE</strong></td>
</tr>
<tr>
<td>[word on label]</td>
<td>[signalling]</td>
<td>[words specifying object]</td>
<td></td>
</tr>
<tr>
<td><strong>TOKEN</strong></td>
<td><strong>RELATIONAL PROCESS:</strong></td>
<td><strong>BENEFICIARY</strong></td>
<td><strong>VALUE</strong></td>
</tr>
<tr>
<td>[specific word]</td>
<td>IDENTIFYING</td>
<td>[impression of an adjective’s function]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[symbolising]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[green]</td>
<td>is</td>
<td>an adjective]</td>
<td></td>
</tr>
<tr>
<td><strong>CARRIER</strong></td>
<td><strong>RELATIONAL PROCESS:</strong></td>
<td></td>
<td><strong>ATTRIBUTE</strong></td>
</tr>
<tr>
<td>[specific word]</td>
<td>ATTRIBUTIVE</td>
<td></td>
<td>[transportable]</td>
</tr>
</tbody>
</table>

Figure

<table>
<thead>
<tr>
<th>Table 7.2: Probe question as a gateway from signal to symbol and future-oriented semantic contour</th>
</tr>
</thead>
</table>
Presentations are followed by a wide variety of lessons and games, dozens in all. New games are introduced, as needed, to maintain interest, to increase the reading challenge and to show variations in the use of the function. Some of these games centre on a mini-environment, such as a farm with toy animals or a dolls’ house with furniture. Children read labels and organise the mini-environment accordingly.
The description in this section has presented a brief introduction to the Montessori grammatics. The next section investigates in more detail the grammar symbols, the means devised by Montessori for representing abstract grammatical categories in material form. The analysis will again draw on the categories of systemic functional grammar.

7.4.4 The Montessori grammar symbols as reading pedagogy

For each part of speech, Montessori designed a coloured symbol. These nine symbols, the grammar symbols, are based on abstract geometric shapes. Each shape is combined with a colour and a size and is materialised and duplicated in coloured paper, and then cut out so it can be manipulated. Echoing the way the moveable alphabet is used by children to attend to the stream of sound of their language, the grammar symbols are used by children to analyse the stream of meaning of their language. This echo is visible in the compartmentalised boxes used to store the grammar symbols and the moveable alphabet ready for a child to use, as shown in Illustration 7.7.

Illustration 7.7: Storing the Montessori moveable alphabet and the Montessori grammar symbols

As described above, the function of each part of speech, or word class, is presented in an ensemble of multimodal resources (objects, labels, technical terms with etymology, moveable symbols, probe questions), followed by an extended series of games. As the games unfold and children progressively learn to identify each word class, they read
longer and longer combinations of written words. Children glue, or draw, the symbols above the words they have read, as shown in Illustration 7.8.

Illustration 7.8: The Montessori grammar symbols in use

Montessori’s description of the process emphasises that this work is as much about learning to read as it is about learning grammar:

The activity of glueing or drawing the symbols encourages the child to read and reread the words, phrases and sentences in a thinking way and not in a hurry. This activity is useful because it combines active work together with a pause and rest at each word that one reads. The aim is not that of studying grammar in order to know the parts of speech very well, but it is to give an incentive to keep rereading. 21

Thus, the immediate aim for children’s use of the grammar symbols is to motivate close and careful reading based on:

... the grammatical role of each part of speech, using the most typical representative of that part of speech ... This grammar reading, which is brief, simple and clear, enables the child to explore his own language in terms of the construction of its parts, in the same way that the alphabet was a means to explore the composition of simple words [emphasis added]. 22

The functions-of-words activities centre on the contrast between nouns and verbs, the nucleus, according to Montessori, around which the logical study of grammar orbits:

---


In the whole of language there are these two family founders – the noun and the verb. They are the centre around which all the words for the expression of feeling and thoughts organise themselves. Each one is like a sovereign with his own court – or like a star with its own satellites. It is a good thing not to give the classification of the parts of speech as though these could be placed on a straight line, but rather as though they lived around these two centres.23

The contrast between the noun and the verb, between object and action, and the equivalence of their status as heads of word structures, or families, is reflected in the central design contrast of the Montessori grammar symbols.

7.4.5 Using the grammar symbols to mediate potential and instance

The contrast between the values [noun] and [verb] is first foreshadowed during the word-level labelling activities. In these activities the contrast between objects and actions (naming objects - doing actions) is re-expressed in the colour of the labels (white for names of objects - red for action words). When children eventually learn to name the corresponding values (noun - verb) during the functions-of-words lessons, their attention to this contrast becomes regulated by a redundant, symbolic, abstract means - a metalanguage of technical terms. The distance between the material representation of the noun-verb contrast in the colour-coded labels and the abstract metalanguage is mediated by the grammar symbols, a redundant intermediary between concrete instance (objects and actions represented in writing) and abstract potential, represented in a metalanguage of technical terms (the names of the parts of speech).

The following table (7.3) presents the array of Montessori symbols used to represent the nine parts of speech. The symbols are grouped according to the two contrasting grammar families, the noun family and the verb family. Conjunctions and prepositions are termed as servants to the families, and the interjection is a special case.

<table>
<thead>
<tr>
<th>The Noun Family</th>
<th>The Verb Family</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="noun" /></td>
<td><img src="image2" alt="verb" /></td>
</tr>
<tr>
<td>adjective</td>
<td>adverb</td>
</tr>
<tr>
<td>article</td>
<td>pronoun</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Servants</th>
<th>Special Case</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="conjunction" /></td>
<td><img src="image4" alt="interjection" /></td>
</tr>
<tr>
<td>preposition</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.3: The Montessori grammar symbols

The design of the grammar symbols combines three variables, shape, colour and size. The noun is represented by a large black equilateral triangle and the verb by a large red circle, where the height of the triangle is equal to the diameter of the circle. The functional contrast between noun and verb is expressed through contrasting shapes (triangle - circle) and colours (black - red). In other words, the strong contrasts in shape and colour, experienced as tangible systems during the sense exercises, now represent non-tangible grammatical contrasts. The comparable size of the symbols represents the complementarity between the noun and verb as heads of grammar families.
The noun and verb symbols are first presented as three-dimensional shapes, a black square-based pyramid and a red sphere.

Illustration 7.9: The Montessori grammar symbols

As the three dimensional symbols are presented to children, the value of each symbol is elaborated in a small exchange in which the teacher uses the imagery of lexical metaphor to transfer the tangible attributes of the grammar symbols to the intangible abstract category. A sample noun-symbol presentation appears in Table 7.4.
Remember that the word *noun* comes from an old Latin word that means *name*. This is the symbol for the noun. Hold it in your hand. What shape is it?

- a pyramid

It's a *square-based* pyramid. The square-based pyramid is a very, very stable shape. Its large base keeps it firmly on the ground. Imagine this shape made of stone ... heavy stone, just like the pyramids built in the desert by the Ancient Egyptians. The pyramids don't move; they have been there a very long time.

Remember what we said about names? (Referring to an introductory lesson on nouns.) Over lifetimes people are born and they die, but the names people give things stay after they have gone. We have a huge collection of names, and the number keeps on growing ...

Look at the colour of the pyramid. What colour is it?

- black

The colour is another part of the story. One of the oldest gifts nature has given us is coal. As some of you know, coal is made from trees that were alive millions of years ago. (Some children may have had the lesson about the Carboniferous Period from the Montessori Time Line of Life - a pictorial representation, designed for young children, of the evolution of life before humans.) When you pick up a piece of coal the black comes off onto your hands. The black from coal colours this pyramid.24

Table 7.4: Presenting the noun symbol

This presentation resonates on several levels, especially when considered from the perspective of the early twentieth-century Italian and Spanish children who first heard it. The pyramid shape with its wide base firmly planted on the ground echoes the sense of *substantive*, the technical term used in grammars derived from Latin, to designate all grammatical elements which do the work of nouns. Further, for children in early twentieth-century Europe, the relation between coal and fire was very familiar, a relation orienting children to the future presentation of the verb symbol.25

In summary, the imagery of the presentation gives meaning to the material attributes of the symbol which resonate with the function of the abstract category *noun*. The attributes conferred on the noun grammar symbol by the presentation can be summarised in the following clause structure:

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24 Adapted from a lecture by Mr Camillo Grazzini, Director, Fondazione ‘Centro internazionale di studi Montessoriani’, Bergamo, Italy, Montessori Elementary Diploma course, 1984-85.

25 The association with coal clearly has to be elaborated for twenty-first century children.
The noun grammar symbol is head of a family, old, related to fire and stable.

The presentation redundantly aligns these attributes to the material attributes of the symbol, a redundancy which gives the symbol enough semantic weight to be a critical abstraction which will orient children’s attention to the noun as an abstract category.

The presentation of the three-dimensional symbol for the noun is followed by the presentation of symbols for members of the noun’s family, the article and the adjective. The article and adjective symbols are square-based pyramids, like the noun, but their size is progressively reduced (the adjective pyramid is smaller than the noun and the article pyramid is smaller than the adjective). This reduction is echoed in the reduction of the colour black (noun) to blue (adjective) and light blue (article). During the presentation, the symbols for the noun family are given a more abstract representation with the introduction of two-dimensional symbols, as exemplified in Table 7.5.
Here are two more symbols. They are the same shape as the noun symbol, but lighter in colour and smaller in size. The noun grammar symbol is the largest pyramid because it is the most important. The medium-sized dark blue pyramid is the symbol for the adjective, and the small light blue pyramid is the symbol for the article. These three symbols are related. They belong to the same family. It is called the Noun Family because the noun is the most important family member, the head of the family.

On Chart 1 we see the Noun Family as pyramids in the desert. They are planted on the ground in the order, or pattern, of the Noun Family.

Each face of each pyramid is an equilateral triangle. These paper triangles are a 'memory' of the faces of the pyramids. Here they are glued onto charts in the order they always have in Noun Family. This is the Noun Family pattern.

Probe questions are used to identify the function of words in 'noun family' examples.

- What word tells you the name of the object I wanted? - pencil
- What word tells you I wanted one particular pencil? - the
- What word tells you which pencil I wanted? - green

Table 7.5: Presenting the noun family symbols: from three-dimensional to two-dimensional symbols

One of the most significant ways Montessori grammatics differs from more conventional pedagogic grammars is that it shifts the child’s attention to units of grammar above the rank of word, in the case of the noun family presentation, the rank of group, opening up the potential for also attending to group complexes and phrases. Attending to grammatical structures at this rank makes the functionality of the wording within and above the clause much more readily perceivable.

The layered redundancy of the Montessori multimodal resources for mediating knowledge about the noun family for young children is represented in Figure 7.8. The figure reveals how the redundant layers shunt children’s attention between instances

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26 For Latin-based languages such as Italian, in which the typical nominal group sequence is article^noun^adjective, the sequence of the actual Egyptian pyramids is more accurate, and a photograph can be used.
of language use and the meaning potential of the language. The child reads a label and matches it to an object, in this example a silver key. The written language on the label is an instance of the noun family pattern. The child then matches the grammar symbols to materialise the abstract transferable potential of the pattern. The grammar symbols are, thus, an external means for mediating internally-oriented knowledge, the meaning potential of the noun family, from which the instance is derived.

<table>
<thead>
<tr>
<th>potential</th>
<th>metalanguage</th>
<th>article^adjective^noun</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>class</td>
<td></td>
</tr>
<tr>
<td></td>
<td>rank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>concrete representation of potential</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>instance</th>
<th>written language on a label</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a silver key</td>
</tr>
</tbody>
</table>

| concrete object | (materialised instance; potentially part of a semantic figure) |

Figure 7.8: Redundant multimodal resources for attending to the *noun family* shunting attention between instance and potential

The contrast between the attributes of the noun grammar symbol and those of the verb grammar symbol is established when, in a later presentation, the verb symbol is presented, as exemplified in Table 7.6.
This red ball, this sphere, is the symbol of the verb.
It is round like the Sun.
It is red like the Sun’s fire.
It is big like the Sun ... and like the Sun it is extremely important. The Sun is the most important part of Nature. Without it, there would be no life.
The verb is just as important in our language, because without it we could not make ourselves understood; we could not express a whole idea.
The word ‘verb’ comes from a Latin word which means word. When we say verb, it is as if we are saying this is the word.

Look at the red sphere next to the black pyramid. The pyramid is very stable. It just stays there. Even if I push it, it doesn’t move much ... 
... but if I push the sphere, it rolls everywhere; it rolls on its own.
This is the difference between objects and actions ... between nouns and verbs. Everything that is matter ... objects ... stay around and stay visible; but the energy of actions only stays for a while, as long as it takes to do something, and then it disappears. Energy moves things, then it disappears and only a memory, a message, remains. This is the work of the verb.

Table 7.6: Presenting the verb symbol

The attributes conferred on the verb symbol by the imagery used in the presentation again correspond to the material attributes of the symbol:

<table>
<thead>
<tr>
<th>The verb grammar symbol is</th>
<th>‘big’</th>
<th>‘red’</th>
<th>‘sphere’</th>
<th>material attributes</th>
<th>symbolic attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARRIER</td>
<td>head of family</td>
<td>like the Sun’s fire</td>
<td>rolls on its own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROCESS: ATTRIBUTIVE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Later presentations introduce the adverb and the pronoun, both represented in Montessori grammatics as members of the verb family, as exemplified in Table 7.7.

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Adapted from a lecture by Mr Camillo Grazzini, Director, Fondazione ‘Centro internazionale di studi Montessoriani’, Bergamo, Italy, Montessori Elementary Diploma course, 1984-85. Mr Grazzini concluded this teaching sequence by saying: ‘There is really no material that can directly demonstrate the function of the verb, because the verb is essentially its own material’.
Remember this sphere is the symbol of the verb. There it is rolling again ... always on the move ... and it is red for the fire of the Sun. Here is the symbol for the adverb, a sphere like the verb symbol and the orange colour is close to red, but it doesn’t have the power and intensity of red. It is paler than red. If the verb symbol is the Sun, then the adverb symbol is more like the Moon. It does not have its own light. We only see it because of the reflected light of the Sun. Like the Moon, the symbol for the adverb is smaller than the verb. The verb is more important. We can see this from the size and the colour.

The relationship between the verb and the adverb is like the relationship between the noun and the adjective. Their symbols are the same shape, so this tells us they are relatives from the same family. Just as the stronger colour and the bigger size tell us the noun is more important than the adjective, the verb and adverb symbols tell us the verb is the most important in the verb family. Once the adjective was called an adnoun. This old word emphasises that the relationship between the noun and the adjective is like the relationship between the verb and the adverb.

Children act out, transpose examples and symbolise the words. They are given probe questions to identify the verb and the adverb in examples:

```
Clap loudly softly
```

What is the word for the action? - clap
What words tell you how to clap? ... - loudly, softly

The symbol for the pronoun is a purple pyramid, taller than the noun but with a base the same size as the adjective. The colour purple (blue+red) links the pronoun to both the noun and the verb. The pronoun is purple with jealousy and anger because it wants to be as important as the noun. The pronoun is always ready to knock the noun out of its place. The ‘memory’ of this pyramid is a purple isosceles triangle.

Children act out, transpose examples and symbolise the words. They are given probe questions to identify the pronoun in examples.

```
He Michael claps loudly.
```

What word did I write to take the place of the noun Michael? - he

Here are the symbols for the verb, the adverb and the pronoun. This is the Verb Family, the second Grammar Family. The verb is the head of the family.

On the chart, we see the verb is the Sun, at the centre of everything. The adverb is the Moon. The pronoun is like a rocket, flying towards the verb to help. It is the Helper of the verb. This is the verb family pattern. The pronoun helps the verb, the most important member of the family, and finally comes the adverb.28

Table 7.7: The verb family

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28 Adapted from a lecture by Mr Camillo Grazzini, Director, Fondazione ‘Centro internazionale di studi Montessoriani’, Bergamo, Italy, Montessori Elementary Diploma course, 1984-85.
The presentation of the verb family shifts the child’s attention to the *clause*, the highest-ranking unit of lexicogrammar. Initially, the child reads and acts out, then symbolises, iconic clause patterns. As exemplified below, each instance of written language corresponds to a materialisable semantic figure.

![Diagram of verb family structure](image)

**Figure 7.9:** Redundant multimodal resources for attending to the *verb family* shunting attention between instance and potential.

### 7.4.6 Representing logical meaning with the grammar symbols

All the symbols of the noun family are the same *shape* (triangle) so children attend to them, and the instances of language use they symbolise, at the rank of *group* rather than *word*. However they are different sizes, so variation in relations *internal* to the group also becomes an object of attention. The largest symbol represents the noun, the *head* of the family, while the smaller sizes of the other two triangles show that, in the noun group, the adjective and article are *dependent* on the noun. This relation is described by Halliday and Matthiessen (2004, p. 329) as the logico-semantic relation of subcategorization, or *modification*. The repetition of the triangle shape represents the repeated relation of modification, moving left from the noun, generating an
iterative, or univariate, structure (Halliday and Matthiessen 2004, p. 331). In Figure 7.10 the potential of the iterative relation is represented by Greek letters and the concrete representation of the potential by the descending sizes of the triangles.

![Diagram of logical meaning](image1)

**Figure 7.10: Representing logical meaning**

During games which follow the noun family presentation, children discover the elasticity of the nominal group’s iterative structure, and its potential to expand meaning potential, as shown in Figure 7.11.

![Diagram of an expanded noun family](image2)

**Figure 7.11: Representing logical meaning in an expanded noun ‘family’**

Similarly, the modification relation between verb and adverb is represented in the repetition of the circle shape in the smaller size and reduced colour (orange) of the adverb symbol.
The concrete representation of logico-semantic structure in the grammar symbols reflects Montessori’s aim to give children control of logical language as a support for reading.

In a later presentation, the conjunction ties nominal groups logico-semantically into complexes, another expansion of meaning potential, using and as the prototypical instance, as exemplified in Table 7.8.

Table 7.8: The conjunction presentation

Similarly, the meaning potential of the nominal group can be expanded by adding a preposition to make a phrase. The presentation of the preposition uses in and on as prototypical instances, as exemplified in Table 7.9.
The teacher writes nominal groups on slips of paper and children gather the objects represented by the nominal groups.

**the blue pencil**

**the gold cup**

The teacher writes *in* in red on a slip of paper to put the nominal groups in relation:

**the blue pencil** **in** **the gold cup**

The child reads the slip of paper and arranges the objects to match what was read.

The symbol for the preposition is a green crescent. When it faces upwards, it is like a jungle bridge made of vines, or, when facing down, an old stone Roman bridge covered in moss. The symbol makes a bridge, a relation, between the objects.

Table 7.9: The preposition presentation

A sample of work completed by children who have learned to identify nominal groups, conjunctions and prepositions is shown in Illustration 7.10.

Illustration 7.10: Working with the functions of noun families, prepositions and conjunctions using objects, slips of paper and symbols

As well as expansion of meaning, contraction of meaning is represented in the grammar symbols. The *special case* symbol for the interjection, an expression of concentrated emotion, collapses the triangle and circle into a golden keyhole shape.

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29 Montessori’s use of the crescent, a segment of a circle, to symbolise prepositions evokes the description by Halliday (2004a, p. 277) of the preposition as ‘a kind of mini-verb’.
7.4.7 How the Montessori grammar symbols make use of the semiotics of colour

The use the Montessori grammar symbols make of colour to represent abstract grammatical categories exemplifies the use made of sensory data in all areas of the Montessori curriculum, a use motivated and regulated by categories of educational knowledge rather than a romantic view of childhood.

A framework for analysing colour as a social semiotic resource, developed by Kress and van Leeuwen (2002), has its origin in Kandinsky’s 1914 work, Concerning the spiritual in art, in which two types of colour value are proposed:

... a direct value, which is the colour’s actual physical effect on the viewer, which derives from the physical properties of colours so that they ‘move towards us’ or ‘away from us’, and an associative value, as when we associate red with flames or blood, or other phenomena of high symbolic and emotive value (Kress and van Leeuwen 2002, pp. 354-355; emphasis in the original).

Kandinsky, another of the great innovators of Montessori’s era, pioneered abstract art, as both practitioner and theoretician. His ideas about the value of colour and the nature of abstraction resonate strongly with the design of Montessori’s grammar symbols. This is strikingly obvious in paintings completed by Kandinsky, while at the Bauhaus, in the early 1920s, at about the same time Montessori was designing the grammar symbols. In these paintings, Kandinsky composes loosely mobile arrangements of abstract geometric shapes, as exemplified in Illustration 7.11.30

Illustration 7.11: Im Blau. (Wassily Kandinsky, 1925)
Oil on canvas. 80 x 110 cm. Kunstsammlung Nordrhein-Westfalen, Düsseldorf, Germany

30 The essential impact of this painting is the cascade of dynamic abstract geometric shapes which have yet to stabilise into the regularity of pattern and order. When viewed from a Montessori teacher’s perspective, the black triangle and red circle tumbling with smaller triangles, circles, crescents and rectangles against the ground of (adjectival) blue immediately evokes the grammar symbols in the process of being arranged by children into grammatical patterns.
The colours of the Montessori grammar symbols are given their associative value in presentations during which children learn to associate the colour of each symbol with ‘phenomena of high symbolic and emotive value’ (for example, the pyramids of Ancient Egypt, the sun, a bridge), in this way constructing a ‘provenance’ relevant to the interpretive context (Kress and van Leeuwen 2002, p. 355).

The analysis of the physical effect of colour, its direct value in Kandinsky’s terms, has been reworked and expanded by Kress and van Leeuwen (2002, p. 355) into scales based on six variable features of colour (purity, differentiation, modulation, hue, value, saturation), where:

... [any] specific instance of colour can be analysed as a combination of specific values on each of these scales - and hence also as a complex and composite meaning potential ...

The scales proposed by Kress and van Leeuwen are, thus, a means for analysing the grammar of colour schemes, or patterned regularities of colour use, an analysis which can be applied to the patterned use of colour in the Montessori grammar symbols.

The scale of purity ‘runs from maximum “purity” to maximum “hybridity”’, which Kress and van Leeuwen (2002, p. 356) suggest, aligns with systems of primary and mixed colours identified by common colour names. The colours of the Montessori grammar symbols approach maximum purity in the sense that they are all named with common names (red, blue, orange, green, purple), although only two primary colours are used, red (verb) and blue (adjective). When contrasted with the muted, hybrid pastels of postmodern colour schemes, the colours of the Montessori grammar symbols recall the bright, pure colours of the Mondrian colour scheme, a signifier of modernity, (p. 366). This colour scheme is strongly associated with the 1920s, the decade in which Montessori designed the symbols.

The scale of differentiation, ‘from monochrome to the use of a maximally varied palette’ is identified by Kress and van Leeuwen (2002, p. 357) as the difference between exuberance and restraint, values which suggest an interpersonal orientation. Colour differentiation in the context of the grammar symbols, however, has an ideational function. Selecting a strongly differentiated colour for each grammar symbol distinguishes one grammatical function from another. Differentiation is reduced, however, between the symbols for functions within each grammar family
(for example, red verb and orange adverb), but is maximised between symbols across the grammar families (red verb and black noun), and in the symbols for the servants (pink conjunction, green preposition), as well as for the interjection (gold). The colour differentiation used in the design of the grammar symbols represents, therefore, an exuberant experiential function (recontextualising knowledge about grammar as pedagogic discourse), rather than an exuberant interpersonal one (expressing an adult’s aesthetic of childhood).

The scale of modulation runs from flat colour to modulated colour. Flat colour is generic, ‘as in comic strips, or paintings by Matisse’, which express ‘an essential quality of things’. Modulated colour is specific, showing ‘the colour of people, places and things as it is actually seen’ (pp. 356-357), for example, the ‘blue that is richly textured with different tints and shades, as in paintings by Cézanne’. In summary, ‘the truth of flat colour is an abstract truth, and the truth of modulated colour a naturalistic, perceptual truth’ (p. 357). The colour of the grammar symbols is, appropriately, flat, resonating with the abstract categories they represent. When used in Montessori ensembles, the grammar symbols representing the abstract potential of language contrast strongly with the modulated colours of the instances of language use materialised in objects and actions.

The scale of hue is the scale from blue to red, a ‘cold-warm continuum [which] has many correspondences and uses’, for example:

... the red end of the scale remains associated with warmth, energy, salience and foregrounding, and the blue end with cold, calm, distance, and backgrounding (Kress and van Leeuwen 2002, p. 357).

The poles of the cold-warm continuum are used to represent the foundation contrast of the Montessori grammatics, the distinction between nouns and verbs.

The scale, value, is the grey scale from ‘maximally light (white) to maximally dark (black)’ (p. 355). The progression from dark to light in the grammar symbols is a progression from head, or nucleus, words in a structure (noun/verb) to dependent or satellite words (article, adjective/adverb, pronoun). This progression is re-represented in the grammar symbols along the scale of saturation, that is:
... the scale from the most intensely saturated or ‘pure’ manifestations of a colour to its softest, most ‘pale’ or ‘pastel’, or dull and dark manifestations, and, ultimately, to complete de-saturation, to black and white (p. 356).

The black noun symbol is a complete de-saturation of the blues of the article and the adjective. In this case de-saturation, combined with the maximally dark value, reinforces the noun as head word in the nominal group structure. The blue of the adjective symbol is a pure manifestation on this scale and the light blue of the article symbol is a paler saturation of this blue. Similarly, the red of the verb, the nucleus of the clause, is a pure manifestation on this scale, and the orange of the adverb, the modifier of the verb, a paler saturation.

The six colour scales as proposed by Kress and van Leeuwen (2002) are summarised in Figure 7.12.

![Figure 7.12: The six variable features of colour](image)

The design of the Montessori grammar symbols systematically deploys selections from the six colour scales, in combination with selections from the system of geometry shapes (largely, from the options triangle-circle) and from the scale of size (large↔small). These semiotic resources are used to recontextualise a body of abstract knowledge (grammatical) as pedagogic discourse accessible to manipulation by young children. The process of recontextualisation is characterised by holding true
across multiple semiotic modes the relations on which the knowledge is based. These relations are summarised in Figure 7.13.

Figure 7.13: Designing objects to recontextualise grammatics as pedagogic discourse
7.4.8 Extending the study of grammar

A feature of Montessori pedagogy, inherited from Itard and Séguin, is the matching of geometric shapes, in the form of insets, to outlines, in the form of frames. The outlines are memory aids, enabling young children to order, and talk about, more shapes than they could manage unaided. The Montessori grammar symbols can also be thought of as a type of memory aid, as semantic outlines, or contours, which enable beginning readers to order meaning, and talk about it, in ways that correspond with the meaning patterns of written language, but which they could not manage unaided. Just as knowledge about geometry shapes can be decontextualised and transported to other contexts, so too the semantic outlines represented by the Montessori grammar symbols can be decontextualised and recontextualised, from reading pedagogy, to expanding the meaning potential of children’s written language in general, and finally to the study of grammar as a field of educational knowledge in its own right. The pathway includes the use of advanced symbols, reading analysis activities and the grammar boxes.

The grammar symbols can be combined into advanced symbols, which draw children’s attention to more delicate grammatical options.

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**Table 7.10: Advanced grammar symbols**

Children symbolise extended text (paragraphs, whole texts), both their own writing and the writing of others. They look for grammatical patterns across the text to reveal
the style (register) of the text. For example, a lot of blue might indicate a descriptive text, or a series of red circles a set of instructions, or an action-filled narrative.31

The reading analysis material, comprising moveable wooden circles and arrows, applies the shapes and colour-coding of the grammar symbols to the analysis of clause constituents. Children read sentences written on slips of paper. They tear out the verb and place it on a red circle. They use probe questions, written on the arrows, to add other constituents to the materialised analysis. The Subject and Object (participant roles) are analysed with black arrows, adjectivals (Qualifiers in nominal groups) with blue arrows, and adverbials (circumstances) with orange arrows, as depicted in Illustration 7.12.

Illustration 7.12: Reading analysis

The grammar boxes, the first grammar materials designed by Montessori (1965c [1916/1918], comprise a series of boxes, each with a large compartment for reading cards, plus smaller compartments for small cards on which are written individual words. The cards in the earliest grammar boxes were left blank, as shown in Illustration 7.13. The teacher wrote on the cards in front of the children, and the children themselves wrote their own cards.

31 In practice I have found this use of the grammar symbols a valuable means for drawing students’ attention to the variation in grammar patterns across the text types they are required to read and write by the NSW K-6 syllabus (for example, procedures, reports, recounts, narratives, reports).
Pre-printed cards can now be purchased for the grammar boxes, but many teachers, correctly in my opinion, still prefer to customise the words on grammar box cards to match the children’s context and interests. Children read the text on the large cards, act it out, and then reconstruct it using the word cards. Finally they symbolise each word.

There is a grammar box, and set of reading cards for each ‘function’. Nouns remain black and verbs red, but the colour-coding changes for the other parts of speech, the black of the noun reduced to brown (adjective) and tan (article). The red of the verb is reduced to pink (adverb), with prepositions purple, pronouns green, conjunctions yellow and interjections blue. The shift in colour-coding loosens the tie between a particular colour as representative of a particular grammar function, inferring the transportability of the function, while retaining in the representation the underlying functional relations.

See also Müller and Schneider (2002, p. 105).
As well as a larger tan compartment for the tan reading cards, the first grammar box has two small compartments (a tan one for tan single word cards on which articles are written and a black one for black single word cards on which nouns are written). On each tan reading card are written nominal groups which can be constructed with the words on the small black and tan cards (for example, *a horse, the tree, a cup, an oval*). Children read the reading cards, reconstruct the nominal groups with the small word cards, fetch, or draw, objects to match what they have read, and symbolise the words with grammar symbols. The adjective grammar box has three small compartments for small word cards (one for tan article cards, one for black noun cards and one for brown adjective cards) and a large brown compartment for brown reading cards. This time, on each reading card, there are two or three nominal groups varying in terms of adjectives (for example, *the rough cloth, the smooth cloth*).

The verb grammar box includes the three small nominal group compartments plus an extra small red compartment for red verb cards and a large red compartment for red reading cards. On each red reading card there are two or three clauses. This time the variation centres on the verb (for example, *Open the door. Shut the door.*). Children reconstruct the clauses with small word cards, act them out and analyse them with the grammar symbols. With each new grammar box a new grammatical category is added as the focus of variation in the following order, the preposition (*purple*), the adverb (*pink*), the pronoun (*green*), the conjunction (*yellow*) and the interjection (*blue*).

The text on the grammar box reading cards foregrounds the choices writers make in the composition of written text. These choices are materialised when children act out the meanings on the reading cards, and reconstruct and analyse the text using manipulable word cards and symbols.
Table 7.11: Grammar box examples

The grammar box series takes children several years to complete, up to about the age of nine. At this point, the Montessori grammar pedagogy is complete, and students are expected to take up the study of grammar as prescribed by local education authorities.

7.5 Conclusion

This chapter has explored the grammatical orientation of Montessori literacy pedagogy. The Montessori pedagogy has been presented in contrast to opposing positions taken in contemporary literacy debates. When analysed in terms of the stratified model of language, these debates can be said to set up unproductive, and false, oppositions between semantics and graphophonic knowledge, while at the same time overlooking the role knowledge about lexicogrammar might play in the development of literacy.
Reviewing Montessori literacy pedagogy in terms of the stratified model of language has revealed how the pedagogy leads young children along a developmental pathway which shunts up and down the realisation dimension of language, connecting with all language strata in contexts which are meaningful to children. The noteworthy feature of the pedagogy is the use of grammatics as a means of leading children towards reading fluency. Uniquely, the Montessori grammar pedagogy provides beginning readers and writers with an external material means for mediating the meaning potential of written language, as well as a foundation for future study of grammar as educational knowledge.