

Chapter 2 Reading Montessori

2.1 The Montessori material legacy and the Montessori literature

Maria Montessori's contribution to pedagogy is a systematic and comprehensive array of objects embodying educational knowledge which, in European cultures and cultures linked to European traditions, children are expected to acquire by the time they are twelve to fifteen years of age. Designed for children aged from birth to twelve, the objects materialise a curriculum which progresses incrementally and systematically, in interrelated parallel strands across all subject areas. Nevertheless, there is almost no recognition, outside the Montessori community, of the scope of this legacy. The lack of recognition may, in part, be a consequence of the curriculum not being fully documented in published form.

Montessori's material legacy is the most concrete and comprehensive primary source of her ideas, but the literature which has been generated by Montessori's work does not reflect the scope of this contribution. The Montessori literature, both primary and secondary, presents a range of limitations and challenges, not least of all because the literature has emerged alongside a protective tradition surrounding the transmission of Montessori practice. Understanding the uneven relation between the Montessori literature and the tradition of Montessori practice is crucial to understanding the current, limited theoretical status of Montessori's educational proposals and to suggesting directions in which they might be elaborated theoretically.

Prior to the more detailed discussion of the Montessori legacy in subsequent chapters, this chapter reviews three strands of the Montessori literature: Montessori's published work, the sources used by Montessori teachers to support their practice and the secondary literature of interpretation and criticism of Montessori.

2.2 Contemporary interpretations of Montessori's published work

In contrast to her materialised pedagogy, Montessori's published work does not appear to have developed very far beyond elaborations of her initial ideas and principles. Furthermore, there are two characteristics of Montessori's published work

which have limited its effectiveness in disseminating her ideas: the manner in which the work was published and the manner in which Montessori expressed her ideas, as crystallised in the following observation:

According to those who heard her speak and lecture, Montessori seems to have been one of the great teachers in an oral tradition going back to Socrates; unfortunately, she had no Plato (Kramer 1978 [1976], p. 357).

2.2.1 The publication of Montessori's work

Montessori gave innumerable talks and lectures throughout her life, but only publications which appeared before 1920 were written by Montessori herself. Publications after 1920 are more likely to be compiled by other people, from Montessori's lectures and her articles in the popular press (Kramer 1978 [1976], p. 356-359).

Following her graduation as a doctor in 1896, Montessori published, in Italian, a series of medical, psychiatric and anthropological papers and articles written for an academic audience. At the same time, she became recognised as an inspiring and popular lecturer, travelling throughout Europe and speaking to large and appreciative audiences on issues of social justice, including women's rights and the 'special education of deficient children' (Kramer 1978 [1976], p. 79). The first published description of Montessori's pedagogy, *The Montessori Method*, appeared in 1909. It is written in the style of an inspirational oral lecture, rather than an academic work, and was written in less than a month, according to both Kramer (1978 [1976], p. 137) and Schulz-Benesch (1998 [1967]). This publication, according to tradition, was never edited, and was handed directly to a printer, 'with the order to print it sentence for sentence, without altering a single comma' (Schulz-Benesch 1998 [1967], p. 193). Thus began a tendency within the Montessori movement to treat Montessori's texts as inspired canon, rather than as records of pedagogical experiments and observations worthy of verification.¹

¹ A bibliography of Montessori's principle publications can be found online at: <http://www.montessori.it/mariamontessori/opere.htm>. This bibliography includes a list of Montessori's academic publications from 1896 to 1909. [accessed 7 July 05].

In 1912 *The Montessori Method* was translated into English. This was followed, in 1914, by an English publication of *Dr Montessori's Own Handbook*, which was prepared specifically for an American audience. In 1916 Montessori published *The Advanced Montessori Method* in Italian. The two volumes of this work appeared in English in 1918. The translations from the Italian publications were prepared by students and colleagues, rather than by professional translators. Kramer (1978 [1976]) provides examples to demonstrate how the quality and accuracy of the English translations of Montessori's original material are inconsistent and often questionable.

Montessori mostly lectured in Italian. She rarely used notes, and the lectures varied from course to course. After 1920, publications in Montessori's name were compilations of lecture notes taken down by students and colleagues who were not necessarily trained as translators or editors. Sometimes the published texts were second-hand or even third-hand renditions of lecture notes in languages other than Italian. Some English editions are translations of French or Spanish translations of the original Italian lectures (For example, Montessori 1973b [1948]). Several key collections of Montessori's talks and lectures were originally delivered in India and translated and published there by the Theosophical Society (Kramer 1978 [1976], pp. 356-357). Throughout her life a large body of material was also published in her name in magazines, newspapers and pamphlets.²

The uneven quality and uncertain accuracy of Montessori translations are compounded by the idiom in which Montessori expresses her ideas. The contradictions which challenge contemporary readers of Montessori's writing were summarised by an American academic in the 1960s, when reminiscing about her work as a teacher in a Montessori school in Vienna in the 1920s and 1930s:

It is not easy to warm up to Montessori's theoretical writings today, particularly if read in translation. We are apt to find many rhetorical generalizations and charmingly described episodes, but few explicitly stated principles. However, her notes on techniques for using her teaching material are as fresh as ever (Planck 1966, p. 40).

Since the early 1990s a British publishing house, ABC-Clio Press, has been republishing Montessori's lectures, newspaper articles and books. These editions sometimes provide

² Montessori's association with the Theosophy movement in Europe and India has been used to explain the apparent *mystical* orientation of her lectures and writing. See Wilson 1987. Kramer (1978 [1976], pp. 341-345), however, describes Montessori's connection with Theosophy as more of an affinity between two contemporaneous humanist movements.

extra information about the provenance of the texts. The ABC-Clio publications, however, also include unexplained alterations to the texts from which they are derived.³

2.2.2 The expression of Montessori's ideas

In her writing Montessori presents her pedagogy through a patchwork of descriptive and procedural material relating to, for example, child nutrition, classroom layout, design and use of materials, lessons and classroom management. This material is peppered with romanticised anecdotes, impassioned polemic, and philosophical, literary and Biblical references. Montessori's style is not easy to penetrate, especially for the contemporary reader seeking generalisable principles and an overarching theoretical position. The overall effect is described by Kramer (1978 [1976], p. 376) in the following way:

... her science may seem sloppy, her language romantic and mystical, her style sometimes embarrassingly florid.

Montessori's early works published before 1920, however, are articulate examples of the idiom of their day, as Kramer (p. 358) describes:

The style of her early works may be old-fashioned in its floridity, but that is a characteristic of their time and place. They were literate, and always intelligible.

This old-fashioned style, Kramer (p. 359) argues, however, has not been enhanced by translation:

... to read Montessori in Italian is a different experience from reading her in English translation; the language lends itself to her flowery phrases and the almost musical cadences of her speech which often seem overblown and incongruous in translation into languages in which they are less at home.

The translation of Montessori's first book was undertaken by Anne E. George, an American elementary teacher from a prestigious private Latin School in Chicago. Anne George travelled to Rome in 1909 to meet Montessori and to observe her work. When she arrived in Italy, Anne George spoke no Italian. She and Montessori communicated in French. Anne George began learning Italian in 1911 so she could participate in Montessori's training course that year. By 1912 Anne George's translation of

³ The Clio series are endorsed by the Association Montessori Internationale (AMI).

Montessori's book had appeared in the United States⁴. It may be that Anne George had enough knowledge of Latin to make learning Italian comparatively easy and Harvard University, which published the translation, may have supplied technical support. Nevertheless it seems unlikely that Anne George had the chance, in such a short time, to finetune her translation skills or to temper her zeal. Her translation of *The Montessori Method* is the one still in use today in the English-speaking world. Kramer's description of Montessori's language as 'romantic and mystical' is based on Anne George's translation, and equivalent translations of subsequent works. Kramer's description echoes earlier English-speaking critics whose responses were also based on George's translation (for example, Boyd 1914; Kilpatrick 1915 and Bruner, 1966, p. 34).⁵

The florid style of Montessori's early lectures and publications was maintained in later writing published in Montessori's name. This is particularly true of the material published in India through the Theosophical Society. The style of writing in these publications may be a reflection of the dialect of written English valued in India in the 1940s when they were first published and the mystical orientation of the Theosophists. The consequence of this provenance is that the extravagant expression of Montessori's ideas continues to be part of the Montessori tradition.

A further characteristic of Montessori's style is the co-option of terms from theories of her own time. She used these terms to express the ideas she was developing from her

⁴ This account is derived from Kramer (1978 [1976], pp. 162-166).

⁵ The Italian organization founded by Maria Montessori, Opera Nazionale Montessori, has published a critical edition of the original Italian text.

M. Montessori, *Il metodo della Pedagogia Scientifica applicato all'educazione infantile nelle Case dei Bambini*, edizione critica a c. di Paola Trabalzini, cit.

This edition is described by the publishers in the following way:

It contains a philological and critical comparison among the five editions of this book published between 1909 and 1950. The 5th edition was published under a new title, *The discovery of the child*. The 2nd, 3rd and 4th editions were published respectively in 1913, 1926 and 1935.

This philological and critical comparison of the Italian editions of M. Montessori's 'first and foremost' work—where she collected the results of the scientific - educational experiment conducted between 1907 and 1909 in San Lorenzo, a working-class district in Rome - is based upon the text of the 1st edition. All changes introduced in subsequent editions were scrupulously recorded here, from the broadest and most complex to the most simple and minute. This makes this Critical Edition a valuable tool which enables readers and scholars to examine the roots of the great educator's work and its development over time.

This edition is completed by three essays, respectively by Giacomo Cives, Augusto Scocchera and Paola Trabalzini, and introduced by Pietro De Santis with a preface by Mauro Laeng.

Available online at: <http://www.montessori.it/editoria/catalogo/libri/edizioneecritica.htm> [accessed 7 July 05]

The Opera Nazionale Montessori also has a comprehensive collection of Montessori's early publications in medicine, psychiatry and anthropology.

observations and experiments. As noted by Mario Montessori (1965, p. vii) in a foreword to a reprint of a 1918 translation of *The Advanced Montessori Method*:

The language reflects the literary period of the time when the first English translation was published in 1918. The terminology is necessarily that of the epoch.

Montessori's use of antiquated, borrowed terms, and the inadequate translation of these, often persists in contemporary Montessori material. To the present day, in congresses and teacher training courses, Montessori trainers unpack this terminology, not so much from a historical perspective, but more in terms of phenomena observed in the classroom. Montessori insiders recognise the phenomena these terms refer to but for those outside the tradition the language of the Montessori subculture can seem arcane and cultish.⁶

2.2.3 A closer reading of the Montessori style

The following extract is taken from the 1912 translation of the first account of Montessori's method, written in Italian in 1909. This extract illustrates the romantic and mystical writing style used in English translations of Montessori primary sources:

Indeed, with my methods, the teacher teaches *little* and observes *much*, and, above all, it is her function to direct the psychic activity of the children and their physiological development. For this reason I have changed the name of teacher into that of directress.

At first this name provoked many smiles, for everyone asked whom there was for this teacher to direct, since she had no assistants, and since she must leave her little scholars *in liberty*. But her direction is much more profound and important than that which is commonly understood, for this teacher directs *the life and the soul* (Montessori 1964 [1909/1912], p. 173). [Emphasis in the original]

The description of Montessori's writing as *romantic* is based on wordings such as *little scholars in liberty*. At the time of publication, applying such a description to small children, especially small street children, would have been considered ridiculously romantic, and today seems a little whimsical. An alternative response, however, is to see wordings such as this as drawing attention to two key characteristics of Montessori pedagogy. The first is the respectful relationship between Montessori teachers and their

⁶ The term *presentism* has been used to label 'the error of interpreting terms used in the past as though they had the same meaning as they have today, or defining a historical phenomenon in terms that did not exist at the time' (Crowl 1993, p. 94). This tendency appears to be common in Montessori interpretation.

students, inscribed in the word *scholar*, and the second is liberty as a central methodological concern.

The description of Montessori's writing as *mystical* is based on the use of wordings such as *psychic activity* and *this teacher directs the life and the soul*, but this usage also deserves closer scrutiny.

There is no question that Montessori was concerned with the moral and ethical development of children, and therefore with what she describes as 'the problem of religious education' (Montessori 1964 [1909/1912], p. 371). As she grew older, she returned more and more explicitly to the liturgy of the Catholic Church to exemplify religious education. Equally, however, she supported education in the diverse religious traditions of the children in her schools across the world, for example, the Hindu and Islamic traditions in Indian schools.⁷

By the time Montessori was working on the detail of her pedagogy in the 1930s, she was also developing 'some philosophical corollaries from her educational system' (Wentworth, 1999, p. 112). In common with many European intellectuals and humanists of her day she struggled to come to terms with the mindless slaughter of the First World War and the subsequent slide of European societies into militarism. Montessori, inevitably because of the focus of her work, interpreted these conditions in terms of what she had discovered about human development. For example, as she wrote in a European journal in 1935, she believed the development of 'mechanical intelligence' at the expense of 'the inner side of man, and its laws of development ... has produced a retarded and false development' (cited in Wentworth, 1999, p. 112; see also Montessori 1955). This was no abstract mysticism because these were ideas formed on the basis of personal experience of the deteriorating conditions in Europe at the time.⁸

⁷ See also the following from Planck (1966, p. 44):

Montessori as a Catholic was deeply interested in bringing the ritual of her church closer to the child. She was equally interested, though, in planting the seeds of her system in different soil. She worked intensively with Indian Theosophists and Europeans of all faiths and persuasions.

⁸ Throughout the 1930s Montessori travelled to peace conferences across Europe delivering speeches on peace, and the link between peace and child development. She exhorted the League of Nations to take action. These speeches were collected and published in Italian as *Educazione e Pace*. In 1941 they were published in English by the Theosophical Society in India, under the title *Education and Peace* (Kramer 1978 [1976], p. 330). On the basis of this work Montessori was nominated three times for the Nobel Peace Prize.

Despite the value Montessori placed on religious education and the philosophical orientation emerging in the 1930s, her use of apparently arcane wordings reveals a contrast central to her ideas about human development. This is the contrast between the physical and the non-physical. In the translated works, the physical, sometimes expressed as the *physiological* or the *mechanical*, is contrasted with wordings such as *spirit*, *soul*, *psychic activity* and the *inner side of man*. The choice of such wordings in English is popularly associated with the mystical. The mystical interpretation can be contrasted, however, with Thibault's discussion of Saussure's contemporary use of the term *psychic* to describe particular linguistic phenomena. Thibault (1997, pp. 138-139; emphasis in original) interprets Saussure's references to 'psychic' phenomena and 'psychic' activity as referring to consciousness and to 'semiological functions, values and *relations*'. An equivalent interpretation of Montessori's references to the non-physical, in contrast to the physical, will be applied in this study.⁹

In the extract from Montessori's first published description of her method, cited at the beginning of this section, Montessori changes the name of *teacher* to that of *directress*. The translator, Anne George, used the word *directress* to translate the Italian word *direttrice*. By the 1930s, when Montessori had extended her curriculum to include older children, she seems to have used the more general term *maestra* in her lectures (See, for example, Montessori 1989 [1979/1930], p. 7). Nevertheless, a teacher in a Montessori preschool class is still today often called the *directress* (or *director*) and the continued use of this term in English-speaking Montessori schools worldwide is an illustration of the problems of translation that bedevil the Montessori movement. The meaning of the Italian word *direttore* is less about telling people what to do, and more about steering people in the right direction. The word is used for conductors and editors, as well as for managers. When English-speaking Montessori teachers use the term, it still has the *valeur* of its original Italian use, but to English-speakers outside the movement, the word can seem harsh when referring to someone who works with small children. To overcome this

⁹ The word *psychic* is no longer used as a technical term in English because the lexical item used for the study of the phenomenon *psychology* is also used for the phenomenon itself, a 'deplorable' English habit according to Halliday (2002 [1984], p. 297). A comparable distinction between the terms *grammar* and *grammatics* is elaborated in Chapter 6 below.

problem, and at the same time to avoid the outdated feminine suffix, some American Montessori schools call their teachers *guides*.¹⁰

2.3 An oral tradition

The style of Montessori's published work has the rhetorical flavour of the spoken presentations for which she was famous. These qualities are retained in the Montessori tradition to this day. In fact, educators within the Montessori tradition find themselves operating within a subculture displaying many of the characteristics of an oral culture, as described, for example, by Ong (1982).

Although Montessori's ideas were considered radical when they first appeared in the first decade of the twentieth century, these same ideas have become, by the beginning of the twentieth-first century, a tradition protected by organisations established for this purpose. Over the intervening century these organisations have built memberships linked by an 'empathetic, communal identification', a characteristic of social groupings based on an oral culture (Ong 1982, p. 45). The communal identification is achieved by identifying trained Montessorians, aligned to the organisations, as people who have a special knowledge and understanding of children and their needs, both at the local level and from a global perspective. It is through these organisations that the oral tradition of the Montessori movement is transmitted from one generation of educators to the next. The oral tradition has been described, by, for example, Simmons (1980, p. 15), as a negative and limiting characteristic of the Montessori movement. Understanding the oral tradition of the Montessori movement, however, is important to an understanding of the context in which Montessori objects are used.¹¹

¹⁰ During the 1970s, at the peak of the progressive movement in education, the term *facilitator* instead of *teacher* was used in some alternative schools. In the Montessori context this term refers to the role of the adult in environments designed for infants (from birth to three years, often accompanied by a parent), but it was never used in environments for preschool age or school age children. As this study will show, *facilitating* is not what Montessori teachers do. The continued use of the label *directress*, however, has no doubt contributed to the opinion of some progressive educators that the Montessori method is rigid and controlling.

¹¹ A key aspect of the Montessori tradition is a commitment to social reform and world peace in order to improve the well-being of children worldwide. This commitment dates back to the lectures on peace Montessori delivered in the 1930s and her support for the League of Nations, and later the United Nations, as organisations which should act as advocates for children worldwide (Kramer, 1978 [1976],

The oral characteristics of the Montessori tradition include a tendency towards advocacy by anecdote, a training regime based on spoken language, an educational movement comprising several *dialects* and a theory which can be described as a theory of practice, rather than a theory constructed through written language. Alternative interpretations of these characteristics emerge when the contexts out of which the Montessori tradition emerged are taken into account.

2.3.1 Anecdotal advocacy

There is a set of anecdotes about Montessori's life, some verging on the apocryphal, that are rehearsed as part of the Montessori tradition. These stories usually portray Montessori's resolve, her strength of character in the face of opposition and adversity, and, often, her intuitive, even mystical, ability to recognise and meet the developmental needs of children. In other words, she is depicted as a heroic figure, a type often found in stories linked to an oral tradition (Ong 1982, pp. 69-71). Montessori's biographer, Kramer (1978 [1976], p. 45) describes 'the difficulty of separating fact from myth in those accounts of her life which were written by her devotees'.

There are also many anecdotal descriptions of the effectiveness of Montessori principles implemented across a range of educational settings, beginning with the first classroom in Rome in 1907. In fact anecdotes based on the extraordinary development of children in that school, particularly in relation to the development of the ability to concentrate and the ability to write and read, are still cited in contemporary Montessori contexts. There are also anecdotes told about a demonstration class in San Francisco in 1915, classrooms across Europe in the 1920s and 1930s and in India in the 1940s. The anecdotal descriptions shift from one aspect to another aspect of the pedagogy, rarely clarifying any relations between them. There is no significant literature, however, in which these principles have been abstracted so that the descriptive data can be evaluated from setting to setting against shared benchmarks.

Montessorians argue that the many thousands of Montessori classrooms across the decades and the world demonstrate the successful replication of Montessori's original

pp. 301-302). To this day, the Association Montessori Internationale (AMI) continues this association as a United Nations non-government organisation, linked formally to UNESCO.

experiment (For example, Mario M. Montessori 1968 p. 74). In some respects this is a reasonable argument. A survey of teaching methods across the last century reveals how many methods have come and gone, each supported convincingly by its proponents, and each offering new insights into teaching and learning (See for example, Christie 1989; Cremin 1961; Thomas 1979¹²). There seems to have been no educational method, however, other than the Montessori method, which has been as comprehensive in its scope (from birth to fifteen years across all school subjects), as widely used internationally, or as enduring. Despite its scope and endurance, however, the Montessori method has not generated a robust evaluative literature and thus retains all the hallmarks of a closed oral tradition defending itself in a hostile world.

2.3.2 A movement of dialects

Over the decades since 1913 the spoken language orientation of the Montessori tradition has been accentuated by the way it has splintered into a wide array of organisations and groups across all continents, many of them global in reach, each with its own variation of the tradition. This spread of variations, across time and space, is comparable with the spread of spoken dialects. A dialect is described as ‘social variation’ in language, ‘the variety you speak because you *belong to* ... [a] relevant grouping within the community’ (Halliday 1985, p. 44). Many Montessori teachers consider that they *belong* to one variation or another. Thus, the detail of Montessori diploma courses not only varies from year to year and from country to country, it also varies from organisation to organisation.¹³

The Association Montessori Internationale (AMI) is the international body accredited by Maria Montessori herself in 1929 (Kramer 1978 [1976], p. 305). This organisation is based in the Netherlands, with affiliated training centres around the world in Italy, Germany, England, Ireland, Scandinavia and, most numerous, in the United States. Since 1983 the AMI has held training courses regularly in Australia.

¹² From 1979 to 2005, there have been six editions of R. Murray Thomas’s standard textbook comparing theories of child development. Tracing which theorists and pedagogies are included and discarded over this series of editions is an illustration of the ebb and flow of educational theory and practice over the last twenty years. I cite the 1979 edition because it includes a sizeable section on Montessori education, reflecting the resurgence of interest in Montessori in the United States in the 1970s. In subsequent editions Montessori does not rate a mention.

¹³ A Google search reveals just how numerous and diverse these organisations are.

Other Montessori training organisations were founded by early Montessori teachers, whose training and dissemination of the method predated the formation of AMI. Examples are the St Nicholas Centre (now Montessori Centre International) in London, and the American Montessori Society (AMS). These organisations also train internationally. St Nicholas is known for its correspondence courses. In Australia a teacher from the Netherlands, who trained with Montessori in the 1940s, established a Montessori school in Perth in 1962 and the Australian Montessori Society in 1973. This organisation now has its own Australia-wide teacher training program.

AMI does not endorse non-AMI training courses, organisations or schools, but a common body of principle and practice links all these groups, AMI and non-AMI alike. They vary on points of detail, on the level of coverage of the materials and exercises, on the rigorousness of the training and on their belief in the authenticity of the Montessori approach they deliver. Evaluations of authenticity are related to how close the content of the courses is deemed to be to the source, that is, to the teaching and training of Maria Montessori herself. Individual Montessori schools and teachers often become exasperated with all these variations and schisms within the tradition, and attempt to circumvent or align them, but to date they remain as entrenched as ever.

2.3.3 An oral training

In her lectures and writing Montessori outlined a series of principles underpinning her approach to education in general and pedagogy in particular (See Chapter 6). These principles are transmitted to new generations of Montessori teachers in the manner of an oral culture, as a collection, or an aggregate, to be committed to memory in the form of memorable sayings and epithets (Ong 1982, pp. 38-39). The collection of sayings is reworked in many repetitive and redundant ways (Ong 1982, pp. 39-41), often in rhetorically rich, persuasive language, language which can be described as ‘agonistic’, to use another of Ong’s terms (1982, pp.43-45).

Two of the most famous of the Montessori sayings include the one attributed by Montessori teachers to every child: *Help me to do it by myself!* and the one handed down to all teachers: *Every useless help is an obstacle to development* (Montessori 1971 [1938]). There is also a set of comparable terms used by Montessori to describe three year

phases of child development. The first three years Montessori described as *the spiritual embryo*; the first six years she described as *the absorbent mind* and the years from six to twelve she described as *the reasoning mind*.

Because a comprehensive record of the materials and activities, that constitute the pedagogy, are not found in any published source, the training of Montessori teachers is an oral training. To this day, students training to be Montessori teachers through AMI, for example, complete a course in which the detail of Montessori theory and practice is delivered through lecture, demonstration and practice sessions. AMI does not supply a definitive textbook of Montessori principles and method. The reading of Montessori's published work is a necessary supplementary activity but is not central to the course delivery. AMI Montessori training courses are held all over the world in a variety of languages. In Italy, for example, these lectures may be delivered in Italian or English, depending on the lecturer, and translated sentence by sentence, often by untrained translators, to a student body from many different language backgrounds.¹⁴

On the basis of notes taken during the training sessions, each trainee compiles *albums*, or personal handbooks, of Montessori theory, materials and procedures. The albums become a component of the trainee's assessment and ultimately the handbook on which their future practice is based. Other components of the assessment include essays to display understanding of Montessori principles and, most importantly, an extended oral examination in which the trainees can be asked to demonstrate any of the materials from memory in order to display their mastery of the pedagogy.

In the Montessori tradition, the writing of albums by Montessori trainee teachers recalls a critical period in the development of Montessori's approach. In the years 1902 to 1903 Montessori translated from French to Italian, by hand, the books of two nineteenth century French doctors, Itard and Séguin, whose work with *deficient* children strongly influenced her own early work in this field, and subsequently her work with children in general (See Chapter 3). This is how Montessori (1964 [1909/1912], p. 41) describes the process:

I felt the need of meditation. I did a thing which I had not done before, and which perhaps few students have been willing to do - I translated into Italian and copied out with my own

¹⁴ The translators are usually trained Montessori teachers, but are not trained in translation and interpreting.

hand, the writings of these men, from beginning to end, making for myself books as the old Benedictines used to do before the diffusion of printing.

I chose to do this by hand, in order that I might have time to weigh the sense of each word, and to read, in truth, the *spirit* of the author.¹⁵

Here a connection is made with the European Middle Ages, described by Ong (1984, pp. 1-3) as a preprint culture which combined the characteristics of both the primary orality of preliterate cultures and the academic orality gained from the study of rhetoric, inherited from classical antiquity. The emphasis on persuasive and imagery-laden rhetoric in lectures and written articles is not only the hallmark of Montessori's own writing but continues to be part of the Montessori tradition.

The formulaic and agonistic characteristics of the spoken formulations handed over to teachers during their training also enhance the tendency for Montessori professionals to retrieve and foreground those references from Montessori's published writing and lectures which unambiguously support the tradition, while more challenging passages seem to be left in the background. Through the training courses teachers are also made aware of a significant body of unpublished primary material from which the courses draw. This material is not generally available, so access relies on short selected extracts, augmented by the spoken interpretations and recollections of a small group of teacher trainers and other insiders.

The combination of lectures, hands-on practice with the materials, album-writing and oral examination has been the mode of transmission of the method since 1913, when Montessori delivered a training course in Rome¹⁶ (Kramer 1978 [1976], pp. 177-178). During the AMI oral examination, trainee teachers are assessed by external international examiners, a process which does seem to keep idiosyncratic variation in check to a degree. The individually constructed handbooks, or albums, in contrast, represent a personal interpretation of the spoken transmission of the method as it is delivered in that course at that time. The set of albums completed during the training course becomes the basis of a Montessori teacher's future classroom practice. Once Montessori teachers have constructed the pedagogy for themselves, initially from course lectures and practical workshops, they augment their knowledge during their career, for example, through

¹⁵ See also Kramer (1978 [1976], p. 95).

¹⁶ This course formalised earlier training courses dating from 1909.

interaction with colleagues from different training backgrounds or by attending conferences.

2.3.4 A theory of practice

Unlike teacher-training programs in which trainee teachers are given a theoretical orientation to their work, the orientation in Montessori teacher-training is intensely practical. The completed albums, which Montessori teachers take with them from their training courses, constitute a portable *theory of practice* which remains the bedrock of their teaching throughout their careers.

A theory of practice can be compared to the use of proverbs to model reality in everyday spoken language. This use is described by Halliday (2002, p. 14, Note 7) as ‘a theory of experience ... a commonsense theory, not a designed theory’. Proverbs are ‘constructed in commonsense grammar, as one of a class of instances rather than a higher order abstraction’. The theory of practice transmitted through the Montessori tradition is less commonsense and more consciously reflective and *designed* than the use of proverbs in everyday speech, because the instances, which constitute the theory, are consciously interrelated to realise a unified practice of pedagogy. They remain classes of instances, however, rather than a unified higher order abstract theory.

The view that Montessori did not formulate a higher order abstract theory in the academic sense is corroborated by the following observation from Montessori’s grandson, a psychologist based in the Netherlands. He is writing about the continuing, and growing, appeal of Montessori’s approach in the late twentieth century.

Nor is it because her views are so clearly formulated or easily understood that her approach has such wide appeal. She was not a theoretician. She did not construct a differentiated theoretical framework that paved the way for later applications of her work (Mario Montessori Jnr. 1976, p. 4).

Consequently the Montessori tradition has been transmitted through the decades without a visible critical framework for evaluating the ongoing implementation of the Montessori pedagogy, a framework which itself could be re-evaluated. This is not to suggest that Montessori teachers do not have standards against which they measure their practice. On the contrary, the theory of practice constituting the Montessori tradition provides

Montessori teachers with standards which, in many respects, are more explicit and systematic than many approaches to teaching considered more mainstream.¹⁷ It would appear that this explicit and systematic theory of practice has contributed to the ongoing appeal of the Montessori approach. What is lacking, however, is a framework for investigating, testing and generalising the principles on which the method is built.

2.3.5 Discipline knowledge as a ‘special psychology’

As part of a review of primary Montessori sources, it is worth drawing attention to two books Montessori wrote and published after 1920. These books, *Psico Aritmética* and *Psico Geometría*, were published in Spanish in 1934. These texts describe, in great detail, the materials and activities Montessori designed to teach arithmetic and geometry, systematically and incrementally, to children from the age of three to twelve. Montessori (1982 [1949], p. 162) describes ‘the special psychology’ of each of these ‘fields of learning’. The purpose of the materials and activities outlined in each of these books was to apprentice children comprehensively into the systems of meaning of these two disciplines. There was one other equivalent work, relating to the teaching of grammar, *Psico Gramática* (Kramer 1978 [1976], p. 330). The first of these books was translated and published as *Psicoaritmética* in Italian in 1971, but has never been translated into English¹⁸. The manuscript of *Psico Gramática* is, according to spoken accounts, in the hands of AMI¹⁹.

These three works record important components of Montessori’s material legacy. They are, however, difficult to access. It is understood that these works provide much of the material for the advanced Montessori training courses delivered by AMI. They also provide evidence that Montessori was working to realise her pedagogy in the form of detailed and comprehensive practice in the years following the publication of her initial experiments with young children, for which she is best known.

¹⁷ The Montessori approach can be described as having a mastery orientation to learning.

¹⁸ The Italian edition is now also out of print.

¹⁹ In a memoir of collaboration with Maria Montessori in the 1930s Wentworth (1999) cites *Psico Geometría*, referring to translations of material from this work in two Montessori journals published in the 1930s. He does not make it clear whether the translations were English or French. I have not been able to trace this reference.

2.3.6 Thinking the unthinkable

It is perhaps useful to compare the problems of style and translation posed by Montessori's writing with comparable problems related to reading the original writing of pre-twentieth century scientists striving to express completely new ways of thinking about the world. So, in some senses, the research problem posed by Montessori's style is no greater than that posed by the styles of Newton and Darwin. In an analysis of the evolution of scientific English, Halliday (1993c) describes and explains how Newton's writing represents a significant development, not only in the evolution of scientific knowledge, but also in the evolution of scientific English, while not yet manifesting all the characteristics of the scientific English valued today. In the same volume Halliday (1993d, p. 93) describes and explains Darwin's *The Origin of the Species* as being both science and 'a highly poetic text', written to defend a position 'against the opposition and ridicule which he knew it was bound to evoke'.²⁰

Montessori's distinguished research and publication record, in the fields of medicine, psychiatry and anthropology, at the University of Rome, in the decade between 1896 and 1906, verifies that she very successfully wrote academic scientific Italian to the standards of her day (Kramer 1978 [1976], pp. 48-103). Montessori's academic writing was never criticised as *unscientific* until English-speaking contemporaries reviewed the translated account of her initial experiments in pedagogy (Boyd 1914, Kilpatrick 1915). It is fair to surmise that this criticism may have been a consequence of her writing under pressure to defend a description of social phenomena which defied the beliefs of the era. She was also using the language of the physical sciences, a language which had not yet evolved adequately to deal with social science. These difficulties were further compounded by the fact that her translators were early childhood and primary school teachers, untrained in the writing of academic English.

²⁰ Mario Montessori (1965, pp. ix) describes the 'opposition and ridicule' which his mother's work evoked in the following way:

Religious people combated her for her positivism, positivists condemned her for using religious language, scientists ridiculed her for lack of serious objectivity and for indulging in demagogical expressions, educators accused her of megalomaniac pride for refusing to accept other educational theories ... for introducing intellectual subjects at an age when children were too immature for them ... for restricting freedom ...

An analogy can be drawn between the expression of Montessori's ideas and the expression of the ideas of Montessori's contemporary, Saussure, in lectures which launched a new science of linguistics. In his re-reading of Saussure, Thibault (1997, p. xx) describes the foundation of this new science as opening up 'a new discursive space'. Thibault draws on Basil Bernstein's description of those who open up new scientific domains as 'trying to think the *unthinkable*' (Bernstein 1990, p. 181). Thibault (1997, p.xx) concludes:

The Saussurian texts are a constant reminder of the meeting point of 'order and disorder' which is, as Bernstein points out, a critical discursive site for the 'yet to be thought' and its further development.

The later developments of Montessori's ideas are no longer recognised in the way that the Russian Formalists, and the Copenhagen and Prague Schools are recognised as interpreters and developers of Saussure's ideas. Much of her innovation has been naturalised into contemporary pedagogic practice without reference to its origins. Furthermore, it can be argued that elements of the work of Montessori's younger contemporaries, Vygotsky and Piaget, are developments of Montessori's early experiments, which she believed constituted the foundation of a new science of pedagogy. It seems reasonable to re-read Montessori's writing as *a critical discursive site for the yet to be thought* about pedagogy, despite the *old-fashioned* and apparently *unscientific* expression, and the problems posed by inadequate translation and decades of re-rendering within a closed community of practitioners.

2.4 Locating the study within the Montessori tradition

Given the competing traditions of Montessori training and practice, it is important to establish the orientation to Montessori pedagogy which supports this study. This section will make explicit the position of the writer as both a practitioner working within a particular pedagogical tradition and a researcher working within a particular theoretical frame.

2.4.1 A practitioner's perspective

To complete this study, it has been necessary to recontextualise the oral, rhapsodic, or 'stitched together', Montessori tradition of my daily working life into the 'woven together' written text of academic reflection, to follow the way Ong (1982, p. 13) has used etymology to draw attention to this contrast. Meanings which are important in the immediate, dynamic mode of daily practice emerging from an aggregate of memorised principles and procedures become less *sayable* in the more distant, fixed, or synoptic, mode required to design an analytical framework. This type of contrast is described by Halliday (1985, p. 97) as the difference between interpreting the world as a world of happenings, as spoken language tends to do, or as a world of things, as written language tends to do. The task of reconciling a large body of daily classroom practice and experience with an analytical and theoretical world view has drawn my attention to the scale of the theoretical challenge Montessori faced as she endeavoured to conceptualise the phenomena she observed in her classrooms in the first half of the twentieth century.

In 1983, after several years of teaching in government schools, I trained as a Montessori teacher. My first year of Montessori training was completed in Sydney under the direction of Ms Elizabeth Hall, who at that time was based at the Montessori Institute in Washington DC. The course was affiliated with the Association Montessori Internationale (AMI) and led to an internationally recognised Diploma in Montessori Education for children aged from three to six years. The following year I travelled to Bergamo in Italy and completed a second year of training at the Fondazione Centro Internazionale di Studi Montessoriani, under the direction of Mr Camillo Grazzini. This course was also affiliated with the AMI and led to the Advanced Diploma in Montessori Education for children aged from six to twelve years.

On returning to Australia I worked for several years in Montessori schools and then returned to mainstream education to work in the field of language education. As I built a career in this field, I felt that my orientation to curriculum design and delivery maintained *Montessori qualities*, but I had no way of describing or reasoning about this impression in anything other than an intuitive way. Occasionally my own impression was supported by colleagues, who would comment favourably on what they perceived as a singular approach to materials design. My approach, whatever qualities it had, proved to be productive in the development of language education courses, classroom materials,

language education textbooks (de Silva Joyce and Feez 2000; Feez and Joyce 1998) and teacher education (Butt, Fahey, Feez, Spinks and Yallop 2000; Feez 1998, 2002; Iedema, Feez and White 1994).

During this period I completed a Masters degree in Language in Education at the University of Sydney. The coursework in this degree included studies in systemic functional linguistics and related social semiotic accounts of language and language learning. It was during this period that I began to consider the possibility of re-evaluating elements of the Montessori approach through a social semiotic lens. At the very least such a re-evaluation offered the possibility of describing, in a more principled and systematic way, the qualities which distinguish the design of Montessori materials and their use in the classroom. If such a description could be achieved, perhaps something of the intangible Montessori qualities, which seemed to have become part of the structure of my approach to pedagogy, could be captured for more general discussion and application both inside and beyond the Montessori community.

In recent years I have returned to teaching in a Montessori school. At present I am teaching a class of children aged between six and nine years, equivalent to a composite Year 1/2/3 in a public school.²¹ In my current experience, just as in my experience of more than a decade ago, and in the reported experience of colleagues at my own school and at other Montessori schools in Australia and overseas, the Montessori objects, when used as Montessori described, lead to very effective educational outcomes (See also Lillard and Else-Quest 2006). However, what is lacking is a systematic account of the semiotic qualities of the objects. Such an account would enable a more robust review and refinement of Montessori's theoretical proposals than has been possible to date.

In summary, without a systematic account of the meaning relations which the Montessori objects encode, it is difficult to investigate the effectiveness of the objects, their functions within, and impact on, classroom discourses. Even more significantly, an account of these relations might indicate more general design principles which would be relevant to pedagogy in non-Montessori contexts.

²¹ An indexical characteristic of a Montessori class is that the students in each class are drawn from a three-year age range.

2.4.2 Primary sources: personal albums

The discussion of Montessori theory, teaching materials and procedures in this study is based on Montessori handbooks, or albums, I prepared during the following Montessori diploma courses.

1. AMI Montessori Diploma *Casa dei Bambini* in the principles and practice of the Montessori method for children from three to six years - delivered in 1983-84 at the inaugural course of the Sydney Montessori Teachers College by Ms Elizabeth Hall from the Montessori Institute, Washington DC (Ms Margaret Stephenson, Director).
2. AMI Montessori Diploma Elementary School in the principles and practice of the Montessori method for children from six to twelve years - delivered in 1984-85 at the Fondazione 'Centro internazionale di studi Montessoriani', Bergamo, Italy (Mr Camillo Grazzini, Director)

Because both institutions are affiliated with the Association Montessori Internationale (AMI), my orientation to Montessori principles and practice is from the AMI perspective.

The handbooks I completed during these courses comprise an extensive and detailed description of what is described in the Montessori tradition as the *prepared paths to culture*, incremental lessons and activities, incorporating the Montessori materials, for children from three years to six years of age and from six years to twelve years of age. Each one of the *prepared paths* represents a different school subject, including English, Arithmetic, Geometry, Science, Geography and History. While some of these paths are conflated in the preschool years, they become increasingly differentiated and detailed as children progress through the school.

While reviewing my own lecture notes and albums, I found that they do not represent a coherent pedagogical theory, though certainly the courses included components on Montessori theory. My notes and albums, however, do represent a coherent body of pedagogic practice, far more coherent, detailed and comprehensive than any other teacher training I have undertaken. When combined with comprehensive descriptions of the Montessori objects, and their uses, the *theory* transmitted through the Montessori tradition constitutes a theory of practice, that is a theory which abstracts general principles of everyday practice in a classroom. In summary, these principles represent an orientation to child development and pedagogy which sets up the conditions for the effective use of the

Montessori objects in particular, and more generally, sets up conditions for respectful, positive, productive and humanitarian relations between adults and children.²²

2.5 Secondary literature

Secondary sources in the Montessori literature are spread across a century, across continents and across several languages. The breadth of the historical, geographical and cultural contexts for this literature means that a comprehensive review is beyond the scope of this study. This section, therefore, presents a selection from the literature and a summary of some of the issues which it raises. Further, the secondary literature of Montessori interpretation has several characteristics that pose a challenge for the researcher. This section will outline these and indicate how they have been addressed in this research.

2.5.1 A literature diverse in time and place

The secondary Montessori literature is scattered over decades, across languages and continents, and is diverse in purpose and quality. It includes biography, a research literature, articles on pedagogic practice and popular articles.

Montessori organisations around the world publish material in proceedings and journals. Most of the material produced in this form since the 1960s is still available, while earlier material is contained in a collection at the AMI head office in Amsterdam. The AMI holds regular conferences and congresses and publishes a journal *Communications*. The North American Montessori Teachers Association (NAMTA), affiliated with the AMI, also publishes the *NAMTA Journal*. NAMTA has developed an 800-page bibliography of

²² In 1964, Maria Montessori's grandson, Mario M. Montessori (1968 p. 11), responded to a critique which questioned the scientific basis of his grandmother's work. One reason he offers for the lack of theoretical science in the description of the method is that the 'main body of Montessori-workers is formed by teachers', in contrast to, for example, Freud's followers who 'belong to his academic level'. While Montessori teachers are in general 'very competent' and 'try to perform intelligently and with precision, knowing that their experiences also furnish material indispensable for a further structuring of the method itself', Mario M. Montessori suggests that they are restricted in 'their competence with regard to theory-formation or discussion on a general scientific basis'. When they are 'compelled' to discuss the method scientifically, '[t]heir contribution will then [...] show many of the characteristics of a belief.' It could be argued that this concern can be extrapolated to debates around many of the educational methods which have been proposed over the last hundred years.

publications related to Montessori education, both primary and secondary sources, comprising about 15 000 entries from 1909 to the present²³. The American Montessori Society and Montessori Centre International (London) also publish journals and other literature.

In addition there is a range of organisations and publications in languages other than English, including Italian, Spanish and German. The Italian organisation, Opera Nazionale Montessori, has published an international bibliography, *Montessori bibliografia internazionale 1896-2000*, edited by Clara Tornar. The bibliography offers ‘about 15 000 bibliographical entries referring to 55 countries in five continents’, again covering both primary and secondary sources. A significant secondary Montessori literature also exists in German, Dutch and Swedish.²⁴

Montessori publications appear in India, Pakistan, Sri Lanka, Japan, and more recently, in China, although much of this material is derivative and in English. The English language literature emerging from the subcontinent is considerable, especially material which appeared from the 1940s to the 1980s through the Theosophical Society.

2.5.2 A literature diverse in purpose and scope

The material in the secondary literature, as far as this review has been able to determine, seems to fall into six categories. First, there is a literature of uneven quality, which provides practical support to teachers for implementing the pedagogy, often focusing on particular subject areas. Teachers seem to find some examples of this literature very useful, especially those items written by key figures in the expansion of the movement in the 1970s, 1980s and 1990s (For example, Dwyer 2004 [1977]; Grazzini 1971, 1996,

²³Available online at:

<http://www.montessori.namta.org/NAMTA/PubVidSubpages/researchpubs.html#bibonline>

²⁴ Opera Nazionale Montessori was founded in the 1920s with Mussolini’s support. It survived until 1934 when Mussolini closed all Montessori schools in Italy after Montessori refused to allow students in her schools to wear the uniform of Fascist Youth or to give Fascist salutes in class. The organisation was re-established by Montessori after the war in 1947 (Kramer 1978 [1976], pp. 283-313; 326-330; 353). The bibliography is available online at:

<http://www.montessori.it/editoria/catalogo/libri/bibliografiainternazionale.htm>

1997; Kahn 1997, 2003, 2005; Lawrence 1998; P. Lillard 1996; Miller 1981, Stephenson 1997).²⁵

There is also a diverse literature which rehearses the key principles and sayings of Maria Montessori. The best of this literature is generated by the most-widely recognised Montessori organizations, and includes some iconic papers written by members of Montessori's family, and other close collaborators, in order to elaborate and update key principles (For example, Dwyer 2004 [1977]; Joosten 1987; Mario Montessori 1956, 1965, 1978; Mario M. Montessori Jnr 1968, 1976; Renilde Montessori 2005). There is also a considerable, idiosyncratic literature which endorses Montessori's approach, often skewed by a particular personal interest or platform, including for example, psychoanalysis, progressive and humanist education, the home schooling movement and the New Age.

It is also possible to locate a scattered literature which reviews Montessori's work through the lens of a particular educational theory or perspective. In some cases this literature emerges in response to a critique from the point of view of that perspective (For example, Bouman 1963; Chattin-McNicholls 1992; Elkind 1974; 2003).

A small literature based on quantitative and qualitative studies, sponsored by AMI/USA, provides comparisons of educational outcomes of Montessori students with those of non-Montessori students in public schools in the United States (For example, Duax 1989; Rathunde 2003; Karnes, Schwedel and Williams 1983). These studies reveal a modest, but significant, positive effect of Montessori programs on educational outcomes, but fail to investigate the processes of learning embodied in the use of the materials. A very recent study provides further evidence of the positive effects of Montessori education (Lillard and Else-Quest 2006).

Finally there is a limited scholarly English-language literature beyond the orbit of the Montessori organisations. The first phase of this literature emerged after 1913 when the English translation of Montessori's first description of her method appeared. The two

²⁵ Some of these figures are known for specialist knowledge within the Montessori field, for example, Dwyer adapted the graphophonic elements of the reading program from Italian to English, Kahn is a specialist in Montessori adolescent education, Miller is specialist in Montessori music and Lawrence is a specialist in Montessori early childhood language pedagogy. Grazzini is greatly respected for the erudition and accuracy with which he *recontextualised* discipline knowledge in the form of materials and activities.

most widely cited examples offer faint praise, but overall are not supportive (Boyd 1914, Kilpatrick 1915). The next phase of this literature appeared in the period between 1913 and 1915 when Montessori became one of the most famous women in the world, and her method of education seemed destined to become mainstream. This literature includes articles in popular magazines, such as *McClure's Magazine*, one of the most influential magazines in the United States at the time (See Kramer 1978 [1976], pp. 159-160), and newspapers, including the *Times Educational Supplement* in England. (For outlines of this literature, see Kramer 1978 [1976]; Peterson 1983). As a consequence of the widespread recognition of Montessori's work during this era, many of the well-known contributors to the education debates of the twentieth century refer to Montessori's work as a ground or starting point for the writer's own thinking (For example, Bruner 1966; Dewey and Dewey 1915; Dienes 1966, 2003; Piaget 1932 [1924], 1970; Russell 1926; Vygotsky 1986 [1934], pp. 188-190).

Montessori is cited widely to the present day in literature relating to the history of education (For example, Brehony 2000b; Cooney, Cross and Trunk 1993, pp. 151-171; Gould 1996; Lawton and Gordon 2002; Peterson 1983). Most recently the Montessori objects are being rediscovered by instructional designers interested in *tangible technology* (Leone 2004a, 2004b; O'Malley and Fraser 2004; Resnick, Martin, Berg, Borovoy, Colella, Kramer and Silvermann 1998).

The next section is a response to a region of Montessori criticism which throws a shadow over her contribution to pedagogy.

2.6 Montessori and positivist anthropology

The pervasive influence on Italian intellectual life at the time Montessori studied medicine at the end of the nineteenth century was Positivism, the extreme manifestation of a materialist worldview, which placed faith in progress and rational solutions to problems, dedicating itself to scientific rigour and objective observation. As the Italian historian Benedetto Croce recalls, from an idealist perspective:

Hardly anyone dared to admit he was engaged in philosophical investigations and thought; everyone boasted instead of studying science and working as a scientist (Croce 1963, cited in Nye 1976, pp. 336-337).

Montessori's link with Positivism was strengthened when, in the wake of her successful career as a young doctor working with 'defective' children, she returned to the University of Rome in about 1900 to study anthropology, an emerging discipline at the time, covering topics from literature to psychology. Italian anthropology exhibited the worst excesses of Positivism, basing the study of human variation on physiological measurement (Brehony 2000b, pp. 117-118; D'Agostino 2002, pp. 320-327; Gould 1996, pp. 151-172; Kramer 1978 [1976], pp. 67-71, Nye 1976).

Measurements of every possible relation between different parts of the human frame were collected using elaborate instruments. These measurements were then combined in complex geometric calculations to form the basis of theories which largely reflected prejudices of the era about the capacities of different groups of humans, including, for example, Southern Italians and women, and those identified as criminals or primitive. Montessori studied under one of the leading figures of the Italian school of anthropology, Professor Giuseppe Sergi, who classified the human race on the basis of 'a geometrical description of the cerebral cranium' (Kramer 1978 [1976], p. 69).²⁶

Proponents of the Italian school, including Montessori, argued that knowledge gained by measuring the physiology of different human groups could be used to prevent future social problems, especially by incorporating this knowledge into the care, education and training of children. The Italian school were also Darwinists and social reformers, making their position difficult to conceptualise from the standpoint of the present day.

In 1904 Montessori was asked to deliver a series of lectures at the University of Rome on 'pedagogical anthropology', a variation of the Italian school concerned with overcoming social disadvantage through education. After she became famous, these

²⁶ Sergi is a contradictory character when viewed from the perspective of early twenty-first century understandings of feminism and racism. He described the women's movement as 'a rebellion against nature' and was one of those initially opposed to Maria Montessori being admitted into medicine at the University of Rome because she was a woman, yet later he supported her on the basis of her achievements (Kramer 1978 [1976], pp. 69-70). When classifying human groups, Sergi's emphasis on measurement lead him to ignore skin colour and to classify, for example, Nordic and Germanic people as Africans, not Aryans, an idea which ran counter to the more predictable racism of the era. Montessori's contemporary critic, and proponent of New Education, Boyd (1914, pp. 131-132), describes Sergi as one of 'the great Italian anthropologists', stating that:

[Sergi] sought to turn anthropology from the study of abnormal persons to the discovery of means of preventing abnormality, by establishing a scientific pedagogy on the basis of an anthropology of childhood.

lectures were published and translated into English under the title *Pedagogical Anthropology* (Montessori 1913 [1910]). At the time the lectures were received as innovative and progressive, but they have attracted recent criticism because of their positivist origins (Gould 1996; Kramer 1978 [1976], p. 97).

According to contemporary reports Montessori's lectures were always well-attended because, in contrast to academic practice of the time, she put a lot of energy into her teaching to make it interesting for student teachers. She spoke eloquently and passionately, and used photographs, charts and diagrams to illustrate her material and to facilitate understanding, exemplifying her lifelong approach to education (Kramer 1978 [1976], pp. 96-98). The common thread through the lectures is the social necessity of improving the welfare of all children, no matter their backgrounds, to optimise their physical and mental development. For example, she argues:

... whoever weakens a child and puts a strain upon the threads of its existence, starts a vibration that will be felt throughout posterity (Montessori 1913 [1910], p. 117).

She even equates those responsible for depriving children of what they need with the criminal types her school of anthropology so assiduously measured:

..., to deprive children of their requisite nutriment is *stealing* from life, it is a *biological crime* (Montessori 1913 [1910], p. 125; emphasis in the original).

Alongside this passion for social reform, Montessori's lectures were crammed with physiological measurements and calculations, and sweeping, and at times unpalatable, generalisations about different groups of humans. Nevertheless, she rejects a biologically-deterministic view, proposing that physiological characteristics, rather than being wholly inherited, are also linked to environmental factors such as poverty, malnutrition and disease. In this way Montessori challenges assumptions which prevailed in her day about the innate physiological, intellectual, cultural and moral inferiority of certain categories of human beings, including, for example, women, the working class, peasants, criminals, the 'defective' and people of certain 'races'. Instead Montessori suggests that 'inferiority' is largely a consequence of socially-imposed obstacles during the formative periods of pre- and post-natal development. The social solutions she proposes to solve physiological problems and social 'degeneration' seem obvious from an early twenty-first century perspective, including

improved nutrition, sanitation, health care and nutrition, and education for both parents and children.

The methods for gathering, collating and analysing a child's biographical data, both physiological and social, detailed in *Pedagogical Anthropology* lead Montessori's contemporary critic, Boyd (1914, p. 140), to comment on the 'remote connexion' between these detailed measurements and 'the work of education'. The book is described by Kramer (1978 [1976], p. 97) in the following way:

It is hard to find a book more dated in its style, more obsolete in its factual content, and yet the general principles on which it is based - that the nature of education should follow from an understanding of the child to be educated - was a significant innovation at the time.

Pedagogical Anthropology is cited by Gould (1996, p. 139) in his account of the way scientific measurement has been used to rank human beings on the basis of prejudice rather than fact. He describes the book as an attempt at 'a more congenial conclusion' to the 'intellectually unsound and highly injurious' enterprise undertaken by scholars such as the Italian anthropologists. Gould claims Montessori's inference to be the biological determinist one that children with larger brains were more intelligent, but overlooks the critique of this notion in Montessori's description of the underdeveloped brains of malnourished and impoverished children (Montessori 1913 [1910], pp. 253-254). Gould's criticism also fails to recognise that, by the end of the first decade of the twentieth century, Montessori (1964 [1909/1912], p.7) was turning away from the extreme materialism of Italian anthropology, writing that 'the aids offered by the materialistic and mechanical sciences' were 'a false and narrow way, from which we must free ourselves'.

Montessori's early twentieth century upper middle class Eurocentric position could equally be evaluated using Gould's more generous description of Darwin as 'a meliorist in the paternalistic tradition, not a believer in biologically fixed and ineradicable inequality' (Gould 1996, p. 419). Gould's central thesis is that, as body measurement became discredited during the twentieth century, intelligence testing replaced it as the pseudoscience used to rank people on the basis of prejudice. He ignores Montessori's forty year career following the publication of *Pedagogical Anthropology*, a career in which she eschewed intelligence testing, perhaps because she had learnt from experience the limited value to social science of measuring the

fixed attributes of individual humans in contrast to observing human activity in social settings.

Noting Montessori's link with the Italian 'Body Measurement' movement, and elaborating a criticism made by Boyd in 1914, Brehony (2002b, pp. 117-118) argues that Montessori constructed the individual child as a 'psycho-physiological entity', with little recognition of socio-cultural factors. The present study offers an alternative reading of Montessori, arguing that, in fact, a socio-cultural orientation is central to her pedagogy, but its realisation diverges from what has come to be recognised as socio-cultural in the evolution of progressive and post-progressive/constructivist approaches to education.

The close observation and painstaking record-keeping characteristic of the Italian school of physical anthropology reinforced in Montessori, as Kramer (1978 [1976], p. 68) points out, the habit of detailed observation and recording she learnt as a clinician, skills she transferred to the study of children's behaviour. Moreover, Kramer (1978 [1976], p. 71) writes that Sergi's influence turned Montessori's focus away from abnormal children towards the prevention of abnormality 'through the establishment of a scientific pedagogy based on the anthropological study of children'. Montessori herself credits Sergi with teaching her that 'a true scientific pedagogy' would emerge, not from idealism, but from studying 'the one to be educated' (Montessori 1964 [1909/1912], p. 3).

Montessori's rejection of the materialist sciences of medicine and physical anthropology in favour of pedagogy, is accounted for by Kramer (1978 [1976], pp. 155-156) in personal and metaphysical terms. It could equally be described as a reflection in Montessori's academic life of the tensions which buffeted European intellectual circles at the time. In Italy this tension was most evident in the split between the materialism of the sciences, in particular medicine and physical anthropology, and the idealism of the humanities, represented by the influential Italian historian Benedetto Croce (D'Agostino 2002, p. 328; Nye 1976, pp. 336-338). Montessori was a prominent member of the Central European 'generation of the 1890s' which, according to an often-cited historian of the era, Stuart Hughes (1958, pp. 33-66), led the revolt against Positivism.

Whatever the cause, the consequence of Montessori's move away from Positivism in her experimental pedagogy was a methodological emphasis on liberty, overlaying the tradition of liberty she inherited through Itard and Séguin. Thus, Montessori's praxis was based, for reasons that were both inherited and methodological, on the liberty of the object of study, the child.²⁷

2.7 Interpretation of Montessori literature

The challenge of reconciling the oral tradition of transmission in the Montessori community and the need for a principled critical framework, if Montessori's contribution to pedagogy is to be re-evaluated effectively, is a central concern of this study. With a sporadic critical literature to build on, this study represents a first attempt at the task. A goal of this study is the re-articulation of Montessori's ideas through contemporary social theory. Chapter 3 initiates this process by tracing the provenance of Montessori's legacy, in particular the origins of her conception of liberty in education. In subsequent chapters, I will attempt to re-articulate the principles of Montessori pedagogy through the combined resources of Vygotsky's theory of semiotic mediation, Halliday's social semiotic theory and Bernstein's theory of social organisation in order to explicate Montessori principles for a contemporary audience and to make them accessible for further theoretical and empirical work.

²⁷ Stuart Hughes (1958, pp. 33-66) devotes a whole chapter to the revolt against Positivism by the 'generation of the 1890s' in central Europe. He describes this generation as 'children of the Enlightenment, that is, they belonged to a two hundred year old humane tradition' (p. 27). According to Stuart Hughes (p. 29) Positivism was the late nineteenth century reincarnation of the Enlightenment, emerging from eighteenth century Utilitarianism which held that the 'problems of man in society were capable of a rational solution.' (p. 37) Positivism placed faith in progress and a naïve realism, but the dedication to scientific rigour and to objective observation became too mechanistic, materialistic and deterministic for the emerging generation. Stuart Hughes also claims that the Positivism of the era was as 'metaphysical as idealism because the abstractions were implied not explicit'.