THE TWO HUNDRED YEARS' WAR IN DEAF EDUCATION

A reconstruction of the methods controversy

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EEN WETENSCHAPPELIJKE PROEVE OP HET GEBIED VAN DE SOCIALE WETENSCHAPPEN

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PREFACE

The methods controversy in deaf education has fascinated me since I visited the International Congress on Education of the Deaf in Hamburg (Germany) in 1980. There I was struck by the intemperate emotions by which the methods controversy is attended. This book is an attempt to understand what this controversy really is about.

I would like to thank first and foremost Prof.Wouter van Haaften and Dr. Ger Snik for reading and criticizing several versions of this book. Furthermore, many people have been so kind as to criticize parts of this book while I was still working on it. For their useful comments and reviews, I am very grateful to all the deaf and hearing people I have spoken to, in the Netherlands, at Gallaudet University (Washington DC), at the Rochester School for the Deaf (Rochester, NY), and at the National Technical Institute for the Deaf (Rochester, NY). My special thanks go to Prof. Stuart Blume, from the University of Amsterdam; to Dr. Wim van Bon of the University of Nijmegen; to Ms. Susan Coffman, from the Alexander Graham Bell Organization for the Deaf in Washington DC; to Dr.Ir. Frans Coninx from the Instituut voor Doven in St.Michielsgestel; to Prof.Dr. Jan van Dijk affiliated with the same Institute, and with the University of Nijmegen; to Drs. Nini Hoiting and Drs. M. Oostra from the Royal Institute for the Deaf "Gyot" at Groningen; to Prof. Armin Löwe, Emeritus Professor of Paediatric Audiology and Education of the Deaf, University of Heidelberg; to Dr. Siebren Miedema from the University of Leiden and the Free University of Amsterdam; to Dr. J. Steutel from the Free University of Amsterdam; and to all the members of the weekly 'filosofenberaad' in Nijmegen.

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1.1 The methods controversy

The title of this book is not entirely correct. The methods controversy in deaf education probably dates back to a little over two hundred years ago. Its origins, however, are somewhat difficult to trace and they depend on the definition of the phrase 'the methods controversy'. Since the study undertaken in this book is not a historical but a philosophical one, I have taken the liberty of not being too precise about dates. However, I intend to be very precise about words. The word 'war', therefore, is not chosen arbitrarily. The methods controversy often did and sometimes still does resemble a bitterly fought war. The argument bears upon the communication means to be used in education of the deaf and is known as 'the methods controversy' or 'the oral-manual controversy'. The disagreement revolves around the question of which *communication means* should be employed to facilitate the teaching of language to the deaf child, and also, more recently, what *kind of language* should be taught to the deaf child (i.e., a spoken language, or a sign[1] language[2], or both). This question also refers to other aspects of development that are related to language development, for example, cognitive, emotional, and social development.

Until some ten years ago there were two main positions in the debate (Moores 1982, Pahz & Pahz 1978), namely, the Oralist point of view and the viewpoint of the Manualists. Just recently a major dissension has divided the group of Manualists into advocates of Total Communication (see e.g. Evans 1982) on the one hand, and advocates of Bilingualism/Biculturalism on the other hand (e.g., E.R. Johnson, Liddell & Erting 1989). Controversy exists between the two main positions (Oralism versus Manualism) as well as between the two groups of Manualists.*Oralists* take the position that language acquisition by the normal (i.e., not additionally handicapped) deaf child is advanced best by an oral approach, that is, teaching should proceed *exclusively* by means of speaking, speech-reading, reading, writing, and mimicry or 'body language' that accompanies speech. Any use of manual language

is rejected (Mulholland 1981b). By contrast, *Manualists* claim that language teaching should be done by communicating with the deaf child by *both* oral[3] and manual means, that is, some form of signed language or manual spelling of words in the air. Advocates of *Total Communication* propose the *simultaneous* use of speech and a sign *system* [4] in communicating with the deaf child (Evans 1982, Maxwell 1990). Advocates of *Bilingualism/Biculturalism* propose *first* teaching the deaf child a sign *language* as a mothertongue, after which *spoken language* is taught *as a second language* (Barnum 1984, Eagney 1987, Johnson, Liddell & Erting 1989). Parties in the debate justify their pedagogical and didactical theory and practice by referring to empirical, normative and conceptual arguments, especially in the fields of linguistics and psycholinguistics, philosophy of language, philosophical anthropology, sociolinguistics, psychology, and ethics (e.g., Breiner 1986a, Conrad 1979b, E.R. Johnson, Liddell & Erting 1989, Stokoe 1960, 1972, Van Uden 1977, 1990).

Roughly, the above controversy has existed since the beginning of the eighteenth century, when the French priest De l'Epée began to teach deaf children with the help of signs. Until that moment, there were only methods in which exclusively speech and manual spelling were used. The history of the debate can be viewed from a Manualist as well as from an Oralist point of view (List 1991). Manualists claim that before the end of last century, communities of well educated, signing deaf people existed everywhere in Europe and in the USA, and that under-development of deaf people started with the victory of the oral method in 1880 (Lane 1984). From an Oralist point of view, conversely, the history of the oral method is one of de-muting the deaf, of leading them out of a primitive, animal-like state into human society. It is a history of successes and steady progress by perseverance and philantropy (Ling 1990, Löwe 1991). Since its beginnings, the methods controversy has known times in which there was relative peace and quiet at the front, as well as times in which the fire of battle flamed high. The history of the methods controversy contains stories of fraud and deceit, for instance, putting on stage deaf pupils and having them answer difficult theological questions, not informing the audience that beforehand the answers had been learnt by heart by the deaf pupil.

In the twentieth century, the oral method had worldwide primacy during the first decades. Around 1960 disappointing results of the oral method and growing self-awareness of deaf people led to a flare-up of the discussion and to the development of the Total Communication method. After another period of relative peace and quiet during the seventies and the first half of the eighties, dissatisfaction with the results of Total Communication, among other reasons, led to the development of the Bilingual/Bicultural approach, about which heated discussions are now going on. Meanwhile, the oral method has remained in use, though in most countries as a minority method.

There is also much disagreement about related topics, for instance, about integration of deaf children into regular schools. Nowadays, the most controversial of those related issues

undoubtedly is the placement of Cochlear Implants (a kind of hearing prosthesis) in young deaf children. In the USA this controversy has even led to a Cochlear Implant doctor being killed by a deaf man.

The diverse conceptions have resulted in different practices, each with its own educational institutions, research centers, scientific journals, etc. Today, on some points the controversy gives rise to bitter arguments between the different parties, like the argument about Cochlear Implants just mentioned, or about mainstreaming deaf children; in regards to other points the different practices are peacefully coexisting and sometimes expertise is even shared[5]. Nevertheless, the controversy continues. This methods controversy influences all the issues related to deafness and puts a heavy burden on parents, who have to choose between several radically different approaches for the education of their deaf child.

1 In this book, when I use the word 'sign' I refer to the manual signs that are used by deaf people to express meaning, not to any of the other meanings of the word 'sign' (a red sign in traffic, smoke as a sign of fire, etc.).
2 A sign language is a language which uses movements of hands, arms, and to a smaller degree also face and body instead of words as the primary elements to express meaning. A sign language has a grammar and syntax that is in line with a visual-spatial language (as opposed to aural-successive spoken languages) See further chapter 2 section 2.2.3.
3 It cannot be stressed enough that Manualists teach speech to the deaf child too, just like Oralists do. Only a small number of Manualists want to teach the deaf child spoken language exclusively in the written form. The false idea that Manualists teach the deaf child merely a manual communication system is not only a result of lack of knowledge about deaf education, but is also promoted because Oralists and Manualists often argue with each other mainly about the manual communication-part of a Manualist method. But there are other causes of the existence of this false idea See chapter 6, section 6.1.
4 A sign system is a system of signs developed to translate spoken or written words into manual-visual signs. The grammar and syntax of the language-in-translation are more or less strictly followed See further chapter 2, section 2.3.8.
5 In the Netherlands, for instance, the oral Institute for the Deaf in St Michielsgestel and the Nederlandse Stichting voor het Dove en Slechthorende Kind, a foundation which promotes bilingual education for deaf children, are preparing a longitudinal investigation comparing the results of oral and bilingual education over a period of ten years (Van Dijk, personal communication september 1995).

1.2 An alternative approach

Although the solution to several aspects of the problem might be an empirical one, there are also a lot of ethical and conceptual issues involved. In order for the methods controversy to be solved, or, at least, for the discussion to be clarified, it is necessary to distinguish and explicate all these different issues. The controversy needs to be reconstructed carefully, obstacles hindering the discussion must be removed, and the foundations of the arguments of the different parties in the debate must be examined.

Numerous empirical studies haven't succeeded in resolving the methods controversy. A large number of studies have been conducted to assess the differential effects of an oral

education versus a Total Communication education[6], focusing on children's ability in speech, speech-reading, reading, and writing (e.g., Crittenden, Ritterman & Wilcox 1986, Schlesinger & Meadow 1972, Wolk & Schildroth 1986). Sometimes results seem to support the Oralists' point of view, at other times results tend to favor the Manualists' point of view. But Oralists and Manualists have often rejected results that support the position of the other party, either on methodological grounds or for other reasons (e.g., Nix 1983). More specifically, poor results of their studies are often accounted for by pointing to inadequate teaching and school organization, to additional handicaps of the subjects involved, or to inconsistent methods. Given the importance of the problems raised, the lack of unequivocal empirical evidence is remarkable. In my opinion this is not only caused by the inadequacy of empirical research itself, but also because of two additional factors.

First, empirical and non-empirical matters are intertwined, in that normative arguments and factual arguments have been insufficiently distinguished. In most cases normative arguments are just stated, rather than justified and supported by careful reasoning (e.g., Furth 1973, Van Uden 1977). Often they are presented as if they were factual arguments. In that case the opposing party is inclined to reject the normative accusation and to respond to it with a counter-accusation. Manualists, for example, accuse Oralists of underestimating the impact of deafness, whereupon Oralists charge Manualists with educating the child for the deaf ghetto (e.g., Arnold 1983, Van Uden 1985b). The discussion often ends in these kinds of mutual accusations because parties are insufficiently aware of the presuppositions underlying their normative arguments. Consequently, they don't bring their presuppositions up for discussion; mostly, they remain implicit.

Secondly, criteria and operationalizations that are necessary in empirical research have often been insufficiently or inadequately dealt with. One may disagree with the way subjects have been selected, about criteria of effectiveness, about bracketing of non-empirical aspects, etc. Both Oralists and Manualists meet the requirement of being explicit with regard to such matters, but not in such a way as to be convincing to the other party (e.g., Arnold 1983, Nix 1983). There is much preaching to the choir. The reason for this is that normative and conceptual views underlying these operalizations have not been explicated and put up for discussion. Thus, negative results of empirical investigations may easily be ignored. There does not seem to be sufficient agreement on how to evaluate the outcomes of empirical research. Again, such discussions are doomed to be confused as long as the underlying presuppositions remain implicit.

And so the debate continues. At the level of presuppositions and, consequently, at the level of empirical research and argumentation, the matter is so complicated that first empirical and normative issues should be separated and discussed, and terminology should be clarified. This can be done by means of a *reconstruction* of the controversy. The presuppositions underlying

these issues should then be explicated and discussed as well. This may be achieved by means of a fundamental, metatheoretical inquiry into the arguments of both parties: a *foundational analysis*. When the clew is unraveled, it may become clear which aspects of the discussion are decidable and which aspects are not. Moreover, it may become clear in what way decisions can be reached. If Oralists and Manualists share foundations, a solution may be established either by empirical means or by moral argumentation. Where foundations are not shared, either a discussion about foundations can be started or parties can decide to live with these differences of opinion, which are then at least clarified.

Foundational analysis starts from the idea that theory and practice in a certain area, for instance, in the field of education, depend on implicit views on reality. These tacit ontologies enable, structure, and confine thinking, judging, discussing, and acting with respect to the area in question (De Boer 1987, Snik 1990). For instance, empirical-analytical science rests on the presupposition that reality can be analysed and defined in terms of causal relations. This view on reality suggests a particular type of investigations in which causal explanations are searched for as many phenomena as possible (De Boer 1980, 19-40). Foundational analysis aims at elucidating such underlying presuppositions.

Foundational analysis can be categorized as belonging to the metatheoretical level of theorizing. Four levels can be distinguished with respect to educational practice and theory. The first level is the level of pedagogical *practice* : education in schools, upbringing by parents or in foster homes. These practices aim at changing an undesired situation or at maintaining a desired one: a child who does not yet know how to multiply is taught how to do this, a child who cooperates with others is praised for this behavior, so that next time she may be cooperative again. These actions rest on theoretical assumptions (usually implicit) about what is the case, what is possible, what is desirable, and what is undesirable. For instance, the opinion that indulging crying babies will spoil them is such an assumption.

The second level is the level of *practical pedagogical theory*. At this level one reflects upon daily pedagogical practice and gives suggestions for acting. This occurs, for instance, in popular magazines and books about upbringing and education (e.g., Spock) and in social work. At this level too, the aim is changing or maintaining concrete situations, but whereas pedagogical practice addresses children directly, practical pedagogical theory addresses educators.

The third level is that of *pedagogical science*. Pedagogical science does not aim at changing reality, it aims at getting to *know* reality. However, usually pedagogical science serves pedagogical practice and practical pedagogical theory: knowledge of pedagogical reality can be a help in changing or maintaining that reality. At this level empirical theories are formulated, for instance Bowlby's theory of attachment. Also ethical theories can belong to this level, for instance Critical Theory as it is developed by Horkheimer, Adorno, and others, forming the basis for Critical Pedagogy (Beugelsdijk & Miedema 1984, 105-148)[7].

The fourth level is that of *metatheory* . At this philosophical level presuppositions and views

that underlie both pedagogical practices, practical-pedagogical theory, and pedagogical science are traced, explicated, analysed, criticised, rewritten, and justified. These underlying views and presuppositions, which we call 'foundations', *restrict* and *guide* the activities at the first three levels. Foundations are expressed in the definition of central concepts within a certain conceptual framework (e.g., a pedagogical theory, a pedagogical practice). Whereas at the level of practical-pedagogical theory and that of pedagogical science we speak about reality, at the level of metatheory we speak about our speaking about reality.

In actual educational situations we do not find the four levels just described as neatly separated as they are distinguished above. However, the different levels can and should be distinguished. In the methods controversy neglect of these distinctions has caused a lot of confusion. In education empirical research and philosophical inquiry each makes its own contribution. They are related in that philosophical inquiry elucidates and analyses both the foundations underlying empirical research, and the norms and values that are guiding educational theory and educational practice[8]. I will argue in this book that both detailed empirical research and rigorous philosophical inquiry are needed with respect to the methods controversy. The latter entails a reconstruction of the controversy that explicitly distinguishes its conceptual, normative, and empirical issues; it also entails an inquiry that analyses the arguments of Oralists and Manualists and that explicates and analyses the underlying non-empirical foundations of these arguments. Such a reconstruction and inquiry — a foundational analysis — is attempted in this book.

6 The Bilingualism/Biculturalism approach is relatively new and little research has been done.
7 There is discussion about whether or not ethical theories belong to the third level, depending on how 'scientific' or 'hard' the diverse ethical theories are viewed to be; see also Snik, Van Haaften & Tellings 1994, 290.
8 In chapter 8, section 8.6, I will elucidate the relation between empirical research and philosophical inquiry by showing how particular foundations give rise to particular empirical research.

1.3 A reconstruction and a foundational analysis

With a *reconstruction* I mean, first, a description, an examination, and a clarification of the terminology used in the discussion which is the object of investigation; second, a careful, detailed description of this discussion with all its apparent and more implicit empirical and non-empirical arguments; and third, a description and discussion of all the implications and consequences of these arguments. I will enlarge on these three steps somewhat now.

Description, examination, and clarification of terminology is necessary first because terms are, so to say, the *tools* used in the discussion. One needs to know what these tools are, what they entail, and how they can be used, before being able to develop an insight into the discussion. Sometimes it is necessary to sharpen these tools in order to be able to get better access to the discussion or to the subject under discussion, that is, terms sometimes must be re-

defined. In this book, chapter 2 is devoted to terminological clarification and, in some cases, terminological re-definition. A second step is to map out the subject of research accurately, based on a reasoned selection of texts of representative authors, of clear examples, or of systematically gathered statements of subjects. In this book, theory and practice of deaf education as well as the arguments the three parties give in defense of their theory and practice are set out extensively in three consecutive chapters (3, 4, and 5). This material then has to be ordered and analyzed and the implications of the arguments given must be explicated and discussed. This step is also called the 'material analysis' of the discussion (Snik, Van Haaften & Tellings 1994). Questions asked here are: What exactly is being said, and what are implicit assumptions of what is being said? Is the reasoning internally consistent? Are theory and practice consistent with each other? What are the hidden factual and normative implications of the reasoning? How tenable is the argument? In chapter 6, where such a material analysis is performed, we will see, for instance, that implicit in the arguments of the different parties in the methods controversy is a disagreement about what precisely is the *real* subject under discussion in the methods controversy. This implicit disagreement lies at the heart of many peripheral debates within the methods controversy.

After these first three steps, the *foundational analysis* follows. Foundations underlying conceptual frameworks, their core concepts, and the internal and external relations in and between these concepts are described and analyzed. For instance, it turns out that the views different parties in the methods controversy advocate with respect to the deaf child and with respect to aims of education are based on different, and partly incompatible views of what it means to be a *person*, and of what are the constitutive elements of the human person; especially with respect to the role the community plays in constituting the person, parties disagree (see chapter 7).This step often will have the character of detective-work. Conceptual frameworks often remain implicit and can be made explicit only by very conscientious investigation of the material. Sometimes it can be helpful to first outline several possible models that could possibly be in force in a certain area, after which the material is compared to these frameworks and educated guesses can be made about what of the material fits into which model. If the comparison turns out to be only partly successful, then at least proposals can be made for conceptual frameworks that can be chosen in theory and practice of the given area, with the implications of each choice being described. In this book, in chapters 7 and 8 I perform a foundational analysis with respect to what I consider to be two major issues in the methods controversy. A foundational analysis can contain yet a further step, namely, criticism and rescription of foundations. The foundations now made explicit may be criticised and, if thought necessary, alternative, reasoned foundations are offered. In this book in chapter 8 an alternative foundation is offered for explanations and solutions of what is seen by many as the major problem in deaf education, namely, the reading problem. (for a more systematic and detailed description of foundational inquiry see Snik, Van Haaften & Tellings 1994).

1.4 Sources used in this book

Maxwell (1990, 338) writes: 'It seems impossible to investigate language in deaf adults or children without facing the fact that one's research results will be perceived as political moves in the education debate'. This quote illustrates how difficult a task a reconstruction of the methods controversy is. Of course, in any inquiry the inquirer should be unbiased with respect to the issue she is dealing with. But with respect to the methods controversy one not only has to do everything to *factually* remain unbiased, one also has to avoid anything that could raise the *impression* of being biased towards one of the parties involved. Parties in the methods controversy very easily find a reason for placing someone in one of the 'camps'.

For instance, to make my sources more complete, I have made three visits to the United States, often the hotbed of the controversy. There I have personally experienced how much this investigation is like walking in a minefield. It looks as if every sentence one utters with regard to the methods controversy will be used to categorize one as either an Oralist or a Manualist. Some deaf people turned out to be very distrustful of my rendering their views sufficiently and adequately, since I use mainly written sources in this book; because writing is not an easy way of communicating for a lot of deaf people, they were afraid their opinion would remain in the dark. However, I have consulted and used several of the magazines written by and for deaf people, so the views of deaf people themselves are represented fairly well. During the entire enterprise of this inquiry I have constantly borne in mind the need for an unbiased and as complete as possible rendering of the views of the different parties.

For my inquiry I mainly draw upon English, German, and some Dutch literature.

Developments in the field of deaf education go quickly, partly because technology is producing new expedients all the time, and partly because educators of the deaf are very eager to solve this fascinating problem of bringing deaf children to language. On the other hand, the method controversy is age-old, and some of the arguments haven't really changed since the beginning of the debate. So empirical data can get out-of-date soon, but views on deaf education tend toward obsolescence less quickly. Where empirical research is concerned, I draw the line in principle in 1975, but most research is post-1980. Older research I include only when it is important, for instance because the results are very striking, or when no similar research has been done later than 1975. Where non-empirical views on deafness and deaf education are concerned, I draw the line in 1970, but I handle this boundary less strictly.

The methods controversy is operative both at the practical level and at the theoretical level. Views and arguments concerning this controversy can be found in scientific books, periodicals, and conferences, but also in journals for teachers, speech therapists, interpreters, etc., in magazines for and by deaf people, and in books and brochures that give information to parents of deaf children. My inquiry is based on scientific literature as well as relevant non-

scientific literature.

As far as periodicals are concerned, I draw heavily on some important American, English and German journals, like the *American Annals of the Deaf*, the *Volta Review*, the *Journal of the British Association of Teachers of the Deaf*, and the German journals *Hörgeschädigten Pädagogik* and *Hörgeschädigte Kinder* . Books and articles on deaf education were consulted as far as they seemed relevant for my inquiry. For instance, more technical books about articulation-teaching are left out, but an introduction in such a book concerning requirements for good speech-learning is consulted.

Concerning the authors of the literature: in my introduction I spoke about arguments, views and opinions of educators of the deaf. The word 'educator' is used broadly here and covers three groups of people. In the first place, deaf adults have an opinion on this subject. Further, linguists, psycholinguists, psychologists and other researchers of deafness, deaf education, and related fields, all have their say in the methods controversy, just like — and this is the third group — the people who in practice educate deaf children: parents, teachers, speech pathologists, school-counselors, etc. This inquiry draws from all these sources, but mainly from the second group.

One final remark with respect to references in the text: pagenumbers are given only when authors are directly quoted, or when that which I am referring to is succinctly stated on one or more specific pages.

1.5 The contents of this book

In the next chapter, I will discuss several terms that are used in deaf education. This serves a triple purpose. First, an explanation of terms introduces the reader into the rather specialized field of deaf education. Second, as mentioned before, part of the confusion between Oralists and Manualists lies in an unclear or inconsistent use of basic terms, so in discussing these terms and sometimes rewriting them I already make a start with clarifying the discussion. Thirdly, this chapter poignantly shows that almost *any* word one speaks with regard to deaf education can be used to categorize someone as either an Oralist or a Manualist.

In chapters 3 to 5 I will describe the Oralist, the Total Communication, and the Bilingual/Bicultural practices and theories, respectively. A short history, aims, prerequisites, methods, argumentation, and empirical underpinnings will be set out.

In chapter 6 I will execute a material analysis of the arguments described in chapters 3 to 5. The internal interdependency of the arguments of the three parties will be sketched and frictions in this interdependency will be shown. Several of these frictions will be analysed. This results in a proposal for an order of dealing with the differential conceptual, normative, and empirical issues involved in the methods controversy. If issues are dealt with in this order, the

complicated web of the methods controversy may be untangled and solutions will then be within reach.

Chapter 7 and 8 are devoted to a (partial) foundational analysis of the two hottest issues within the methods controversy, that is, the discussion about the identity of the deaf person, and the discussion about several area's related to language and thinking, more specifically, abstract thinking and reading of deaf children.

In the final chapter, chapter 9, I will summarize the findings of this book and make some final comments.

'...considerable slipperiness in meanings...' (Maxwell 1990, 338)

'...ambiguous terminology...' (Peffley 1991, 388)

Chapter 2 BASIC TERMS USED IN DEAF EDUCATION, AND THE DISPUTES ABOUT THEM

Introduction

Education of the deaf is a rather specialized branch of special education, full of technical terms that sound unfamiliar to an outsider. Apart from that, as I intend to show, educators and other persons involved in deaf education or in research tend to use these terms ambiguously and vaguely, colored by their standpoint in the methods controversy and by their philosophical foundations. Often the use of terms is disputed, or different authors use the same terms to mean different things without being aware of it or without discussing their intentions. And sometimes, terms are even deliberately defined vaguely, in order to obscure controversies. As I have said in chapter 1, this confused and vague use of terms is one of the reasons why the methods controversy still exists. Also, the disputes about terms show very clearly how deeply rooted and emotionally charged this controversy in deaf education is[1].

Therefore, in this chapter the ways educators and investigators use terms[2] in the literature on deaf education are described, as well as some of the disputes about these terms. Also, it is stipulated[3] in what way terms will be used henceforth. Terms are discussed in coherent groups in separate sections, and each section ends with a scheme in which all the discussed terms are arranged conveniently. In section 2.1 several ways in which the word 'deaf' is being used are discussed. We will see that the word 'deaf' is interpreted starting from either an audiological, a pedagogical, or a sociological-cultural point of view. Thereupon the different languages and the different means of communication deaf people use are described (2.2 and 2.3). In section 2.4 the different schools of thought in deaf education and the methods they use are set out, and in section 2.5 an example of the manner in which imprecise use of terms can cause confusion is discussed more extensively.

But in advance I have to elucidate two terms I will use regularly throughout this chapter, while getting more precisely into them only in section 2.4. These are the terms 'Oralism' or 'Oralists', and 'Manualism' or 'Manualists'. As a first, rough distinction: Oralism is the school of thought that wants to exclusively use speech as productive communication means with the normal (i.e., not additionally handicapped) deaf child, while Manualism is the school of thought that wants to use speech plus signs. As we will see in section 2.4 and in the chapters 3, 4 and 5, there are two major movements within Manualism but for now it will be enough to distinguish only between 'Oralism' and 'Manualism'.

1 Because in deaf education the use of terms is so emotionally charged and there is a tendency to place a person in one or the other camp (i.e., 'Oralist' or 'Manualist') on account of the way one uses terms, I here mention the criteria by which my choice to use a term in one or the other way are guided. These criteria are:
-The way terms were meant to be used by those people who introduced them. This will often mean that terms are persuasive in character. However, if these persuasive uses of terms are disputed, I will describe these disputes.
-The way terms are used by 'the majority' of people involved in deaf education, based on what I find in the literature. Of course, I will also mention 'minority' uses of terms, if they exist.
-I will use terms such that they discriminate as much as possible, that is, that they allow for the finest distinctions. As we will see, in deaf education words are sometimes used to disguise distinctions instead of elucidating them (e.g.,

the use of the term 'ASL' and the term 'Deutsche Gebärdensprache', Hase 1992, 156, Valli 1990, 130)
2 I speak somewhat loosely about the way a term is used because I want to avoid the word 'definition' In this chapter I am not describing 'definitions' of words in a strictly linguistic sense, simply because in deaf literature such definitions are seldom found Usually basic terms are more or less vaguely described, or one can infer from the context in what way a term is used If terms were more strictly defined in deaf education, probably there would be less confusion
3 As the word 'stipulation' suggests, I merely describe how I intend to use terms henceforth I do not intend to prescribe uses of terms But of course I hope that these stipulations will be a starting point for a thorough discussion and, finally, a decision about terms related to deaf education

2.1 Deaf, hard-of-hearing, hearing impaired

In ordinary language 'hearing impaired' refers to hearing loss in general, whereas 'hard-of-hearing' refers to a relatively minor hearing loss, and 'deaf' refers to a severe or complete hearing loss In deaf education these terms are used similarly but there are different opinions about what exactly is meant by 'severe' and 'complete' hearing loss Also, apart from this rather audiological way of viewing deafness, there are still at least two other ways of looking at deafness, namely a pedagogical and a sociological-cultural one Especially the audiological and the pedagogical interpretation of deafness are often not distinguished explicitly in the literature on deaf education, let alone discussed among investigators and educators

There is a great need for more clarity on these different ways of looking at deafness. As Clark & Hoemann (1991, 423) state in an article called 'Methodological Issues in Deafness Research', there is a ' need for a clearer description of what researchers mean by 'deaf' subjects', and (ibidem) '. literature on deafness shows that subjects who are termed 'deaf' often differ greatly on a number of variables, including pure-tone losses, age-of-onset of deafness, differential hearing status of family members, and different communication methods to which individuals have been exposed ' In this section 2 1 I will elaborate on all these issues

2.1.1 Audiological conceptions of deafness

Hearing loss is usually measured in decibels (dB, i e the physical energy of sound), indicating the amount of dB of that sound that the hearing impaired person is just able to hear (Goetzinger 1978) A normally hearing person can just hear a sound that has an amplitude of about 0 dB, an amplitude of about 140 dB is what a person can bear without pain (Davis 1978, Meyerhoff 1986). If we say that a hearing-impaired person has a hearing loss of 90 dB, this means that sounds with an amplitude of 90 dB is what this person can just hear

In audiological terms a person usually is seen as *deaf* at a mean[4] hearing loss of 90 dB or more, measured by what is called 'a pure-tone audiogram' (i e , tones of different pitches and loudnesses are offered to the ears of the deaf person, Rodda & Grove 1987, Van Hagen 1984) A person who has a minor loss (who, for instance, can hear a sound of 65 dB) is called severely or

moderately hard-of-hearing (Paul 1991, 125). The number 90 dB is chosen as a threshold between 'deafness' and 'hard-of-hearingness' because it is seen as the boundary line between being able to understand speech by hearing alone, and not being able to (Van Hagen 1984). That is, if one has a loss of 90 dB or more, one usually is not able to understand (or fully understand) what a person says, without looking at him, even if one is wearing hearing aids. It is possible that this boundary line will move towards a higher amount of dB, with the advancement of hearing-aids and other equipments, and with the growth of knowledge about hearing losses and auditory learning (Coninx 1992, personal communication). Although in scientific literature still a limit of 90 dB is used (see for instance IJsseldijk 1992, 48), it is sometimes claimed (e.g. Van Dijk 1992, personal communication) that some hearing-impaired children with losses of 115 dB and above now can be trained to understand speech solely by hearing. Van Uden (1989, 93), describing the oral method used in the St.Michielsgestel Institute for the Deaf (the Netherlands), calls children with a loss of 90 dB 'borderline cases', and children with a loss of 105 dB and up 'deaf'.

In scientific English, German and Dutch literature about deafness, the audiological use of the word 'deafness' marks it off from 'hard of hearing' or 'severely hearing-impaired'. In the USA the term 'profoundly deaf' is used as well. It refers to what in Europe is called 'deaf', while 'deaf' in the USA means what in Europe is called 'severely hard-of-hearing' (Moores 1987a, 9). A little scheme can make this more clear:

	USA	Europe
> 90 dB	profoundly deaf	deaf
70-90 dB	deaf	(severely) hard-of-hearing
25-70 dB	hard-of-hearing	(slightly to moderately) hard-of-hearing

However, the terms 'profoundly deaf' and 'deaf' are not used consistently in the United States. Often in American articles the term 'deaf' is used in a more general way, referring to a group including both people who are audiologically 'deaf' and people who are audiologically 'profoundly deaf'. Usually, the expression 'profoundly deaf' is used only in reports of scientific research, to indicate the amount of hearing loss of the subjects, but also in American scientific literature one often finds the word 'deaf' when children with losses greater than 90 dB are referred to (e.g., Paul & Quigley 1994, 17). Because of this inconsistent use of the term 'profoundly deaf', I prefer to follow the European way and henceforth I will stick to the use of 'deaf' as distinguished from 'hard-of-hearing', and I will avoid the term 'profoundly deaf'. If relevant, I will indicate amounts of hearing loss. In a few occasions I will use the term 'hearing-impaired', referring to children or adults with a hearing loss that is not further specified.

Oral deaf people sometimes prefer to use the word 'hearing-impaired' instead of 'deaf' for all people with a hearing loss. For instance, a member of the Oral Hearing Impaired Section ('OHIS') of the Alexander Graham Bell Association (an association that promotes the use of speech as a means of communication amongst deaf people) describes in the OHIS-journal *OHIS speaks* how he, together with others, fought to change the former name of the section, 'ODAS' (Oral Deaf Adults Section) into its present name. He says that, although he is audiometrically 'deaf', he prefers to see himself as a profoundly hearing-impaired person because of the stigma of inferiority he thinks is attached to the word 'deaf', and because the Deaf[5] community has defined a 'deaf person' as someone who uses sign language, which he himself does not (Liss Chertok 1993, 7). By contrast, Harlan Lane (1993a, 89), an arduous (hearing) defender of a strict manualist[6] view, thinks that labeling what he thinks are 'deaf' people as 'hearing-impaired' is something like calling women 'non-men' or black people 'non-whites'. I will not follow these suggestions, but will use the (audiological) terms 'deaf' and 'hearing-impaired' in the sense explained above.

Educators in the United States and in the European countries used to differ concerning the demarcation between deafness and hard-of-hearingness (Calvert & Silvermann 1983, 5) and sometimes they still do (Clark & Hoemann 1991, 423). Until about 1980 American researchers used a boundary line of between 70 and 90 dB loss for deafness (Ross & Giolas 1978, xv) whereas Europe took 90 to 95 dB as a boundary line. For instance WheiPing, Strong & DeMatteo (1991, 118) call subjects with a loss of 80 dB 'profoundly deaf'. McGill-Franzen & Gormley (1980) take 75 dB as the boundary line between 'hard-of-hearing' and 'deaf'. Bunch (1979, 11) as well as Eagny (1987, 273) speak about 'deaf students' who have a loss of at least 80 dB, while Farrugia & Austin (1980, 536) call children with a loss of 65 dB or more deaf! Broesterhuizen (1981, 125), a Dutch psychologist, speaks about children who are deaf 'in the American sense', that is, with a loss of more than 70 dB, implicitly differentiating this category from children who are deaf in the European sense, that is, having a greater loss.

Whether one should consider 80, 85 or 90 dB as a boundary line may seem futile in the eyes of laymen, but especially Oralist educators of the deaf have taken it as rather important, because precisely the 85 to 95 dB-line marks the difference between being able to perceive (some) speech by hearing alone, and not being able to[7]. Therefore, Oralists and sometimes also Manualists rejected each others' research-results if subjects were just called 'deaf' without specification of their hearing loss. And European researchers rejected the results of American researchers saying that the subjects used in the American tests were not really deaf (e.g., Broesterhuizen 1981). Nowadays, the line between deaf and hard-of-hearing almost universally is drawn at about 90 to 95 dB (Hyde & Power 1992; Rodda & Grove 1987).

The audiological conception of deafness has, since the invention of electrical hearing aids at the beginning of this century, always been especially important in oral methods, because these methods are entirely dependent on the use of residual hearing. And it has become even more important in the last decade since the advancements in hearing aids have given rise to oral methods

in which the child at least part of the day is not supposed to use her vision to understand speech, but to understand it by using her residual hearing only. Manualists sometimes have a different opinion about the importance of fixing the exact amount of dB hearing loss. One influential director of a Dutch institute for the deaf, stated that he, as far as defining someone as 'deaf' is concerned, does not care about dB's. For him every child is (audiologically) deaf who needs education in a deaf school (Oostra, personal communication, June 8, 1993).

4 The amount of hearing loss of subjects, as described in research reports in books and journals on deafness, is a mean. The hearing loss of the child is measured on different sound frequencies, usually on the frequencies of 125, 250, 500, 1000, 2000, 4000 and 8000 Hertz (Hz), 250 Hz being the lowest, and 8000 Hz being the highest tone, and then a mean is calculated Speech sounds can have a frequency of somewhere between about 100 and 8000 Hz, but usually speech occurs somewhere in the 300 to 4000 Hz-area (Goetzinger 1978). So two children having a mean audiological loss of, say, 115 dB, can have very different functional hearing. For instance, the first child has good residual hearing for the very low and the very high tones, so perhaps she can enjoy music to some degree, but she cannot hear speech The other child, having good residual hearing in the 250-1000 area, but not in the very low and the very high tones, will be able to discriminate speech much better. Mulholland (1981a, v) describes as 'profoundly deaf' children with a loss of 60 db for the lower tones (125 and 250 Herz) and a loss of 90 db for all the higher tones (500, 1000, 2000 and 4000 Herz) See also Broesterhuizen, Van Dijk & IJsseldijk 1981, 414-416.
5 If the word 'Deaf' is spelled with a capital D, it is meant in the sociological-cultural sense as described in section 2 1.3, referring to the view that deaf people form a linguistic-cultural minority group
6 With the term 'strict Manualism' I refer to the view that deaf children primarily belong to the Deaf community, and that they should have a sign language of deaf people as their mothertongue (See chapter 5 section 5 7)
7 That is: according to an audiological conception of deafness From a pedagogical point of view the degree of hearing loss is less strictly tied to the ability to understand speech However, these two different conceptions of deafness are not explicitly distinguished, and Oralists are inconsistent in their argumentation in this respect. I will elaborate on this in the next section.

2.1.2 Pedagogical conceptions of deafness

In the literature about deaf education hearing loss is not only described in terms of dB loss, but also in more functional terms, that is, in terms of what the child can do with the residual hearing she has with regard to the understanding of speech. This is, as I will call it, a pedagogical conception of deafness. Van Uden (1977, 19), for instance, says that a person is deaf if her hearing loss is such that she, even with the best amplification, is not able to understand speech solely by hearing[8]. This conception of deafness is rather common among Oralists (e.g. Mulholland 1981a, v, Van Dijk 1982, 290, Van Hagen, 1984, 9). Klingl (1986, 124) thinks that describing a person's hearing loss in audiological terms leads to a 'leichtfertige Vertaubung' ('imprudent deafening') of children with a hearing loss.

Usually someone is pedagogically deaf in Van Uden's sense when her hearing-loss is 90 dB or more, that is, the limit of being able to perceive speech -which is a first condition for being able to understand speech- by hearing alone lies around 90 to 95 dB hearing loss. But being able to understand speech by hearing if one has a hearing loss depends on more than just the degree of hearing loss and, thus, the ability to perceive speech. For instance, a child who has become physically deaf after having acquired spoken language, at the age of 4 or 5 or later, will have much less difficulty in understanding speech because she can fall back on a background of language she

already possesses, whereas the young child who has been born deaf or become deaf soon after birth has to understand a language she never heard and, for the greater part, still has to learn. Also, there is a major learning component involved in understanding speech when one has only limited hearing. Educators of the deaf, especially Oralists, stress the importance of 'auditory learning': all persons surrounding the deaf child ought to help her to make her direct her attention as much as possible to speech sounds and should make certain that she wears her hearing devices all the time. The child should be spoken to as much as possible in order to provide her with the 'bath of language' comparable to the amount of language a hearing child is surrounded with continuously. The will and perseverance of the deaf child and her surroundings play a major part in this auditory learning but probably some unknown factors in the child best described as 'talent' are also important. The understanding of speech may also be influenced by variables like the educational method ('oral' or 'manual'), the language offer in the home (dependent on the educational level of the parents), and the verbal intelligence of the child. This means that a child diagnosed as 'deaf' (taken in the audiological or in the pedagogical sense) on entering school, can in principle leave school as 'hard of hearing' (in the pedagogical sense). In other words, in principle, a person with a pure-tone loss of 95 dB can function in a 'hard-of-hearing' way, and a person with a pure-tone loss of 85 dB can function in a 'deaf' way (Pahz & Pahz 1978, 40, Van Uden 1989, 96-97).

There is a similarity but also an important difference between the audiological view of deafness, as described in section 2.1.1., and this pedagogical conception of deafness. Audiological and pedagogical deafness overlap in the sense that around the point where a child is deaf in the audiological sense (i.e., when her loss amounts to 90 dB or more) in most cases she will also be deaf in the pedagogical sense (i.e., when she cannot perceive and thus understand speech by hearing alone). The difference is that the pedagogical conception is more dynamic in character because the understanding of speech is much more open to improvement over the years than the mere reception of sound. This difference has some important implications.

First, it will be clear that from the pedagogical viewpoint research findings about what from an audiological viewpoint are called 'deaf' subjects, can hardly be adequately evaluated, that is: subjects about which just the amount of hearing loss in dB is given. For two children who have the same audiological loss, say, 95 dB, can perform very differently as far as understanding speech is concerned. This evaluation problem could be overcome by designing a scale in which all the variables that possibly might influence the understanding of speech are accounted for, and by then matching subjects on this scale. But then there still remains a problem. On the more dynamic pedagogical view on deafness predictions about future development of deaf children regarding speech-related matters are much more problematic than on an audiological view, in which deafness is seen more as a static phenomenon. For in the first case there is a variable involved that is not or much less dominating in the latter case: the improvement subjects may achieve over the years concerning the understanding of speech. It is hard to predict, for example, how a group of subjects whose speech has been investigated at the age of six, will perform at the age of ten, if one sees

deafness as a changeable phenomenon. For it is difficult to predict how the subjects' understanding of speech will develop. However, if predictions are made, a pedagogical view on deafness will always be more optimistic than an audiological view because it assumes that the ability to understand speech will proceed progressively, provided that certain conditions are fulfilled. And this is what we indeed see: Oralists, who mostly start from a pedagogical view on deafness, tend to be much more optimistic about future achievements in speech-related matters of their pupils than Manualists -who mostly start from either an audiological or a socio-cultural view on deafness- are about similar achievements of their pupils. Northcott, the former president of the Alexander Graham Bell Association that promotes oral education, sees the static audiological view of deafness as a myth created by the 'national lobby for "the deaf community" ', namely that 'Deafness is absolute and irreversible'. Clearly, she does not agree with this view (Northcott 1981, 175).

A pedagogical view on deafness has led one prominent Oralist journal in deaf education, the *Volta Review*, to require their authors to use the word 'hearing-impaired' instead of 'deaf ' (see e.g.*Volta Review* 1988, page 6). One reason for this is that the editors think that perhaps hearing-impaired people would find it denigrating to be called deaf. Another reason is that almost every hearing-impaired person has some residual hearing that can be used functionally with the help of hearing-devices. And if we call to mind the common-sense meaning of the words 'deaf' and 'hearing-impaired' we see that the word 'hearing-impaired' suits this fact better than the word 'deaf', the former — again — being more 'dynamic' in character than the latter. So in these considerations of the *Volta Review* there is yet another meaning of deafness at stake, deafness being equated with 'not having any functional residual hearing at all', and having a pejorative meaning. In section 2.4.2 I will discuss an oral method (the uni-sensory method) that rests completely on this last conception of deafness.

Let me add two remarks before ending this section. First, Van Udens pedagogical conception of deafness, though the most frequent, is not the only one. Also Oostra, in the statement quoted at the end of section 2.1.1, conceives deafness in a pedagogical way. And Ross & Giolas (1978, 2 -3) and Zeh (1989, 205) use the term 'deaf' to refer to any hearing-impaired child that has such a hearing loss that she does not develop useful speech, with or without sound amplification, and they use the term 'hard of hearing' for any hearing-impaired child who has a hearing loss but can develop useful speech[9]. Secondly, as was already noted in section 2.1.1, Oralists are not always consistent in their use of the word 'deaf'. On the one hand they accuse some research, especially American research, of investigating subjects who are not really 'deaf', that is, subjects who have losses of, say 80 or 85 dB (Broesterhuizen 1981), whereas on the other hand they maintain that dB's are less important than what children are taught to do with their residual hearing (Van Uden 1986a).

8 This does not only mean that she cannot understand speech without seeing the speaker, but also that she cannot hear (completely) her own speech (Arnesen 1983, Van Dijk 1982, 290, Hartmann-Börner 1992, 148). Van Uden (1989, 92) says that a person with a loss of 90 to 100 dB can hear her own voice only when she shouts, and can hear the voice of others somewhat only when they speak directly in her ear.

9 This pedagogical meaning of deafness is rare, I have only found it with these authors.

2.1.3 Sociological conceptions of deafness

During the 1960s, minority groups started to fight for their rights, and so did the deaf, especially in the United States (for an overview see Lane 1993a, chapter 6). The word 'deaf' henceforth was written with a capital D (Dolby 1992, 82). American deaf people demanded to be acknowledged as an ethnic minority group with its own language, like for instance Hispanic Americans. Comparative to Black is Beautiful there was Deaf Pride. Although it was only in the second half of this century that deaf people started to stand up for themselves, deaf signing communities with their own deaf culture are said to have been existing in America already since Thomas Gallaudet started educating deaf children in sign language, in the eighteenth century (Lane 1984). In Europe all of this happened to a much smaller degree, but here also, as in the United States, the methods controversy flared up again in the second half of this century. The controversy has lead to different self-descriptions of deaf people, dependent on their adhering to a Manualist or an Oralist point of view. As Arnold (1989a, 144) says '...these groups [i.e., 'deaf' people and 'hearing-impaired' people] cannot be separated only on audiological criteria.' I will mention a few categorizations of culturally Deaf people here, and then in chapter 7 I will go deeper into cultural Deafness.

Based on his experience with deaf people, the sociologist Mottez (1990) thinks that signing deaf people and oral deaf people divide the world up in different ways. For signing deaf people there is a dichotomy between the signing Deaf (these are the 'real' Deaf) and the oral deaf plus the hearing. Oral deaf people, on the other hand, see the world as a continuum, containing at the one side the hearing and at the other side those deaf people who are not able to speak. Amount of hearing loss and the education one has received largely determine the place a deaf person has on this continuum.

Glickman (1986), a counselor working with deaf people, thinks there is a Deaf and a Hearing conception of the world. He distinguishes, taking the situation in the United States as a starting point, between culturally-deaf, culturally-hearing, bi-cultural, and culturally-marginal deaf and hearing people. In the first group we find deaf people who use sign language, who visited a boarding-school for deaf children, and who identify with and are accepted by the deaf community[10]. Some hearing children of deaf parents also belong to this group. Rodda and Grove (1987, 8) give an example of an aphasic individual who chose to become ethnically Deaf although he was physically a normally hearing person. The group of culturally-hearing contains almost all hearing people, plus the orally educated deaf who successfully completed oral education. A relatively small number of people feel at home both with the culturally deaf and with the culturally hearing: these are the Bilinguals. This group contains most of the hearing children of signing deaf parents, and, for instance, hearing sign interpreters. Finally, there are the culturally-marginal, those deaf persons who feel at ease in none of the aforementioned groups, including, for instance, orally educated deaf people who failed in oral education, and severely hard-of-hearing people who

didn't learn to sign Glickman does not mention deaf people who were in a manual program but failed to learn to sign, if there are such deaf people, they would belong to the culturally marginal too

Whereas audiological views on deafness stress a relatively static physical phenomenon, and pedagogical views on deafness stress a physical-plus-mental phenomenon that is open to change, sociological views on deafness do not primarily concern physical aspects of the human being although these are the basis of cultural Deafness In most cases a person who is sociologically Deaf will also be audiologically and/or pedagogically deaf, but as I have said there are culturally Deaf people who are not deaf but hard-of-hearing, or even — but this is exceptional — completely hearing

These sociological meanings of deafness[11] have lead to discussions between Oralists and Manualists The debate has concerned the question of whether or not such an ethnic minority group does indeed exist (Ladd 1992, 83, Schein 1991, 131), that is, if it is correct to assign to deaf people a culture of their own and if so, whether that is desirable Oralists like Broesterhuizen, Van Dijk & IJsseldijk (1981, 413) for instance plainly stated ' there is no such thing as manual communication in Holland ' Also L G Stewart (1992, 130), himself deaf, is of the opinion that deaf culture is not a discovery but something that was created for political purposes

Concerning my classification into 'audiological', 'pedagogical' and 'sociological' views on deafness parallels can be drawn between deafness and other impairments For instance, also concerning blindness or paralysis one can refer to a physical defect of the eyes or the limbs, or stress the possibilities to improve residual eyesight or movement, or focus on the issue of whether blind and paralysed people, because of their blindness and paralysis, belong to different communities. However, this last issue seems to be much more relevant for many deaf people than for other disabled groups, because they claim to have a language of their own The distinction between the audiological and the pedagogical meaning of deafness gives rise to an ethical question that also exists in the education of other children who are physically different to what extent should we stimulate children to become like the majority , and to what extent should we leave them as they are?

Henceforth, in accordance with usage in literature on deaf education (e g , Dolby 1992, 82, Laster 1994, 23, Padden 1980, 90, Valli 1990, 129), when I write the word 'Deaf(ness)' with a capital D, I use it in a sociological way, that is, referring to membership of a cultural group When I write the word 'deaf(ness)' in small letters, I refer to either an audiological or a pedagogical phenomenon Similarly, I will use 'hearing' and 'Hearing', 'Hearing' referring to membership of a cultural group[12]

10 These conditions for belonging to the Deaf community are also mentioned by other authors See, for instance, Dolby 1992, 90-91, Higgins 1989, Kannapell 1982, Lane 1993a, part one, Padden 1980, Wilbur 1979, 250-252

11 I here describe two proposals for ethnically defining deafness, that from Mottez, and that from Glickmann Neither proposal is based on empirical data, but on the personal experience the authors have in working with deaf people However, similar descriptions of ethical deafness are given by Nash & Nash (1984) based on sociological

investigations.

12 This choice to use the word 'Hearing' may give the impression that I have taken sides in the dispute about whether there is either a 'Hearing community' or just 'hearing society'. Since there are deaf people who consider themselves or others as members of a 'Hearing community' (as against Deaf community), using the expression 'Hearing community' in a sociological way and not just as meaning 'a group of people who can hear', it seems best to distinguish between hearing and Hearing precisely as I have distinguished between deaf and Deaf. In so doing I do not take sides, but simply use the distinction for analytical reasons.

2.1.4 Specifications of hearing loss

In research reports, statements about the hearing loss of subjects are usually accompanied by terms referring to the time of onset of the hearing loss. Hearing loss can have originated before birth, prenatally; before the child has acquired spoken language, prelingual, 0-2 years old; during the years of acquiring spoken language, interlingually, 2-5 years old; or after having acquired spoken language, postlingually, after the fifth birthday (Pahz & Pahz 1978, 41/42). Sometimes it is said that the loss is 'unaided', that is, measured without the child wearing hearing-devices; that it is 'bilateral', in both ears, or 'in the better ear' (with the other ear the child can hear even less); or that the loss is 'hereditary', as opposed to being caused by a viral infection[13]. Most children in deaf schools have hearing-losses that are 'sensory-neural' (affecting the organ of Corti in the inner ear and auditory pathways, that is, the parts of the ear that receive sound and change it into electrical signals) or that are both sensory-neural and 'conductive' (affecting the parts of the ear that transport sound) (Rodda & Grove 1987). Conductive losses are usually minor losses and sometimes reparable, sensory-neural losses are not reparable[14].

This information about subjects is seen as equally crucial as information about the amount of hearing loss, and lack of it in research reports has lead Oralists and Manualists to mutually reject each others' research results. For instance, G. Montgomery (1986a, 48) accuses Oralists of deceiving hearing parents of deaf children by showing them deaf children who speak fairly well without telling them that these children belong to the small group of deaf children who are inter-lingually or post-lingually deaf (see also, e.g., Broesterhuizen, Van Dijk & IJsseldijk 1981, 410). For it is much harder for a deaf child to learn to speak without ever having heard spoken language than it is to learn to speak if she has heard spoken language and perhaps even already mastered some spoken language before the onset of deafness. The cause of deafness can provide information about potential additional handicaps, a variable which, if not known or not mentioned, can pollute research results. In much research it is taken for granted that a genetic cause eliminates the existence of additional handicaps, whereas acquired deafness, for instance by meningitis, is likely to be accompanied by brain injury (e.g., Boothroyd 1982, Evans 1982, 11, Löwe 1986, 61). So if one wants to exclude additional handicaps, subjects are chosen who have deaf parents and/or deaf siblings. There are, however, hereditary genetic causes of deafness, like the Usher-syndrome, which do bring additional impairments[15].

The controversy between Oralists and Manualists mainly refers to normal, prelingually

(audiologically) deaf children, that is: children with a hearing loss of more dan 90 to 95 db who became deaf before having acquired spoken language, and who have no additional handicaps. Henceforth, when I mention deaf children I refer to this group of deaf children. For children with additional handicaps, like blindness, very low intelligence, or severe learning disabilities, Oralists are willing to use some sort of manual communication, combined with speaking[16].

13 For causes of deafness see for instance Broesterhuizen, Van Dijk & IJsseldijk (1981, 410-413) and Boothroyd (1982). Boothroyd distinguishes four categories of causes: genetic (dominant or recessive), disease in the pregnant mother or the young child (rubella, rhesus-factor, meningitis, mumps, otitis media), drugs used by the pregnant mother or the young child (teratogens or ototoxins), and several traumas before, during or after birth (for instance prematurity or anoxia). Laros & Tellegen (1991) investigated the intelligence of nearly the whole deaf population in the Netherlands between 6 and 15 years old, they report that 79% of them were prelingually deaf.
14 Cochlear Implants can partly take over the function of the inner ear I will provide an extensive description of the debate on Cochlear Implants in chapter 7.
15 I am indebted to Mr M Broesterhuizen for this remark.
16 This is not to say that Oralists and Manualists have no controversies about the treatment of multi-handicapped deaf children. The basic disagreement of the methods controversy is present here too. Mr A Oostra, for instance, the director of the institute for the deaf in Groningen, the Netherlands, thinks that the institute for the deaf in St.Michielsgestel (also in the Netherlands) robs multi-handicapped deaf children of their Deaf culture by separating them from non-multi- handicapped deaf children (personal conversation, June 8th 1993) The St.Michielsgestel-institute separates the fingerspelling multi-handicapped children, the signing multi-handicapped deaf children, and the oral deaf children because they fear that otherwise the oral children will start to use signs or fingerspelling too, and the fingerspelling children will start to use signs (Van Uden 1991, 36).

Overview of section 2.1.

DEAFNESS

Hearing impaired. refers to hearing loss in general.
Hard-of-hearing. refers to a relatively minor hearing loss.
Deaf: *in the audiological sense: nowadays a person is considered to be audiologically deaf if she has a hearing loss greater than 90 db. This limit is expected to move upwards.
*in the pedagogical sense: the most common pedagogical interpretation is, that a person is deaf when she has such a hearing loss that, even with the best amplification, understanding speech solely by hearing is not possible. This is called a pedagogical conception of deafness because the understanding of speech, which is central in this conception of deafness, is more likely to change and is more susceptible to pedagogical influence than deafness in the audiological sense
*in the sociological sense: refers to socio-cultural characteristics of those hearing-impaired persons who consider themselves to belong to a special (Deaf) community. One sociological meaning is, that a person is Deaf if she uses sign language, attended a boarding school for deaf children, and identifies with and is accepted by the Deaf community.

SPECIFICATIONS OF HEARING LOSS
*According to time of onset:
Prenatal: before birth.
Prelingual, Interlingual, Postlingual: before, during and after acquiring spoken language, respectively. That is: between birth and about two years of age, between about two and five years of age, after the fifth birthday, respectively.
Prenatal hearing loss is also called congenital Postnatal hearing loss is mostly acquired hearing loss but not always (some hereditary diseases cause gradual hearing loss during lifetime, so in such a case a child can be born hearing and become deaf later through a hereditary cause (Meyerhoff 1986) Prenatal hearing loss does not have to be hereditary hearing loss, it can be acquired in utero through disease or drug-use of the mother or through trauma (B Davies 1981, 357).

*According to cause of hearing loss:
Hereditary: genetic. Additional handicaps are possible if deafness is part of a hereditary syndrome.
Acquired: through disease or trauma before, during, or after birth. Additional handicaps are likely.
Causes may be: maternal rubella or other maternal viral infections during pregnancy; trauma's or complications before or during birth; drug-use by the mother; postnatal cerebral meningitis or other viral infections.
Unknown: in most cases. Additional handicaps are possible.
*Other specifications:
Unaided loss: measured without the deaf child wearing hearing devices.
Unilateral or in the better ear: the hearing loss of only one (the better) ear is measured (or: is taken as a criterium for selecting subjects for research).
Conductive: hearing losses affecting the mechanical parts of the ear
Sensory-neural: hearing losses affecting the organ of Corti and auditory pathways.
Losses that are solely conductive are mild or moderate losses and sometimes operable. Sensory-neural losses sometimes can be improved by placing a Cochlear Implant. Children in deaf schools usually have losses that are sensory-neural, or mixed (sensory-neural and conductive).

2.2 Languages used with and among deaf people

In literature on deaf education many confusing terms are used when referring to the way deaf people communicate with each other and with hearing people: oral, manual, verbal, non-verbal, language code, language mode, sign, sign language, sign system. Often these words are used inconsistently and they are not defined or described; and insofar as they are defined or described educators of the deaf often disagree about them. Only very rarely is there an attempt to clear up this confusion (see for one example the proposal by Evans & Hicks, 1988; I will return to this proposal in section 2.3). In this section I will try to create some order within this labyrinth of terms.

Central in deaf education and in the literature about it are the words 'language' and 'communication', but these words are seldom defined or described, probably because for such common words this is seen as superfluous. However, different (philosophical as well as linguistic or psycholinguistic) conceptions of language and communication have played and still play a major role in the methods controversy. Until recently the major issue in this respect was whether or not sign languages of deaf people were 'true' languages, according to differing definitions of 'language'. However, since sign languages, especially American Sign Language (ASL) have now been a topic of linguistic research for almost thirty years, most people involved in deaf education acknowledge that sign languages are real languages, although there still remains some discussion about their richness as compared to, for instance, English (e.g. L.G. Stewart 1992, 135). Also, proponents of Bilingual/Bicultural approaches tend to blame Oralists and proponents of Total Communication for using the term 'language' as meaning only 'spoken language' (e.g., Charrow & Wilbur 1989, 105).

I will start now by giving a fairly general description of the terms 'language' and 'communication'.

2.2.1 Language and communication

I will use the term 'communication' for any process of exchanging messages between people. I will use the term 'language' in a very general sense, meaning any system of symbols used for communication between human beings, that (1) is known by a considerable group of people, and that (2) is not artificially made but is the product of a long tradition within a community.

Ad (1). I want to exclude, for instance, the 'baby-talk' of a very young child which is only understood by the parents, or the home-invented signs that are used by a young deaf child and her parents. Ad (2). This addition is important in the framework of deaf education because, as I will show below, in the field of deaf education and in the literature about it there exists a distinction (sometimes implicit) between 'sign-languages' and what I henceforth will name 'sign-systems'. Sign-languages have developed in a group of deaf people. Sign-systems, by contrast, have not grown in a group of people but have been invented by (hearing) educators. I will explain these terms in the coming sections.

2.2.2 Sign languages and spoken languages

In the literature on deaf education clear and unbiased descriptions of 'spoken', 'verbal' and 'sign'[17] are seldom found. Von Unkelbach (1986, 127) for instance, an Oralist, refers to Breiner (1986b) (another Oralist) when he defines 'signs' as 'sprachliche Zeichen, die nur einem kleinen Kreis von Eingeweihten bekannt sind.' [linguistics symbols that are known only to a small circle of initiates]. This of course is an unsatisfying description. It does not exclude, for instance, minority-languages like Schwitzer-Deutsch and Frisian from being 'sign'-languages. Also, it takes as *the* defining characteristic of sign languages something that in no other definition of language seems to be taken as such, namely, that fewer people in the world use a sign language than a spoken language. I have never, for instance, seen Schwitzer-Deutsch or Frisian been defined as a language that is known only to a small circle of initiates. Apart from that, it could be questioned what is meant by a 'small' circle. There are, for instance, more people in the world who know American Sign Language than there are people who know Schwitzer-Deutsch or Frisian.

We can distinguish two *types* of languages, namely, verbal languages, which is a synonym for spoken languages, and sign languages. Because the word 'spoken' more clearly shows the difference between spoken and signed languages, and because the term 'verbal languages' has turned out to be confusing in this framework, I will not use the term 'verbal language' henceforth. Often, in the methods controversy 'verbal' has been set against 'non-verbal', the latter being used as a synonym for 'manual'. However, as we will see in section 2.3, not every manual language form is non-verbal.

Sign languages are built out of signs, that is, out of visual-spatial units that can be produced by the hands and the face of human beings and that can be perceived by the eyes of human beings.

Spoken languages are built out of words, that is, out of sound-units that can be produced by the speech-organs of human beings and that can be perceived by the hearing-organs of human beings.

The phrase 'spoken language' can be ambiguous It can be used as a synonym for 'speech', that is, the spoken form of a spoken language, but also to distinguish this type of language (i e., languages which primarily are being spoken) from sign languages, which primarily are being signed Hereafter I will use the expression 'spoken language' in the latter sense, and I will use the term 'speech' when referring to producing a spoken language by the speech organs.

17 In the literature about education of the deaf the word 'sign is never used in its ordinary dictionary meaning, that is, as referring to 'symbols' in general, but always as referring to the manual signs that deaf persons use to communicate I will do so too

2.2.3 Sign languages

The linguistic status of sign languages has until recently been the subject of very heated debates among educators of the deaf and, to a somewhat lesser degree, among linguists (see for instance Tervoort 1986 versus Van Uden 1984) Nowadays, however, most educators and scientists -both Oralists and Manualists- agree that sign languages of the deaf are real languages in the linguistic sense of the word There remains, however, a small minority of Oralist educators who deny that sign languages are real languages [18]

Scientific interest in sign languages of the deaf began around 1960 with William Stokoe, an American linguist who was the first to consider the possibility that sign languages of the deaf could be true languages instead of crude ways of communicating only simple and concrete ideas (Stokoe, 1960, 1972) Even deaf people themselves did not think of their sign language as a true language (e g , Charrow & Wilbur 1989, 109, Humphries, Martin & Coye 1989, 138) The most important thing that Stokoe discovered was that sign languages, just like spoken languages, can be described in a systematic way, that is, sign languages are built out of a limited number of parts, comparable to phonemes and morphemes in spoken languages, and different combinations of parts make different signs with different meanings (Stokoe 1960, Klima & Bellugi 1979) Before Stokoe, signs were seen and described as pictures, as global wholes which do not lend themselves for analysis Stokoe and his successors proved some major common beliefs about sign languages to be wrong For instance the belief that all signing people over the world can understand each others' signing, which in its turn is based on the mistaken view that signs are pictures of the things they stand for, like pictograms In chapter 8 I will elaborate on this and a few other mistaken views about sign language

Since Stokoe, in a lot of countries linguists are researching local sign languages[19], but no doubt American Sign Language (ASL) is the most investigated sign language in the world. Wilbur (1979) says that it is the third most widely used non-English language in the United States, after Spanish and Italian, used by about 500 000 deaf and an unknown number of hearing people.

Because of their visual-spatial nature, sign languages have a structure that differs very much from the structure of spoken language (Klima & Bellugi 1979, Kyle & Woll, 1985). Whereas, for instance, in spoken language meaning often is dependent on the order of words ('Bill hits Simon' versus 'Simon hits Bill'), in sign language meaning can be expressed by the location of the signs in space (for instance, the subject of the hitting is placed at the right hand side of the speaker, and the object of the hitting at the left hand side; the movement of the sign from right to left indicates who hits who).

Also, sign languages are more simultaneous in character than spoken languages. This is also caused by the visual-spatial character of the signs. Whereas in spoken language the sentence 'Two people walk under the bridge' needs a sequence of six words, in British sign language this sentence can be expressed by stretching out the left arm and then moving the hand of the right arm, of which two fingers are pointing up, under the stretched left arm (Kyle & Woll 1985, 134-135). Other linguists tend to belittle these differences between spoken languages and sign languages, pointing to the fact that also in spoken languages there is much simultaneity: speech always is accompanied by intonation and often also by gesticulation, which both add to the meaning of the message (S. Fischer 1993). Tendencies to either emphasize or belittle the differences between signed and spoken languages seem to be influenced by ideological considerations. In the first decades after the revolution Stokoe brought about in the field of linguistics as well as in the field of deaf education, the uniqueness of sign languages as compared to spoken languages was stressed. Although linguists had shown by then that sign languages were genuine languages, hardly any educator of the deaf considered using sign language in the education of deaf children. Still, the ultimate goal was for the deaf children to master spoken language and become integrated into hearing society, and emphasizing the very different nature of sign languages served this goal (e.g., Van Uden 1977, 140, who maintains that communication with signs ...'is seemingly more akin to the communicative coding-systems of animals and is less of a human behaviour....So it is understandable that a chimpanzee can learn to use signs....'). But during the last ten years there has been the movement towards Bilingualism/Biculturalism, in which a sign language is supposed to be the first language of deaf children, and its supporters tend to belittle the differences between signed and spoken languages, in order to refute one of the Oralist' arguments, namely, that sign languages are very difficult for hearing people because they are so different from spoken languages (e.g., Kuntze, 1990, 78, who speaks about the 'myth' that hearing people cannot learn a sign language).

Historically, sign languages did not have a written form. But since the scientific interest in sign languages began, several ways of transcribing signs have been developed as a tool for researching sign languages. Sign dictionaries use photographs or pictures of signs. There are also sign-dictionaries on computerdisks, that make signs visible on the computer-screen or on video. There are as yet no books in sign language, apart from young childrens' picture books in which the pictures are accompanied by pictures of signs. However, there exists a foundation that developed

a system for writing down signs, and they even developed a sign-typewriter. They have their own magazine *The Sign Writer* and according to this journal they are now translating the Mormon bible into American Sign Language.

Sign languages should not be confused with sign systems. The latter are representations of a spoken language in signs in which the word order of the spoken language is more or less maintained. Such systems of signs are developed by (hearing) educators of the deaf and are meant to be an auxiliary means in acquiring spoken language (see section 2.3.8)[20].

Whereas there is little debate anymore about the linguistic status of sign languages, there is discussion about the precise demarcation between sign languages and other forms of manual communication (i.e., sign systems and fingerspelling), especially in Germany and the USA. In daily life sign languages and signed forms of a spoken language are often mixed. Deaf people tend to adjust their signing when communicating with hearing people. They sign a kind of communication that has elements of a sign language as well as elements of a spoken language, coded in manual signs. I will address the discussion about the definition of sign language more extensively in section 2.3.8.

Some authors are widening the definition of sign language even more. Vernon (1991, 151), for instance, uses the phrase 'sign language' for all forms of manual communication, including, for instance, the signs referees use in a game of soccer. I will use the phrase 'sign language' only for the signed languages that have originated within a group of deaf people and that have a specific structure which has developed relatively independently of the spoken language of the country these deaf people live in.

18 See chapter 8 section 8.2.1.
19 Susan Fischer, a linguist and expert on sign language, in an interview in a Dutch paper, says that tens of sign languages, from Japanese to Israeli, from Australian to Chinese, have been studied now (NRC Handelsblad, June 17th 1993) In the Netherlands around 1960, Tervoort started to investigate Dutch Sign Language; he is now retired but his work has been continued by his co-workers at the Instituut voor Algemene Taalwetenschap [Institute for General Linguistics], University of Amsterdam.
20 For an overview of manual languages and other forms of manual communication see Bornstein 1990b, Gangkofer 1992.

2.2.4 Spoken language and deaf people

Children who are born deaf or became deaf before acquiring a spoken language have to learn spoken language through the bits and pieces they can perceive with their residual hearing, by what they manage to read from the lips of the speaker, and by what they guess from the context of the conversation. Remember that 'deaf', in the pedagogical sense, is defined as having a hearing loss that is such that the person cannot even hear her own voice, let alone the voices of others. A second source for learning spoken language is reading. However, for the majority of deaf people this is only a limited source. Most deaf adolescents leave school with no more than a third-grade reading level (see chapter 8). Many hearing people who never have met a deaf person, mistakingly

believe that deaf people probably will read a lot. They fail to see that this is not likely to be true for prelingually deaf people because the difficulty of learning spoken language also extends to reading. As Dolnick (1993, 51) says, reading is not a favorite activity in the Deaf community, he even speaks of a 'marked anti-book bias', and Harlan Lane (in Dolnick 1993, 51) regrets that his books about the history and the culture of the Deaf are read so little by deaf people themselves.

Some Manualists claim that sign language is the first language of many deaf people and that spoken language is — at best — their second language. Again it should not be forgotten that the situation of a deaf person in this respect can not be compared to that of a bilingual hearing person who, for instance, has English as her first language and some other spoken language as her second language. A hearing person normally has a complete (first) spoken language as a basis for learning a second spoken language. The 'bilingual' deaf person, by contrast, learns spoken language on the basis of a signed language, which is basically in a different modality (i.e., manual signs instead of spoken words). Also, through their lack of hearing, most deaf people will never acquire the spoken form of a spoken language as well as hearing people do.

Overview of 2.2.

LANGUAGES USED WITH AND AMONG DEAF PEOPLE
Communication: any process of exchanging messages between people
Language: any system of symbols used for communication between human beings that is known by a considerable group of people and that has grown naturally in a group of people.
Sign languages: languages that are made up of visual-manual symbols.
Probably in every country, next to a spoken language, one or more sign languages/sign language dialects have developed. For instance, American Sign Language, British Sign Language, etc.
Spoken language: language that is made up of symbols that can be spoken (vs. sign language).
Speech: the spoken form of a spoken language (vs. the written or the fingerspelled form).

2.3 Language forms and language modes used with and among deaf people

After having described the two types of language deaf people use among themselves and with hearing people, now I will turn to how these types of language are coded and what physical channels are being used to produce and to perceive these codings.

2.3.1 Language forms and modes of language

After having distinguished between *sign* languages and *spoken* languages, now another distinction needs to be made. Evans & Hicks (1988, 572-573) introduce the terms *language forms*, and *modes of language*, each language having one or several of these forms and modes. The term 'language form' refers to the material form of language, whereas the term 'mode' refers to the physical channel that people use to transmit or to perceive language.

This is a very useful distinction, especially in the field of deaf education. The form of a

language can be sound-symbols (i.e., spoken words), written symbols (written words or sign-notation), or visual-spatial symbols (i.e., manual signs or fingerspelled words but also, for instance, Morse-signals). The modes that are being used to perceive language are seeing, hearing, and feeling (i.e., blind people reading Braille, and to a limited degree deaf people feeling the vibrations of speech sounds). The modes that are being used for transmitting language are speaking, signing, fingerspelling, and writing.

I will discuss the different language forms and modes of language as they are used with and among deaf people in the following sections (sections 2.3.1 to 2.3.4).

2.3.2 Unilingual and bilingual communication, unimodal and bimodal communication

Along the lines of the distinctions between different languages (i.e., spoken languages and sign languages), different language forms, and different modes of language, educators of the deaf distinguish between 'unilingual' and 'bilingual' methods, and between 'unimodal' and 'bimodal' methods.

Outside the field of education of the deaf, the expressions 'unilingual' and 'bilingual' refer to speaking one or two *spoken languages*, respectively. In deaf education, conversely, these expressions refer to the use of one or two *types of language* , namely, a spoken language and a sign language. The term 'unilingual method' refers to educational methods intending[21] to teach the deaf child one type of language, whereas 'bilingual method' refers to educational methods intending to teach the deaf child two types of language. All oral methods are unilingual, as they intend to teach the deaf child exclusively spoken language. Most manual methods are unilingual too, intending to teach the deaf child exclusively spoken language (in its spoken form and in its signed form); sometimes they are bilingual, intending to teach the deaf child spoken language and sign language. This fact, namely, that all methods (except for methods that use a sign *language*) intend to teach the deaf child *one* (type of) language (i.e., spoken language), be it in only one or in more than one mode, is often not seen, and this is one cause for the parties talking at cross-purposes (see for instance Van Uden 1989, 25, 194, see also section 2.5).

Unimodal methods are methods that require the use of one mode for the production and one mode for the perception of language, *bimodal* (or 'multimodal') methods are methods that require the use of two (or more) modes for the production and the perception of language. It is important to mention that in the field of deaf education 'mode'only refers to those, rather 'direct' ways of producing and receiving language which are contested in the methods controversy, namely, speaking, signing, fingerspelling, listening, and visual perception of speech, signs, or fingerspelling. So in the expressions 'unimodal' and 'bimodal' reading and writing are not counted as modes. Therefore, a method using only speech and hearing plus reading and writing is not called bimodal but unimodal.

Unimodal methods in deaf education would be methods in which only sign language is being used[22]; methods in which, in addition to sign language, spoken language is being used only in the written form[23], and methods in which only speech is used and the child is expected to perceive speech solely by hearing[24]. In the first two cases only vision is used to perceive language and only the hands are used to produce language. In the latter case only the speech organs are being used to produce language, and only hearing is used to perceive language. All other methods in deaf education are bimodal or multimodal, at least as far as the perception of language is concerned: vision plus hearing are being used for perceiving speech. In producing language they can be unimodal or bimodal.

The unimodal-bimodal distinction, as far as it concerns the *perception* of language, is also expressed by the words 'unisensory' and 'multisensory' (see e.g. Schwartz 1989). 'Unisensory' usually refers to methods that use exclusively hearing as a receptive means of communication, at least in the early years. They are also called 'auditory-verbal' or 'acoupedic' methods. It should be noted that Van Uden's pedagogical conception of deafness, as described in section 2.1.2, is not compatible with unisensory oral methods. In these methods the child has to perceive speech by hearing alone, so according to Van Udens' conception of deafness (i.e., children who are not able to understand speech by means of hearing alone) these children are not 'deaf'. Multisensory methods use visual-auditive speech perception (which by definition is bimodal) as a means of receiving language, and sometimes also sign-reading.

The three distinctions made in this section and the foregoing section are very important, and can be very confusing as well. Therefore, I briefly summarize them here. The distinction is made between different *types of language* (i.e., spoken language or sign language), different *languageforms* (i.e., the material form of a language, the 'stuff' language is made of), and different *modes of language* (i.e., the physical channels used to transmit or perceive language). Methods in deaf education can be *unilingual* or *bilingual* (i.e., teaching one or two types of language) and *unimodal* or *bimodal* (i.e., involving one or two physical channels for transmitting and/or receiving language). These distinctions are especially important with respect to *sign systems*, which are often seen as a different type of language, whereas in fact they are forms of spoken language. Total Communication, which I will discuss in section 2.4.4, and which involves the simultaneous use of speech and a sign system, thus is *bimodal* but *unilingual*.

21 I explicitly use the word 'intend' here because there is a difference between a method intended to be unilingual/bilingual, and what a method in practice turns out to be. As we will see in the next section, and in chapter 6, this is a point of discussion between Oralists and Manualists. But it is clear that, when educators speak about unilingual/bilingual methods, they refer to methods that are at least intended to be so.

22 To my knowledge there are as yet no methods in which solely, that is, throughout all years of education, only sign language is taught.

23 The Bilingual/Bicultural method practiced at the Learning Center for Deaf Children in Framingham, Massachusetts is unimodal in this sense, at least during the first years of education. Educators are requested not to speak in the vicinity of the deaf pupils (Philip & Small 1991).

24 This method is practiced, for instance, in schools following the Beebe-method, at least during the first years of

education. Parents and teachers cover their mouth while speaking to the deaf child, so that the child is forced to perceive spoken language solely by her residual hearing (Barrientos 1992a, Beebe 1953). See also Csànyi 1991, Ling 1990, 12, Pollack 1970.

2.3.3 Speech

As I have said in section 2.2.4, learning spoken language is a difficult task for deaf children, but the most difficult language form for them to learn is speech. Let us remember that prelingually deaf children have to learn speech while not being able to hear their own speech and while having only limited access to the language they are supposed to speak. The Alexander Graham Bell Association (an American institution that promotes the use of speech with and among deaf people) has a section called the Oral Hearing Impaired Section (OHIS). This OHIS allows only those deaf people as members who speak very well. According to Jacobs (1989, 53, see also information paper of the AG Bell Association) the number of members of this OHIS is very small, which suggests that only a very small number of deaf adults reach levels in speech and spoken language that are equivalent to those of hearing adults.

Speech is used by deaf people for communicating with hearing people who do not know sign language or manual language forms like fingerspelling or a sign system. There are also deaf people who cannot or do not want to speak, and who use either writing or an interpreter in every contact they have with non-signing and non-fingerspelling people (Jacobs 1989). To my knowledge there has never been a proper investigation into whether and to what degree deaf people use speech among themselves. It is just commonly assumed by Manualists that the great majority of deaf people use some manual language form among themselves (e.g., Charrow & Wilbur 1989, R.E. R.E. Johnson, Liddell & Erting 1989, but see also Strong 1990, 125), whereas Oralists stress that orally educated deaf people speak among themselves (e.g. the OHIS-section of the Alexander Graham Bell Association mentioned above). My own experience with orally educated deaf children is that these children among themselves use speech accompanied with a lot of gestures and signs. My experience with deaf adults in America is that the majority of deaf people among themselves either use signs alone, or they use signs while at the same time speaking aloud or silently. A minority of deaf adults speak among themselves.

2.3.4 'Lipreading'

The synonymous terms 'lipreading' or 'speech-reading' refer to the way deaf people perceive speech.

Literature about this phenomenon is rare. Of course there is some literature about the technique of 'lipreading', and about how to teach it to deaf children (e.g. Green, Green & Holmes 1980, S.R. Silverman & Kricos 1990), but there is little about what 'lipreading' really is, and about what the proper terminology should be. IJsseldijk (1992) notices a difference between how these terms

are being used in scientific literature, and how they are being used in the practice of education. In scientific literature 'lipreading' or 'speechreading' refer to experiments in which there is visual perception of silent speech, that is, the deaf subject cannot use her residual hearing, she can only use the visual channel to perceive speech. In deaf education, however, especially in Oralist settings, residual hearing or 'audition' is always used in addition[25]. Audition is an integral part of the oral method, and, lately, with the advancement of hearing aids, it has become even more important than it has ever been. In Total Communication settings audition is used also (J. Cohen 1990, 32, Denton 1972, 55), although there are differences in emphasis at different schools (Christensen 1990a, 27). Because of this important role of audition, the terms 'lipreading' or 'speechreading' are misleading as names for the way deaf people perceive speech, for these terms leave out the use of residual hearing. IJsseldijk says that 'lipreading' is in fact a combination of watching the lips and the facial expressions of the speaker, listening to the speaker, and guessing what is being said based on knowledge of the context and of the topic that is spoken about. Deaf people need this knowledge of the context much more than hearing people do to understand what the speaker is saying.

IJsseldijk suggests to use the term 'visual speech perception' instead of 'lipreading' or 'speechreading', because this term includes watching the facial expressions of the speaker. Although he is not entirely clear about this, it seems obvious to me — since in that phrase audition is left out too — that 'visual speech perception' is meant by him to replace the scientific use of the terms 'lipreading' and 'speechreading', that is, referring to receiving silent speech. In education[26], however, as I said, deaf people never perceive silent speech. It could be said then that deaf people in understanding speech make use of a combination of visual speech perception, listening, and knowledge of the context and the topic of the conversation. It seems difficult to find one term that covers this entire process. 'Visual-auditive speech perception' refers to the combination of seeing and listening, but leaves out the element of guessing based on knowledge of the context and the topic of conversation. Perhaps it could be said that, because receiving speech is not the same as understanding speech, the term 'visual-auditive' is a good term to use to characterize the way deaf people *perceive* speech, but not a good term for describing the way deaf people *understand* speech. I prefer henceforth to use the term 'visual-auditive speech perception' when referring to the way deaf people, in most settings, perceive speech. I use 'visual-auditive' instead of 'auditive-visual' because, even with the best hearing-aids, for deaf people vision will always be the primary channel for receiving speech, and audition will always be the secondary channel. 'Visual-auditive speech perception', that is, receiving speech by means of seeing plus residual hearing, can thus be distinguished from 'lipreading' or 'speechreading', that is, receiving speech by vision alone, and from 'audition', a term commonly used to refer to receiving speech by hearing alone (see for instance Hyde & Power 1992).

25 Oralists usually state that 'most' deaf children have residual hearing, but there is disagreement about this too. See my note 14 in chapter 3, section 3.2.3.

26 The situation in daily life seems to be different. One should distinguish between what deaf people could do with their residual hearing if they wanted to, and what they really do with their residual hearing. IJsseldijk cites an investigation of Breed & Swaans-Joha (1986) in which it turned out that only 25% of the adult deaf in the Netherlands use their hearing-aids.

2.3.5 Reading and writing

As mentioned before (section 2.2.4), spoken language remains difficult for the majority of prelingually deaf people, be it in the spoken or in the written form. Only a minority of deaf adults find reading and writing to be as easy (or nearly as easy) as it is for hearing people of the same intellectual level. According to the most recent figures of the Center for Assessment and Demographic Studies (1991) only 3% of deaf school leavers read at a level that equals or exceeds the average level of hearing school leavers.

People who are unfamiliar with deafness and the methods controversy in deaf education, often wonder why writing as a means of communication is so little a topic in the methods controversy. Here again, the difficulties deaf children have with reading and writing is the main reason, but also the fact that writing, though very effective, is also a very slow means of communication, not viable for permanent and daily use in the classroom or home. Interesting, however, are the developments in the technology of machines that can transform speech into writing and vice versa. This means that the hearing person speaks and her speech is transformed into a written message appearing on a little screen or on a strip of paper, and the deaf person writes and her writing is transformed into speech for the hearing person, all of this being performed quickly by a small portable pocket-machine. These kinds of machines do not yet exist, but they are coming. The National Technical Institute for the Deaf in Rochester is involved in developing these kinds of machines (see Stinson, Stuckless, Henderson & Miller 1988, Stuckless 1993, 1994).

As far as reading is concerned, this is a problem in itself. Probably the most discussed issue in deaf education today is the limited reading abilities of deaf children and adolescents, the majority of whom do not reach above the third grade level (nine-year-old hearing children). I will discuss this problem in chapter 8.

2.3.6 Cued speech and other systems of visually representing sounds

Educators of the deaf have developed several different systems to visually represent (part of) the speech-sounds, as an aid for learning to speak and as a means of facilitating visual-auditive speech perception. These are systems of hand configurations indicating, for instance, that a sound is nasal, guttural or labial. The idea is that the speaker speaks and simultaneously, holding her hand next to her mouth, makes these hand configurations. It is important to notice the differences with fingerspelling. In these systems not the letters but the sounds are made visible.

The most sophisticated and most widely used system probably is that of Cornett, who developed his system, called 'Cued Speech', in 1965[27]. An advantage of Cued Speech is that also

different pronunciations of a language (e.g., American English and British English) or accents can be shown visually (P.H. Beck 1991, Kipila & Williams-Scott 1990). Cornett (1990b) claims that Cued Speech is easy to learn for deaf children as well as their parents and siblings, and that it enables deaf children to read at grade-age. However, Cued Speech is used only in a minority of deaf schools (Bornstein 1990b).

Educational methods that use Cued Speech or a similar system in addition to speech and visual-auditive speech perception in daily conversation are usually seen by Manualists as 'oral' systems, but strict Oralists see such methods as 'manual' systems (Paul & Quigley 1994, 22).

30 See Van Uden 1989, 27 and Reed 1982, 39 for more information about systems for visualizing speech sounds. For a representation of the hand shapes of Cued Speech see Evans 1982, 41.

2.3.7 Dactylologic spelling or fingerspelling

Dactylologic spelling, more commonly known as 'fingerspelling', is spelling words in the air by means of the hands (Kyle & Woll 1985, 123-128, Lindner & Reuss 1974, Marzinowskaja 1970). For every letter in the alphabet there is a hand-configuration, and these handconfigurations look as much as possible like the printed letters. For instance, the 'n' in most fingerspell-alphabets is made by making a fist but putting the thumb between the middle-finger and the ringfinger, whereas the 'm' is made by making a fist but putting the thumb between the ringfinger and the little finger, thus showing the difference between the two-legged 'n' and the three-legged 'm'. The 'o' is made by bending the thumb and the first finger into a circle, and the 'i' is made by closing the hand to a fist but pointing the little finger up in the air, etc. In the past there used to be two-handed and one-handed systems. Nowadays almost all systems are one-handed and although the diverse systems are not completely identical, they are for the greater part. Fingerspelling can be used as an independent means of communication, but it can also be combined simultaneously with speech (in the Rochester method, see section 2.4.3), and it can be used in signed communication when names have to be spelled or when a word of spoken language for which there is no sign-equivalent has to be spelled[28].

Sometimes in popular terms fingerspelling is categorized as a form of signing, but it isn't. It is important to stress the difference between signs of a sign language or a sign system, and fingerspelled letters. Fingerspelling is a language form just like speech and writing. Both are aphabetic codings of spoken language, signs are not. Fingerspelling is most similar to writing. However, fingerspelling is transient whereas writing is lasting. Oralists tend to make a watershed between writing and fingerspelling, using the former but not the latter in an oral method with normal deaf children (Van Uden 1991). If we remember the distinction between language forms and language modes we could say that, because both writing and fingerspelling are produced by the hands and perceived by the eyes, they are using the same mode. But because they are of a different 'material' (fingerspelled letters are three-dimensional manual symbols placed in the air,

whereas written letters are two-dimensional ink-symbols placed on paper or light symbols on a computerscreen) they are different language forms. However, in the framework of education, the most important characteristic of both writing and fingerspelling seems to be that they are both alphabetic codings of spoken language. The major reason why Oralists do use writing but do not use fingerspelling seems to be that the first is a 'normal' means of communication used by hearing people, whereas the latter is a 'deviant' means of communication used only by deaf non-oral people. Therefore, they ignore the similarities between writing and fingerspelling and the possible educational advantages of fingerspelling, especially for learning to read. Here we find a poignant example of ideology prevailing over educational considerations.

Apart from the consistent use of it in the Rochester method (see section 2.4.3), there is little known about how and how often fingerspelling is used in schools for the deaf. Baker and Child (1993), in a depth-survey of nine representative deaf schools in the UK asked explicitly about the role of fingerspelling in education. It turned out that most schools saw fingerspelling as a medium to fill in the gaps in manual communication, where a sign for expressing a certain concept is lacking.

28 Representations of the dactylologic alphabet can be found in most introductory works about deaf education. See for instance Evans 1982, 46, Wilbur 1979, 16.

2.3.8 Sign systems

In section 2.2.3 I mentioned communication systems developed by educators of the deaf that are meant to be a help in acquiring speech and spoken language. The first known to have developed such a system was the founder of the first school for deaf children, the abbot De l'Epée, at the end of the eighteenth century (Vernon 1991, 149). He adopted the vocabulary of the sign language his pupils were in fact using, put these signs in the French word-order, and added signs for words that were not used in the sign language of his pupils. Nowadays there are many such systems.

Sign systems, just like speech, writing and fingerspelling, are codings of spoken language, they are not separate languages but language forms. In these sign systems spoken language is expressed more or less exactly through signs (Bos 1994, 22, Knoors 1993, 16). Usually many signs are borrowed from a sign language; for words that have no sign-equivalents signs are invented. The word order of spoken language is followed, and in some systems signs are added for grammatical markers like '-ing' or the plural -s. A sign system is intended to never be used on itself, but to be always accompanied by simultaneous speech. Nevertheless, sign systems can be used independently (Charrow & Wilbur 1989, 107-108, Paul & Quigley 1994, 27-33).

There are many different sign systems. Even within one country there usually are different systems to sign one spoken language. For instance, Wilbur (1979, 207) lists the following nine (!) systems for signing English, all developed between 1951 and 1973: Paget-Gorman Sign System (PGSS), Seeing Essential English (SEE-I), Signing Exact English (SEE-II), Linguistics of

Visible English (LOVE), manual English, Signed English, signed English, Siglish, Ameslish. All these sign systems differ in the degree in which they resemble spoken language.

As I already mentioned in the last paragraph of section 2.2.3, recently there is much discussion about the distinction between sign languages and sign systems (Strong 1990, 125, Valli 1990).

There are two positions. One party, among which are the linguists and some deaf people and the Oralists, thinks that all types of sign communication can be put on a continuum, with on the one end sign languages of deaf people in their most strict form, that is, relatively uninfluenced by spoken languages, and at the other end signed forms of spoken languages which, as strictly as possible, follow the grammar of spoken language (i.e., sign systems). In between are, at the *sign language* pole, sign dialects which are more influenced by spoken language, and, at the *sign system* pole, signed forms of spoken languages which follow the grammar of spoken language less strictly and borrow more from sign languages of the deaf (Schermer & Tervoort 1986, 69-70). Or, paraphrasing this: in between are, at the sign language pole, dialects which deaf people themselves have adjusted so hearing people can understand them more easily, for instance, by putting the signs in a spoken language-like order; at the sign system pole are the sign forms which have been invented by hearing people[29].

The other party, mostly deaf people, thinks that each and every manual form of communication used by deaf people should be called 'sign language', that is, every form of manual communication on the continuum I just described, plus fingerspelling. Different reasons are being put forward for proposing this. Kuntze (1990, 78) thinks that the distinction between strict ASL (as a language very different from English) and more spoken language-like forms of signing scares off hearing people and deters them from learning a sign language. If, Kuntze thinks, also their clumsy signing, as beginning learners, would be called 'ASL' they would be more confident and more willing to improve their signing. More people — deaf and hearing — would be willing to identify with ASL if ASL were defined more broadly. Bragg (1990, 11) puts forward similar reasons concerning hearing parents of deaf children. He also thinks that deaf parents with deaf children will be more willing to use a more English-like form of ASL with their young deaf children if this gets the label 'ASL' and this will equip the children better for learning English at school. At another place (Bragg 1992, 32/33) he claims that forms of sign that more approach English would be acknowledged more as (in some situations) important means of communication if they would be called 'ASL'.

Another reason for canceling the distinction between more and less strict forms of ASL has to do with the division this distinction creates among 'deaf' and 'Deaf' people (Kuntze 1990, 75, 78). One of the criteria for being acknowledged as a member of the Deaf community concerns the language and the language form one uses. The more someone's language resembles a spoken language, the less likely it is that she will be accepted as a member of the Deaf community. Bragg (1990,12) says 'No longer [i.e., if the definition of ASL would be broadened] would the diversity of the language be categorized, departmentalized, discriminated against, nor would signers be compared against each other, judged as superior or inferior'. He thinks that then everybody 'who

communicates visually-spatially' can be included in the Deaf community. Lane (1993a) says that one of the means the hearing establishment uses to 'divide and rule' over deaf people, is to assign them to different groups by labeling them as 'deaf', 'severely hard-of-hearing', 'moderately hard-of-hearing', etc., and as users of 'strict ASL', 'pidgin', 'signed English', etc. He claims that Deaf people have internalized this behavior and now use these same distinctions to limit membership of Deaf Culture to Deaf, strict ASL using people. Within the Deaf community, on the other hand, there is also a movement towards maintaining the distinction between strict ASL and more spoken language-like signing. They are afraid that canceling the distinction will be a threat to their Deaf Identity[30]. Jane Norman (in Bragg 1990, 13) is afraid that giving up the distinction 'confuses the issue' and gives people 'an excuse for poor communication skills'. Valli (1990, 130) sees the broadening of the term 'ASL' so as to include signed English as another attempt of hearing educators to 'avoid the real issues and keep control'.

I will maintain the distinction between 'sign language' and 'sign systems'. Sign languages then include the most 'strict' form of a sign language as well as less strict, more spoken language-influenced forms, as long as they have grown naturally within a group of deaf people. For my purpose, it would be confusing to throw all types of manual communication together, precisely because the distinction between sign languages and sign systems plays an important part in the methods controversy. Sign systems are, as I have said, invented by hearing educators and more or less follow the structure of the spoken language of which they are a language form. Sign languages are not derived from spoken languages, and, because of the use of a visual-spatial medium (i.e., signs) instead of an aural-sequential medium (i.e., sounds), they have a structure that is fundamentally different from the structure of spoken languages. Of course, the signs in a sign system are also visual-spatial. But because sign systems have not grown naturally, as sign languages have, but are constructed by hearing people, and are meant to be a coding of spoken language, they have a grammar, a syntax, and morphological processes that are much more sequential than in sign languages.

29 The difference is more important than it may seem. Sign systems invented by hearing people are, more than the sign dialects which by deaf people themselves are adjusted for communication with hearing people, at odds with sign languages. Their signs sometimes go against the natural way of making signs. This is the reason why at the National Technical Institute for the Deaf in Rochester (NY) signs for technical jargon are not invented by hearing educators Instead, educators wait till this sign-jargon has developed among deaf technicians (F Caccamise, personal communication 7/3/1994)

30 Bragg, 1992, describes an example where a deaf actress, playing a deaf courtroom prosecutor on television, is criticized for her signing style, it being too little American Sign Language-like because she sometimes vocalizes words. Some members of Deaf culture think this is a kind of betrayal of Deaf Culture.

Overview of section 2.3

LANGUAGE FORMS AND LANGUAGE MODES

Types of language: spoken languages, sign languages.

Language forms: ways of coding a language, i.e. speech, writing, fingerspelling, signing.

Language modes: oral (=by the mouth), manual, tactile, aural (=by the ears).

The word refers to the way people produce or perceive language. Language can be produced by means of speaking, signing, fingerspelling, and writing. Language can be perceived by means of seeing, hearing, and feeling.

Unilingual, Bilingual: one or two types of language are being taught, respectively.

Unimodal, Bimodal (Multimodal): one mode or two modes, respectively, are being used for receiving and/or producing language.

Visual-auditive speech perception: a better description for what (popularly) is called 'lipreading' or (more scientifically) 'speechreading'.

It refers to the way deaf children perceive speech, that is, by a combination of hearing, watching the lips of the speakers, and guessing what is being said with the help of knowledge of the topic and of the context of the conversation.

Audition: a synonym for hearing, especially hearing spoken language.

Cued Speech: A system of hand configurations indicating the speech sounds, designed to facilitate understanding and learning speech.

Dactylologic spelling or fingerspelling: a system consisting of twenty-six different handshapes, picturing the letters of the alphabet, which can be used to spell spoken words in the air.

Sign systems: codings of spoken languages in visual-manual signs, in which the grammar of the spoken language is more or less followed, and which are constructed by hearing educators to be auxiliary means for acquiring spoken language.

They are intended to be used simultaneously with speech. Several different systems exist, for instance, Signed English, Seeing Exact English, Dutch-in-Signs, German-in-Signs, etcetera.

2.4 Oralism, Total Communication, Bilingualism/Biculturalism, and the corresponding methods

2.4.1 Oralism and Manualism

Although their names might lead one to think otherwise, it is not the case that Oralists use only oral language (oral, i.e., produced by the mouth: speech) in educating deaf children, and Manualists use only manual (i.e., produced with the hands: signs or fingerspelling) language. Oralists, besides speech, also use the written form of spoken language, and most Manualists, besides manual language, also use speech and writing. A better way to describe the distinction between Oralists and Manualists is that Oralists want to use only those communication means that are normally used by hearing people, whereas Manualists, in addition to these 'normal' means, apply communication means used especially by deaf people.

The participants of an international symposium on oral education have agreed on the following definition of oral education: '1. A communicative system that uses speech, residual hearing, speechreading, and/or vibrotactile stimulation in spontaneous discourse. 2. An educational system in which instruction (teaching) is conducted exclusively through spoken and written language.' (Mulholland 1981a, 535). Mulholland reports also that Van Uden, a respected Oralist, later remarked that this description left open the possibility to call a school an oral school where in leisure time, outside the classroom, pupils were allowed to use signs; according to Van Uden such a school is not a true oral school. Also Van Eijndhoven (1981, 529) says: 'A good professional in

oral education sees oral education only as oral education if that oral education is *purely* oral.' [his italics]. The author does not explain his use of the word 'purely' here, but from the context it can be assumed that he means that signs should be expelled not only from the classroom, but from the entire environment of the deaf child.

With the term 'Oralists' I henceforth refer to those educators and researchers who want to use exclusively one or several of the following language modes in the (entire) education of normal deaf children: speech, writing, visual-auditive speech perception, reading, and the usual 'body language' or mimicry (Northcott 1981, 165, Schaper 1990, 26, Van Hagen 1984, 10-11, Van Os 1989, 14, 24).

With the term 'Manualists' I refer to those educators and researchers who propose to use one or several of the aforementioned means of communication in the education of deaf children, in some way combined, preceded or followed by the use of fingerspelling, a sign system, and/or a sign language (Evans 1982, Hendrickx & Timmermans 1984, D.A. Stewart 1983, 878, Hyde & Power 1991, 381).

Manualists used to protest against the term 'Manualist' because it might suggest that these educators do not use and teach speech (e.g., Moores 1978, 15). Oralists, however, thought the term was appropriate because, according to their view, the 'Oralism' of the Manualists is nothing more than a veneer on what in practice turns out to be mainly a manual method (Van Uden 1977, see also J. Cohen 1990, 32).

For about a decade there have been two distinct groups among Manualists suggesting different ways of teaching language to deaf children, namely educators who adhere to Total Communication (see section 2.5.3) and educators who adhere to Bilingualism/Biculturalism (see section 2.5.4). Some even speak of 'the new controversy' of Totalists and Bilingualists, replacing the old oral-manual-controversy. This, however, is too quick a conclusion. Oralism is still alive, and with it the controversy goes on[31]. The controversy within Manualism does not replace the one between Oralists and Manualists, both controversies exist alongside each other, especially in the Unites States (e.g., R.E. Johnson, Liddell & Erting 1989). Some educators predict that Oralism will gain importance again since advancements in technology of hearing equipment and Cochlear Implants make it possible for more deaf children to understand language by hearing (Van Dijk 1992, personal communication, Jussen 1991, Stoker 1991). So, the oral-manual controversy is still quite alive and no one can foresee what course it will follow. Therefore, I will stick to the terms 'Oralists' and 'Manualists' and add to it the distinction between two subcategories of Manualists, namely, those advocating Total Communication and those advocating Bilingualism/Biculturalism.

Although the use of the word 'Manualists' might cause the untrue impression that the so denominated educators do not teach speech, there seems not to be another word that is appropriate here. One could consider 'Totalists', but that would leave out Bilingualists, and vice versa. One could consider something like 'oral-plus' (Moores 1978, 15) but that would give the incorrect impression that in methods where manual communication means are used in addition to oral

communication means, the oral component is always the more important one. So, I will use the words 'Oralism' versus 'Manualism' when speaking about matters that concern the basic controversy in deaf education, that is, the controversy about *whether or not* to use manual communication means of deaf people in educating deaf children. And I will use the words Totalism and Bilingualism when speaking about matters that concern the second major controversy in deaf education, namely the controversy about *which* manual communication means of deaf people should be used in educating deaf children. By specifying explicitly that Manualists do use oral means, and by discussing the differential opinions of 'Totalists' and 'Bilingualists' wherever that is relevant, the use of the name 'Manualists' is justified.

Apart from these two major controversies, there are more controversies in deaf education. For instance between adherents of 'natural' and adherents of 'constructive' or 'structural' methods of language teaching. This is a controversy that cuts right through the oral-manual controversy (Arnold 1989b). Another one is that of adherents and adversaries of mainstreaming, that is, educating the deaf child in regular schools for hearing children. This controversy is in line with both the Oral-Manual and the Total Communication-Bilingualism/Biculturalism controversy, it more or less directly follows from them (Rodda & Grove 1987). A third, and at this moment very heated discussion, concerns the placement of Cochlear Implants (see chapter 7).

31 The following authors state that the controversy continues or is flaring up: Arnold 1984a, 29; Arnold 1989a, 145; Goppold 1988, 285; Günther 1991, 321; Harmsen 1992, 156; Moores 1991, 36)

2.4.2 The oral method and the pure oral method

In literature about deaf education the terms 'oral method' and 'pure oral method' sometimes are used as if they are interchangeable. This probably is due to the ambiguous use of the word 'pure' with regard to the oral method. At least three different meanings can be found.

First, sometimes 'pure' stands for: the child is 24 hours a day approached without signs or fingerspelling, not just in school but also at home (Van Uden 1989, 183). By contrast, then, a not pure oral method would be a method that forbids signing and fingerspelling during school-hours but allows it in leisure time.

A second meaning of 'pure' was initially used by Alexander Graham Bell, who took it as: '...that no word shall be presented in writing until after the child can read it from the mouth...that is the pure oral method' (cited in Van Uden 1986b, 105, see also Bruce 1973, Löwe 1981, 12-13, Scouten 1984, 69, 93). In his days there were no electrical hearing aids, so deaf children could not or only to a limited degree use their residual hearing. They had to read spoken language from the mouth. 'Pure' meant not only that the child perceived language exclusively through visual (not auditive) speech perception but also that exclusively speech was used as a mode to offer (spoken) language to the deaf child.

However, since the development of electrical hearing aids there has been a shift of meaning

with respect to this second sense of the word 'pure', thus resulting in a third meaning. Now a method is no longer pure (in the second sense of the word) when speech is perceived exclusively by means of visual speech perception, but only when speech is perceived exclusively by means of hearing. Or, as Arnold (1984a, 33) puts it: 'The term pure Oralism has at least two meanings[32]: pure of sign [i.e., given by me as the *first* meaning] and pure of any method except a method that relies on residual hearing alone [i.e., given by me as the third meaning].'

In chapter 3 I will elaborate on different 'pure' and 'not-pure' oral methods. Henceforth, I will use the term 'pure Oralism' when referring explicitly to methods where, at least during part of the time, deaf children are expected to perceive speech by hearing only. I will use the term 'Oralism' in a more general way, including both 'pure'and 'not-pure' Oralism.

37 Arnold himself (1989b, 101) uses the term 'pure Oralism' in yet another sense, relating it to natural versus constructive ways of teaching language! I will elaborate on this in chapter 3.

2.4.3 The Rochester method and the Cued Speech method

The Rochester method is named after the place where it was first practiced, the Rochester School for the Deaf in Rochester, New York. It consists of the simultaneous use of speech and fingerspelling in all communication with deaf children. It used to be practiced a lot in the countries of the former USSR (Marzinowskaja 1970, Schulte 1981, 106-107) but current practices in the former USSR are not known to me. In oral European and American schools for the deaf it sometimes is used with doubly-handicapped deaf children (Van Uden 1989, 193-194). In keeping with my description of Oralism, henceforth I will consider the Rochester method a manual method.

Cued Speech is not a real (manual) communication means used by deaf people but a visual system that helps people who cannot hear to recognize how words should be pronounced. So, according to my desciption of Manualism, methods that use Cued Speech should not be called manual methods but oral methods. However, as I have said, strict Oralists consider methods that use Cued Speech to be manual methods, because in these methods a system is used that is absent in normal communication among hearing people. Also, although sometimes schools that use Cued Speech have oralistic aims, that is, to create a deaf person who communicates mainly by speech, there are also bilingual schools that use Cued Speech (Cornett & Daisey 1993). Cornett himself, the inventor of Cued Speech, favors a bilingual education for deaf children in which speech is taught with the help of Cued Speech, and a sign language is taught with the assistance of native deaf sign language users, and he describes schools in Belgium where this is being done (Cornett 1990b). Therefore, we should perhaps not beforehand categorize methods using Cued Speech as either 'oral' or 'manual'. It is more appropriate to say that Cued Speech can be used in oral as well as in manual methods.

2.4.4 Total Communication and SimCom

Probably the first official description of Total Communication (from now on abbreviated to 'TC', except in quotations) is that which was accepted at the Conference of Executives of American Schools for the Deaf in 1976 (quoted in M.S. Moore & Levitan 1992, 77): 'Total Communication is a philosophy requiring the incorporation of appropriate aural, manual and oral modes of communication in order to ensure effective communication with and among hearing-impaired persons'. However, at the time of its invention for the education of the deaf, around 1968, and still, many educators see 'Total Communication' as probably the most vague, multi-meaning and confusing term in deaf education (Bahan 1989a, 118, J. Cohen 1990, Garretson 1976, Hendrickx & Timmermans 1984, Jacobs 1989, 51, Latimer 1983, M.S. Moore & Levitan 1992, 77). This is nicely illustrated by the title of an article about meaning-problems of TC, reading : " 'Total Communication' or 'Total Confusion'?" (Sutcliffe 1983). Discussion related and relates especially to the question of whether TC should be viewed as an educational method using manual in addition to oral means of communication, or rather as a 'philosophy', that is, a normative view regarding communication with and among deaf children. As can be seen, the above quoted definition is ambiguous too, using the word 'philosophy' initially, but in the latter part of the sentence describing TC more as a communication method.

Different characterizations of TC as a philosophy have been and are being given (see for instance Bahan 1989a, 117/118, Buter e.a. 1990, 81, J. Cohen 1990, 31/32, Jacobs 1989, 51/52, M.S. Moore & Levitan 1992, 77, Stelle 1980, 37). Most of them amount to the idea that any profitable means of communication should be used, be it speech, a sign system, a sign language, fingerspelling, pantomime, drawing, etc. It is also often stated that deaf children have a ***right*** to use, and be approached with, each and any means of communication they need or want. However, soon after its application to deaf education the term usually was and still is used to refer to one particular communication method, namely, a method in which in all and every communication with the deaf child audition, speech and a sign system is used simultaneously (Bahan 1989a, 118, Buter e.a. 1990, 81, Denton 1972, G. Montgomery 1986a, 45-46, M.S. Moore & Levitan 1992, 78, Schwartz, 1989, 93). This communication method is also called 'SimCom' (i.e., simultaneous communication). SimCom is defined as the simultaneous use of speech, audition and a sign system as a means of instruction in deaf schools, next to reading, writing and normal body-language (Hyde & Power 1992, 389). Meadow (1980, 82) defines it as 'The early, consistent, simultaneous use of spoken and signed English by all significant others in the deaf child's environment'.

Henceforth I will use the phrase 'Total Communication' to refer to a specific view in the methods controversy, namely, the view that deaf children should be educated while communicating with them all the time by means of the simultaneous use of speech and a sign system. I will use the phrase 'SimCom' when referring to this communication system in which simultaneously speech and a sign system is used. It is very important to notice that 'Total Communication' and

'SimCom' are names for a *unilingual* but *bimodal* method wheras, as we will see later, Bilingualism/Biculturalism is a *bilingual* and -in a particular sense- *unimodal* method. In Total Communication spoken language is the language of communication, but it is coded simultaneously in speech and in signs.

Over the last few years, the use and the definition of the term 'Total Communication' have been heavily disputed again, but the subject under discussion has changed. Supporters of Bilingualism-Biculturalism see 'Total Communication' as a euphemistic, misleading expression for a practice that in reality boils down to a grammatically incorrect combination of mainly speech supported by some signs. They point to several investigations which show that teachers using SimCom tend to delete many parts of the spoken as well as the signed message. However, there is also some research that shows that teachers using SimCom employ correct (or nearly correct) grammar. I will more extensively describe this research in chapter 4. At any rate, supporters of Bilingualism/Biculturalism refuse to use the term 'Total Communication' and instead stick to the phrase 'Sign Supported Speech' (SSS), and they accuse TC of in reality being 'crypto-Oralism' (e.g. Bahan 1989a, 118-119, R.E. Johnson, Liddell & Erting 1989, 4-5, M.S. Moore & Levitan 1992, 78).

2.4.5 Bilingualism/Biculturalism

The latest trend in deaf education is 'Bilingualism/Biculturalism' (henceforth shortened to 'Bl/Bc'). Sometimes methods are called 'bilingual', but mostly bilingual programs are called 'bicultural' as well, implicitly or more explicitly. Programs in Sweden usually are called 'bilingual', and Cullbrand (1988, 555) says 'theorists who speak for the deaf ...[say]... that their bilingualism is mono-cultural. Both languages reflect mainly the same culture.' However, Andersson (1991, 402) says that Swedish Deaf culture is transmitted along with Swedish sign language. In the USA, the program at the Learning Center in Framingham, Massachusetts, is explicitly called 'bilingual bicultural'. Also Newman (1992) and Bosso & Kuntze (1991) speak about 'The bilingual and bicultural approach', and the Danish educator Elmer (1991) speaks about the 'cultural element' in a yet to be established program where Danish Sign Language will be taught as a first language to deaf children. R.E. Johnson, Liddell & Erting (1989, 16) speak about a bilingual program for deaf children (yet to be developed), but they emphasize that deaf adults should be present in all educational contexts and they say 'This is critical also because ASL, like all natural languages, exists within a cultural context', thus implying that next to a language, (necessarily) a culture is transfered. However, it could be questioned whether such a necessary relation between bilingualism and biculturalism exists.

Just like TC, Bl/Bc seems to be a method as well as a philosophy. The method Bl/Bc means that the young deaf child learns a sign language as a mothertongue at home, and when the child goes to school sign language is the language of instruction. Spoken language is taught as a second

language, first in the written form and later (or not at all) in the spoken form (Barnum 1984, R.E. Johnson, Liddell & Erting 1989, Philip & Small 1991). Other combinations of the two languages are possible too. In some schools speech and a sign language are used alternatively, for instance speech in the morning and sign language in the afternoon (Blume, personal communication, 23-6-1995). As a philosophy Bl/Bc stresses the importance of passing on Deaf culture to deaf children and of treating deafness not as a disability but as a different way of being, leading to a specific way of communicating (i.e., by signs instead of speech) and a different culture (Philip & Small, 1991). There is, however, some discussion about what Deaf Culture precisely entails. Some deny the existence of Deaf Culture altogether, others present it as a culture that is as rich and has as respectable a history as other great cultures. I will elaborate on this discussion in chapter 7.

Overview of 2.4

ORALISM, MANUALISM AND THE CORRESPONDING METHODS, TOTAL COMMUNICATION AND SIMCOM, BILINGUALISM/ BICULTURALISM.
Oralism: the movement that proposes to use only speech, listening, writing and reading, plus the usual body language that accompanies speech, in educating deaf children.
Manualism: the movement that proposes to use writing and/or speech, listening and reading, normal body language, plus one or more manual means of communication in educating deaf children.
Oral method: a way of teaching deaf children exclusively using one or several of the following means of producing and receiving language: speech, visual-auditive speech perception, reading, writing and normal 'body language'.
Pure oral method: an oral method that is either, (a), completely free of signs, no signs are allowed in all settings, or, (b), completely free of other means of receiving spoken language than hearing alone.
Rochester method: a method using fingerspelling combined with speech and visual-auditive speech perception.
Total Communication: a rather ambiguous term used, (a), for a philosophy that emphasizes that any viable communication means should be used in educating the deaf child, be it manual or oral, or (nowadays), (b), for an educational method that uses SimCom.
SimCom: simultaneous communication through speech and a sign system.
Bilingual/Bicultural methods: methods that teach the deaf child first a sign language, after which a spoken language is taught as a second language, and in which the passing on of Deaf culture to deaf children is a major part of the curriculum.

2.5. An example of confusion caused by improper use of terms

All this fuss about terms may appear to be without purpose, but the distinctions are important. Educators of the deaf do not always use these terms consistently. Terms centering round 'language' are especially often misused: unilingual, bilingual, unimodal, bimodal, signs, sign language, sign system. Evans & Hicks give an example of how even Stokoe himself, the Big Man in sign language research, used the term 'signs' ambiguously (Evans & Hicks 1988, 568). I will now give one example of how confusion of these terms, probably unintentionally, hinders the

discussion in the methods controversy.

Although they may be somewhat careless in their use of terms, there is general agreement among educators of the deaf that sign *systems* are *codings* of spoken language in signs (see, e.g., Anthony 1966, Bornstein 1982, 1990b, Gangkofer 1992, Gustason, Pfetzing & Zawolkow, 1980, Wilbur, 1979) whereas sign *languages* are languages next to other languages. Also, it is generally known that the phrase 'Total Communication' refers to an educational system in which simultaneously speech and a sign *system* are being used. This implies that a child who is educated with TC is educated *unilingually*. In a lecture that was transcribed in a journal (Van Dijk 1991a, 42-43), the oral method of the only oral school in the Netherlands is described. Arguing against Total Communication for multi-handicapped deaf children Van Dijk remarked: 'Waarom...niet gekozen is voor Totale Communicatie...[is vanwege]...de overtuiging dat het effectiever is mono-linguaal te werken dan tegelijkertijd een meer visuele simultane taal (=gebarentaal) en een orale taal (=akoestische/sequentiële taal) aan te bieden.' ['Why ...we did not prefer Total Communication ... [is because of] ...the conviction that it is more effective to work mono-lingually, than to offer at the same time a more visual simultaneous language (i.e. sign language) and an oral language (i.e. an acoustic-sequential language)].

It is clear, from his reference to TC and from his use of the words 'visual-simultaneous' as against 'acoustic-sequential' that the author sets against each other here two modes of communication and not two languages. Yet, he uses the terms 'monolingual' (implying that TC is bilingual, which it isn't [38]) and 'sign language' (implying that TC uses a sign language, which it doesn't).

This somewhat careless use of terms, though probably unintended, pollutes the discussion in two ways. First, here Van Dijk unjustifiedly suggests that the (only) alternative for an oral method is a Bilingual method in which the child learns two different languages, a sign language and a spoken language. However, this is not the case. In fact the Bl/Bc option in 1990, when the lecture was held, and in 1991, when the lecture was transcribed, was not used at any school for the deaf in the Netherlands (and at only a very few places elsewhere in the world). All deaf schools in the Netherlands, except for the school employing the method described in the article at issue, used Total Communication, that is, speech plus a sign system. Secondly, the author used the argument against TC in this article after having spoken about a group of deaf children who have problems with processing and producing sequential and rhytmic patterns (as in spoken language), but who excel in processing and remembering visual-simultaneous patterns (as in sign language and sign systems, fingerspelling and writing). In the institute where the author works, these children are approached by means of writing plus speech, or, when the handicap is more serious, by means of fingerspelling plus speech. An obvious question then would be 'Why not offer signs to these children who excel in processing visual-simultaneous language?'. The author answers this unspoken question by referring to the difficulty of offering children two languages, not mentioning that the TC that could be offered to these deaf children does not mean that the child has to learn two

different languages, but one language in two modalities. In fact, TC is as multimodal and unilingual as the oral method, the only difference being that TC offers the child one modality more than the oral method does (sign/fingerspelling + speech + writing, instead of speech + writing, or [in the more serious cases] instead of speech + writing + fingerspelling). Thus, no argument was given by Van Dijk in favor of the oral method, or against TC.

38 Recent research shows that in practice TC often *is* more or less bilingual, because deaf children using TC tend to introduce more and more sign language-structures into the signed component of their comunication, even when they never have learned a sign language. It is thought that they do this because these structures are more viable, more 'natural' to produce. This interesting phenomenon is still under research. However, at the time Van Dijk held this lecture it was hardly known and Van Dijk would probably have mentioned it, if he had known it, because it would have supported his case.

2.6 Conclusion

Perhaps after this description the brain of the reader who is unfamiliar with deaf education is reeling, not only because it is difficult to immediately grasp the meanings of such a large number of terms, but also because of all the confusion among educators of the deaf regarding these terms. It is clear that this confusion about terms is a first obstacle to a solution for the methods controversy, or even to a proper discussion about it. At the same time, however, it is also a result of the method controversy — an explicit sign of the many disagreements that often remain implicit. What ought to be done is to start a discussion and come to an agreement about terms. This, as a matter of course, will lead educators to discuss the underlying fundamental issues that cause this confusion about terms.

'Hier werden ihre Lebenschancen berührt.' ('... their chances of survival are involved', Gschwind 1989, 30)

'Es ist dies ein Weg der von Schwächlingen gern gemieden wird'
('This is a way which often is avoided by weaklings ', Stoker 1991, 76)

'Door middel van de Geluidsmethode kunnen we onze 'vijand', de 'doofheid', als het ware in zijn eigen hol gaan opzoeken.' ('By means of the Sound-method we can seek out our 'enemy', 'deafness', in its own cave as it were', Van Uden 1989, 35)

Chapter 3 ORALISM: HISTORY, AIMS, PREREQUISITES, METHOD, ARGUMENTS, AND EMPIRICAL UNDERPINNINGS

Introduction

Today, about 39% of deaf children in the USA are orally educated in oral schools for the deaf, in 'deaf units' of regular schools for hearing children, or they are mainstreamed [1]. In Europe, to my knowledge, there is not one country[2] where there isn't at least one oral school. In the Netherlands, one of the five existing Institutes for the Deaf is an oral institute.

In this chapter, theory and practice of Oralism are described as it is carried out today with normal deaf children, that is, deaf children without additional handicaps. First, the origins and history of Oralism are sketched. Then, in different sections, the aims of oral education, its prerequisites, the oral method, the arguments its supporters have for advocating this method and

for rejecting Manualist methods, and the empirical underpinnings of these arguments are described. In the closing section it is argued that two groups of Oralists should be distinguished, namely, Strict Oralists and Free-Choice-Oralists. These groups differ somewhat from each other with respect to the aims they set for deaf education, and also with respect to the prerequisites of their methods.

Of course one can't speak of 'the' oral method. Each deaf school has its own way of educating the deaf child, and in most schools more or less indivual educational plans are made for individual children, dependent on their capacities and limitations. But underneath these different educational methods and plans lay general principles that distinguish Oralists from Manualists. An overall view of the essentials of Oralism as they are described in literature is given in this chapter. Also indicated are some changes in Oralism that are occurring at the moment, according to personal communications I have had with some leading educators and investigators on deaf education.

1 Information from the Annual Survey of Hearing-Impaired Children and Youth about the 1990-1991 school year, Center for Assessment and Demographic Studies, Gallaudet College, Washington DC.
2 Except perhaps Sweden, where deaf children legally have the right to be educated with Swedish sign language, (Andersson 1991, 401).

3.1 Origins and history of Oralism

Before sketching briefly the history of Oralism I have to make some preliminary remarks. If one reads accounts on the history of deaf education, it is difficult to get a clear picture of it. Authors usually agree about simple facts about names and dates, but they disagree about almost everything else concerning the history of deaf education.

Harlan Lane's 'When the mind hears' (1984) for instance, is a fascinating book describing what he sees as an evolution towards more and more *under* - development of deaf people. He states that once, when signs were still used on almost every deaf school in the United States and in most European countries, deaf people were about equally well educated as their hearing fellows. But the more Oralism gained ground, the more deaf children became underdeveloped, because speech-training was so demanding that too little time remained for teaching other subject matter. Underdevelopment also occurred, according to Lane, because the deaf were deprived of their mother-tongue, sign language, and they only got some rudiments of language (i.e., fragmented spoken language) in return.

A totally different picture is painted by some Oralist educators, for instance by Löwe (1981). They sketch the history of deaf education in terms of the constant efforts of dedicated educators, and of constant progress towards a more and more oral way of educating, resulting in more and more well educated deaf people. There is also some literature that seems to be more 'objective', for instance Winefield (1981) and Scouten (1984), but of course given the different interpretations of

the history of deaf education it is hard to determine whether an account is really 'objective'. Therefore, in this brief historical overview as well as in that in chapters 4 and 5 about the history of Manualism, I will try to stick to some facts that most authors seem to agree about and that will give a sufficient background for understanding chapters 3 to 5[3].

The origins of Oralism, or rather the beginnings of teaching deaf people to speak, are usually traced back to Spain, in the 16th century. There a Benedictine monk, Pedro Ponce de León, taught the deaf son of a noble family to speak. This son was the only heir to a big estate, and since Spanish law said that only people who were able to speak could inherit properties, it was necessary for this heir to learn to speak. Ponce de León used a kind of dactylologic spelling for talking with his pupil because the idea of visual or auditive speechperception by deaf people never occurred to him.

Juan Pablo Bonet, in 1620, was the first to publish a book on education of the deaf, describing the method of a countryman of Ponce de Léon, Manuel Ramirez de Carrión, which was probably the method used by Ponce as well. The oral method was developed further in England, by John Bulwer (1614-1684) and later by the Braidwood family (18th/19th century); in the Netherlands, by Johan Conrad Ammann (1669-1724); in Germany, by Samuel Heinicke (1727-1790); in the United States, by Alexander Graham Bell, the inventor of the telephone (1847-1922).

At first, in Spain, Oralism wasn't pure[4], since fingerspelling and extensive writing were used as a help in teaching speech. Ammann laid the base for pure Oralism, and Heinicke developed his method further towards what was called 'the German method'. Heinicke's method was pure in the sense that no signs were used, and Johannes Vatter (1842-1916) made the oral method pure in the other sense too: no word was written or read until after the child had learned to speak it. The method was based on visual-auditive speechperception for understanding the speech of others (recognized as a means of perceiving language by John Bulwer, seventeenth century), and on visual imitation and kinesthetic training for producing speech (feeling the movements of the speech-organs by laying one's hands on the throat of the speaker). The role of residual hearing wasn't recognized until the end of the 19th century. Also, no distinction was made between 'deaf' and 'severely hard of hearing', and the age of onset of hearing-loss was not always known or reported. Especially as a result of the development of electrical hearing devices in the first decades of the 20th century, audition gradually replaced kinesthetic training. Modern aural-oral methods are based on speech, visual-auditive speechperception with an emphasis on audition (i.e., hearing), reading, and writing.

The discussion about methods began when, next to oral methods, manual methods were developed. The French priest De L'Epée, around the middle of the eighteenth century, is known to be the first teacher who used signs for educating deaf children. I will elaborate somewhat more on the history of the debate between Oralists and Manualists in chapter 4.

The oral method predominated between 1880 and the middle of this century. Since 1878 international congresses have regularly been organized on education of the deaf. The second of

these congresses was held in 1880 in Milan and here the domination of the oral method began. The first resolution of the congress ran: 'The Convention, considering the incontestable superiority of articulation over signs in restoring the deaf-mute to society and giving him a fuller knowledge of language, declares that the oral method should be preferred to that of signs in the education and instruction of deaf-mutes.' (Scouten 1984, 203). A hundred years later, in 1980, on the 15th International Congress on Education of the Deaf, the views of most educators of the deaf had changed completely. Most educators now were of the opinion that manual communication should be used in the education of deaf children in one way or the other (see the proceedings of the congress.

3 For this brief historical overview and that in chapter 3 and 4 I draw on the following literature: relatively 'neutral' accounts of the history of deaf education given by Bender (198)1, List (1991), Scouten (1984), Winefield (1981, 1987), and a 'manualistic' and an 'oralistic' view on the history of deaf education, Lane (1984) and Löwe (1981), respectively.
4 See chapter 2, section 2.4.2.

3.2 Aims of oral education

The main aim of oral education has always been that the deaf child become an adult who communicates solely by speech, hearing and speechreading and who is fully integrated in hearing society (Schulte 1981, 102, Van Uden 1986b, 104). Green Kopp (1981, 541) thinks: 'The definition of oral education centers on the ability of deaf individuals to become part of the mainstream of society...'. Ling (1981, 88) formulates the aim of an oral education as: 'The oral skills...should permit them to develop as happy, well adjusted individuals, to interact and learn through speech communication during their school life, and to understand and express themselves with relative ease through spoken language in most, if not all, social situations as adults.' Feuchte (1992, 127/128), not an adherent of Oralism, says '...das pädagogische Hochziel des kompromisslosen Oralismus...[ist]...den voll in die Welt der Hörenden integrierten Gehörlosen...[5]. What 'full integration in hearing society' exactly means, is usually not specified, but 'oral successes' are mostly described as deaf adults who have a job in a hearing environment, who have friends of whom the majority are hearing, and who are married to a hearing person (Grigely 1980, Mulholland 1981b, 42, Van Uden 1986b, 101).

Another important aim, mentioned less often now than two decades ago, is that the deaf child should *think* in spoken language. A favorite phrase of Oralists is 'A human being thinks in that language, in which his surroundings succeed to communicate with him' (Van Uden 1986b, 106). Northcott (1981, 170) says that an important question for parents is 'Do I want my child to think in *words* or in *signs* ?' (italics by N.). And Gschwind (1989, 33) states 'Daher muss das Ziel unserer Bemühungen sein: Der in der Lautsprache denkende und verständlich sprechende Gehörlose.' [6] This aim is set, not only because hearing people are supposed to think orally, and

because thinking like hearing people advances integration into hearing society, but also because thinking orally is assumed to be a requirement for full cognitive development (see chapter 8 section 8.2).

Related to the aim of thinking in spoken language is *literacy* (Klingl 1986, 125). This normally is an aim in the education of all children who are in principle capable of learning to read, but in Oralist methods it is especially emphasized, perhaps because this is a problem for many deaf children (see chapter 8 section 8.5). Livingston (1986, 21) quotes Quigley and Kretschmer (1982, xi) who asserted that 'the primary aim of education for typical (non-multiply handicapped) prelingually deaf children should be literacy'. Ling (1989, 404/405) puts it like this 'The greatest opportunities for communicative interchange, personal-social growth and independence, educational achievements, and advancement in employment are open to those who have the best command of spoken language', implicitly assuming that oral methods result in a better command of spoken language than manual methods do.

Owrid (1981, 404) sets a somewhat more modest aim: '...normally hearing children of 3 and many of 2 1/2 years are excellent conversationalists. A deaf secondary school child who can function at a similar level is not badly equipped for communication in everyday world.'

Nowadays, since the rights of deaf adults to choose their own language of communication are acknowledged widely, some Oralists state that present-day oral education aims at giving the deaf adult a really free choice between either the deaf-signing or the hearing-speaking society. However, this free choice is assumed to be possible only when the child is educated orally, for according to these Oralists this is the only way to assure that the child learns spoken language, the language of hearing society, adequately (Clark 1981, 318, Ling 1989, Van Eijndhoven 1981, 529, Van Hagen 1984). In their opinion signs hinder the learning of speech. Also, they maintain, signs can be learned by the deaf person at any later point of time, but this is not the case with learning to speak.

However, although integration in hearing society is stressed less by these Oralists, overall also this type of oral education is directed primarily towards the speaking deaf adult. Education at oral deaf institutes remains strictly oral, that is, no signs or fingerspelling are allowed in the classroom.

5 'The highest pedagogical aim of uncompromising Oralism ..[is]...the deaf person who is fully integrated into hearing society.'
6 'Therefore the aim of our interferences must be: the deaf person who thinks and speaks understandably in spoken language.'

3.3 Prerequisites of oral education

Oral education of deaf children consists not just in a method practiced in school. It is, so to speak, a way of life (S. Martin 1991, 214). Oralists think the following requirements need to be fulfilled

for oral education to be successful (B. Davies 1981, 362, Ling&Ling 1978, 17-20, Ling 1984, 1989, Löwe 1991, Van Uden 1977, Wolff 1973).

1. The deaf child is audiologically assessed and is fitted with suitable hearing devices for both ears as early as possible. Ling (1981, 82) stresses '... whatever residual audition is present must be exploited to the fullest possible extent.' The deaf child is taught to wear her hearing devices all the time, and to watch that they work well. Parents and educators take care that hearing devices are regularly checked. Regularly a new audiogram (a measurement of what the child can and cannot hear) is made and many other tests are done, and if necessary hearing devices are adjusted. All of this is seen as extremely important by Oralists for, as Lynas, Huntingon & Tucker (1988, 21) say '...we need...to know how effective hearing aids are because the Oralists' case depends entirely on their use.'

2. The deaf child is carefully diagnosed, so that possible additional handicaps can be detected as early as possible. Oral education requires that the child has normal intelligence and an intact neural system. Thus each deaf child will receive the proper individual treatment, and deaf children who can't benefit from oral education can be separated from children who can.

3. There should be no use of signs or fingerspelling in the vicinity of the deaf child. Oralists believe that children should not regularly be exposed to fingerspelling or signs, especially in early grade school years. Separate classes, and sometimes also separate schools for those students using speech only and for those who use signs or fingerspelling next to speech are therefore recommended. Ling (1990, 17) states 'Only when a child participates in a program that is wholeheartedly committed to the development of spoken language will optimal conditions for assessing her spoken language potential prevail.' According to Gschwind (1989, 32) 'Um zur Lautsprache erziehen zu können, muss ein eindeutiges Lautsprachklima herrschen.'[7] A new trend in some German oral schools, however, is to encourage mime, acting and imagery-play with and by the children, as a compensation for their impeded oral capacities (see chapter 2, section 2.2.1. about 'Gemik', i.e. the name for this form of communication).

4. As far as possible the deaf child should grow up in an oral environment. The younger[8] deaf child preferably does not visit deaf clubs, deaf sport-teams, etc., at all, but if she does, parents and educators should try to find oral deaf clubs (Dale 1984).

5. Parents, teachers and residential school-staff should be highly competent and dedicated to the oral method and its aims. Oralists tend to stress the role of parents as role-model communicators and semi-educators. Ling & Ling (1978, 9), for instance, say 'Only the parents can provide the wealth of meaningful spoken language experiences that is required to promote her comprehension

and use of speech. Helping a hearing-impaired child to acquire native mastery of language is almost a full-time occupation for a parent over a three-to-four-year period.' (See also Mulholland 1981b, 33-37)

6. Teachers and residential school staff are carefully instructed and trained in theory and practice of the oral method.

7. Groups in day schools and residential schools are small, containing about 6-8 children of about the same age and the same level of language and speech ability.

8. If possible the child receives daily individual speech lessons.

9. If possible the child is completely or partly mainstreamed in a school for hearing children; she doesn't live in a residential school with other deaf children, but at home with her parents.

If children fail to succeed with an oral method[8], Oralists usually attribute it to one or more of these conditions not being met or being improperly fulfilled. If low achievements are measured in adult oral deaf persons, they point to the quick advancements in technology, (psycho) linguistics and didactics and say that now everything is much better than in the past[9]. Lynas, Huntington & Tucker (1988, 5), for instance, say '...the prospects have never been better for the very deaf child. As a result of ...[various developments and improvements]...even very deaf children...can be enabled to produce and understand spoken language.' Somewhat further (1988, 32) they say : 'That the oral-only approach has in the past "failed" some deaf children does not mean that it is doing so now, nor that it will do so in the future. With increased knowledge about language acquisition, continuing developments in hearing aid technology and the expansion of parent guidance and pre-school services, there is no reason why deaf children cannot achieve proficiency in oral language.' (See also for instance Broesterhuizen, Van Dijk & IJsseldijk 1981, 434, Ling & Ling 1978, 234, Van Uden 1989, 274-275).

Not every Oralist supports all these requirements. Some requirements are considered more important than others. For instance, some Oralists are tolerant regarding visiting deaf clubs (Van Dijk 1992, personal communication), and others are tolerant regarding the mingling of oral deaf children with signing or fingerspelling deaf children in the schoolyard. This is especially so since a requirement like 'no contact with other deaf people in leisure time' is seen nowadays by many people as a form of discrimination. But concerning most of the other requirements there is agreement among Oralists.

Oralists tend to be rather optimistic about the possibilities of teaching the normal deaf child speech, provided that the necessary requirements are fulfilled. Ross & Giolas (1978, 42-43), for instance, say '...very many hearing-impaired young people and adults are the living demonstration

that near normal speech functioning is possible even for those with severe loss of hearing...'. According to Lynas, Huntington & Tucker (1988, 32): '...for the majority, the overwhelming majority of deaf children, the oral-auditory approach offers the best chance of developing language and providing a means of communication.' And Löwe (1991, 74) reassures teachers saying: 'Teachers ... have no reasons to be fainthearted. If the mentioned prerequisites for a good oral education are fulfilled, they cannot fail'.

7 'For education towards spoken language, an unequivocal spoken language climate is required.'
8 Most Oralists nowadays will agree that mixing with deaf children using sign language is acceptable after oral/written English are firmly established (according to M. Nezmek from the Alexander Graham Bell Association, Washington DC, personal information, March 30th 1994).
9 In former days a popular term for these children was 'oral failures' (Pahz & Pahz 1978, 61 and 62). Nowadays, most educators of the deaf consider this phrase to be humiliating for deaf people.

3.4 The oral method of teaching deaf children

I will first describe the different parts an oral education consists of, that is, those parts in which an oral education for deaf children differs from the average education of hearing children. Then, I will describe oral education as a whole — as a way of living.

3.4.1 Speech learning by the oral deaf child

Speech is taught in individual speech-lessons, preferably daily, and in all the conversation the deaf child has. Moreover, the whole daily life of the deaf child is organized around language, so that the child is immersed in spoken language. Both speech and writing are used, but the emphasis is on speech. The aim is to create an environment that resembles as much as possible the environment in which a hearing child learns to speak. A hearing child is always surrounded by sounds (often speech-sounds), she can't shut her ears to them, and when she is not intentionally listening she still probably perceives a lot of spoken language. The deaf child, by contrast, depends on the language-fragments she can perceive with her residual hearing, and on the language she can read from the lips of the speaker. But this requires that she interrupt her action to watch the lips of the speaker. So the deaf child will perceive much less speech than the hearing child. To compensate for this, in an oral education, writing is used more than in the education of hearing children. In the individual speech lessons the child is taught to pronounce the different speech sounds correctly. Different aids are used, for instance mirrors and video's, so that the child can see her own speech, or a lamp that only goes on when the child makes a sound with a distinctive pitch (Schulte 1981, 112). But for the most part, learning to speak for a deaf child amounts to lots of exercise[10].

10 For a more technical description of teaching speech and speechreading to deaf children see Ross & Giolas 1978. See also Markides 1981.

3.4.2 Visual-auditive speechperception

For deaf persons, visual-auditive speechperception is guessing what the speaker says based on clues she gets out of a combination of hearing, vision, knowledge of the language, the context, and the subject the speaker is speaking about. Also visual-auditive speechperception requires much practice. Especially for the young deaf child it is not an easy task. Practice occurs in every oral conversation and in the individual speech lessons[11].

11 For a more extensive description of visual-auditive speechperception and ways to teach it to deaf children see IJsseldijk 1992.

3.4.3 Audition

The word 'audition' usually refers to the 'hearing' part of visual-auditive speechperception. In oral methods audition is heavily stressed. Audition is trained in the classroom, for instance in music lessons, and in individual auditory-training-sessions. Oralists prefer to speak about 'auditory education' instead of 'auditory training': education as a whole should be directed towards hearing. The residual hearing of the child has to be developed. Hartmann-Börner (1992, 149) says 'Die Hörbahnen müssen gereizt werden, um ihre Reifung zu ermöglichen'[12], and also (ibidem): 'Die Entwicklung einer funktionellen Hörfähigkeit...unterliegt einem postnatalen Prozess, der im wesentlichen durch Umweltstimuli beeinflusst wird und sich primär in den ersten Lebensjahren vollzieht...' [13]. Ling (1990, 10, 14) says that those deaf children with little or no residual hearing[14] can still be educated orally; they can more or less feel sounds by vibration and they can be taught to speak through becoming explicitly aware of the movements of their speech-muscles[15].

In unisensory oral methods the deaf child, at least in the early years and in teaching situations, has to perceive the spoken message solely by means of her residual hearing, for her educators speak to her hiding their lips with one hand. Clark (1981, 318), an influential advocate of this system describes it as '...the maximum use of hearing through appropriate binaural amplification in a completely oral environment from the earliest possible age...'(see also S. Martin 1991, Osberger 1990).

12 'The auditory nerves have to be stimulated, in order to make possible their ripening'
13 'The development of functional hearing is based on a postnatal process that essentially is influenced by environmental stimuli and that comes about during the first years of life'
14 Oralists usually maintain that only a very small proportion of the hearing-impaired population is totally deaf. But there is lack of clarity on this point. For instance, Ling & Ling (1978, 3) say: 'Total deafness is extremely rare, hence most children can hear at least some speech patterns if sound is adequately amplified for them.' Lynas, Huntington & Tucker (1988, 22) say something similar. By contrast, Ross & Giolas (1978, 336) say, referring to older studies, but also to 1973-studies, that about half to two-third of deaf children have potentially useful residual hearing.
15 For more information about auditory training see Ling&Ling 1978a, pp. 128-131, 144.

3.4.4 Reading and writing

Reading and writing are taught simultaneously with speech, or after speech has developed to a certain degree. With the very young child drawings and pictures are used extensively, but they are always accompanied by speech or written language. Also the normal 'body language' (gesticulation), which plays a large part in normal communication of both very young hearing children as well as deaf children, is used.

Writing is used more than with hearing children. For instance, charts are made with cartoon-like figures on them and then the conversations in the classroom are written down in 'speech-balloons' (Van Uden 1989, 45). For young deaf children pictures with names of all kinds of food are put up at the walls of the dining-room, so that the child learns the right words to express her wishes about eating and drinking. The use of signs and fingerspelling is either simply forbidden, or it is discouraged via behavioristic methods, such as giving rewards for oral behavior, and ignoring signs and replacing them with oral language (Schulte 1981, 112). Sometimes Cued Speech or a similar system is used in individual speech-lessons, but in pure oral methods it is not used in daily communication or in the class-room. Other manual means are used only with doubly-handicapped deaf children, such as deaf-blind children, deaf mentally handicapped children, or deaf children with severe learning disabilities (Instituut voor Doven, 1990, 2).

3.4.5 Oral education

Oral education of the deaf child[16] starts early. As soon as deafness is detected and parents have made the choice for oral education, parents and child take part in a home-training program. Professional educators involved in the program visit the family regularly and teach the parents how to deal with their child in such a way that the child acquires an oral attitude. The child has to become face-oriented. Se has to learn that the moving lips of the people around her *mean* something. She has to develop the habit of expressing her needs by the spoken words of a conventional language, instead of by screams, pointing, or home-made signs. She has to be trained to use her residual hearing, to become aware of sound. Sometimes daycare-programs for deaf preschool-children are attached to the deaf school, in other cases the deaf preschool-child visits the deaf school periodically for one or two days for training and observation. Gradually this is extended to a complete schoolweek. Other deaf preschoolers go to hearing daycare programs and Kindergarten.The deaf child either visits a deaf boarding school, or she lives at home and visits a deaf school or a deaf unit in a normal school, or she is mainstreamed in a normal school getting special assistance from an interpreter and/or a speech teacher. This depends on the country where the deaf child lives, on her capacities, and on the choice of her parents.

Because of the advancement of auditory equipment, recent trends are towards more mainstreaming in normal hearing schools (Van Dijk , June 16th 1992, personal communication),

and more stress on auditory language-learning, accompanied by less stress on face-orientedness (Löwe, April 15th 1992, personal communication). Arnold says that Oralism nowadays stresses vision less, he thinks '...a feeling has developed that the visual system distorts language and even leads to signing.' (Arnold 1984a, 36).

The quick advancements in auditory technology, especially in the technology of Cochlear Implants, lead Oralists to be very optimistic about the future and to foresee a come-back for Oralism from its current "underdog" position. Daniel Ling (1990, 8) thinks that: '...we are now in a much better position ... than workers at any other time in history...to promote the development of speech communication skills among hearing-impaired children'. Gschwind (1989, 36) says 'Wir haben heute Möglichkeiten, wie wir sie nicht hatten in einer Zeit, von der man sagt, damals hätten die Gehörlosen noch besser gesprochen.'[17]. And Dickman & Levinson (1990, 100) say, in the Centennial Anniversary issue of the Volta Review, a journal that promotes Oralism: 'In the year 2090, the bicentennial monograph will salute the Association's continued growth and celebrate the fact that the oral option is fully accessible to one and all.' And also Schulte (1986, 56) believes: 'Noch zu keiner Zeit waren die Voraussetzungen für die Bildungsarbeit mit Gehörlosen so günstig wie in den letzten Jahren...'[18]

According to Kröhnert (1991) recent trends in Oralism are tending to more unisensory education instead of multisensory education, that is, more stress on perceiving language through hearing alone than through hearing plus vision, more use of natural instead of constructive language learning methods, and more stress on integration in the hearing-speaking society as an aim of speech teaching, which is attained mainly by mainstreaming ever more deaf children into hearing schools.

16 This section describes the Dutch situation. However, Susan Coffman of the Alexander Graham Bell Association for the Deaf has read and commented upon this chapter and she confirmed that this is a fairly adequate description of an oral education.
17 'Nowadays we have possibilities we didn't have in a time of which it is said that deaf people spoke even better than now'
18 'Never before were the conditions for educational work with the deaf so good as in the last years'

3.5 Arguments in favor of oral education

The following arguments against the use of signs and fingerspelling in deaf education are given by Oralists.

1. If the child can communicate through signs, she will not want to communicate through speech anymore and will not use her residual hearing to the fullest, for signs are much easier to acquire than speech (Barnum 1984, Breiner 1986b, 87, Calvert & Silverman 1983, Ling 1978a, 1989, Löwe 1986, 64, Lynas, Huntington & Tucker 1988, 6, Schulte 1986, 48, Van Uden 1989, 55).

Calvert & Silverman (1983, 54) for instance say 'The purpose of speech may not be clear and thus motivation for speaking may be reduced or absent' [i.e., in schools where signs are used as well], and (ibidem): 'When all the people with whom he communicates daily understand his manual expression...*Why then use speech at all?*' [italics by C&S]. Ling (1989, 404) says '...children's attention to visual modes of communication can detract from the perception of spoken language.'

2. The time used to teach the child signs cannot be used for speech-training. Learning to speak properly, however, demands all the time available. In SimCom, indeed, signs are combined with speech, but the speech in SimCom is grammatically poorer than speech alone because the grammar of signs interferes with the grammar of spoken language. Also, when communicating in signs with speech, speech cannot be given as much attention as when communication takes place in speech alone (Breiner 1986b, 24, Calvert & Silverman 1983, 54, Ling 1989, 404, Lynas, Huntington & Tucker 1988, 6, Nix 1983, Northcott 1981, 164). Thus, in a program in which signs are used, speech inevitably will suffer.

As Ling (1989, 404) expresses it: 'Optimal use of devices for speech perception can, however, be promoted only in perceptual-oral programs'. And Gschwind (1989, 32/33) calls it a question of economy: 'Wir müssen das Lautsprach-Denken (und -Sprechen) fördern und können daneben nicht das Gebärden-Denken verstärken.'[19]. And somewhat further (page 35) he says 'Gebärden mindern den Sprachumsatz'[20].

3. If signs and speech are used simultaneously, the deaf child will not be able to pay attention to all modes of communication at the same time (sound, speech, signs), and signs will drive out speech because the crude visual movements of hands and arms will divert attention from sound and from the speech movements (Von Unkelbach 1986, 133). Breiner (1986b, 20, see also 82) says 'Die Dominanz und Aggressivität gebärdensprachlicher Zeichenträger verschüttet und verdeckt die noch ungefestigte Sprechmotorik des Kindes...'[21]. Northcott (1981, 169/170) says 'Wave after wave of research findings across educational settings reinforces the reality that children and youth cannot process speech/speechreading and signs at the same time.'

4. Based on argument 1 and 2, Oralists think that a method which uses manual means of communication, even if speech is taught simultaneously, closes the gate towards the hearing world because the child will not know enough speech to really integrate into hearing society. Integration in hearing society is one of the main aims of traditional Oralism. But also those Oralist educators who say they educate the deaf child so that, as an adult, she can choose freely which world she wants to belong to, the world of the deaf or the world of the hearing, maintain that such a free choice is only possible after a good oral education. In their view, signs can be learned at any later time of life, but, for the above mentioned reasons, speech learning is only possible for the deaf child if she has been educated orally (Lynas, Huntington & Tucker 1988, 6, Wouts 1982, 5).

Stoker (1991, 71) says: 'Nur eine beispielhafte Lautspracherziehung kann dem gehörlosen Kind die Fähigkeit geben, die wichtigste Entscheidung seines Lebens mit sachkundiger und dazu auch fähiger Perspektive zu fällen'[22]. And Ling (1989, 406) thinks 'The option to choose to communicate through spoken language is, therefore, one that is most often closed to them when their early treatment has been through Total Communication programs in which sign has predominated over speech.'

5. Signs and fingerspelling are not normally used as ways of communication in hearing society, and most hearing people cannot be expected to learn these ways of communication. Also this fact hinders the integration of children who have been educated with manual communication (Lowell 1981, Schwartz 1989, Van Uden 1986b, 105). Gschwind (1989, 32) speaks about the 'Sackgasse der sozialen und geistigen Isolation'[23] towards which an education with signs leads. Von Unkelbach (1986, 129) speaks about a 'mini-ghetto', and also Schmitz-Wenzel (1986, 168) speaks about the necessity of leading the deaf out of their 'ghetto'.

6. Signs are very difficult to learn for hearing persons. If signs are used in education, the majority of hearing parents will not learn to use signs fluently. Therefore, they will not be able to communicate fluently in signs with their deaf child. Also, they will not be able to communicate satisfactily in an oral way, because the child starts to communicate more and more in sign, and less and less in speech (Ivimey 1981, Lynas, Huntington & Tucker 1988, 10, Nix 1983, Stoker 1991, 70/71, see also argument 1, 2 and 3). Thus, the integration of the deaf child in her own family is impeded.

7. Oralists think that it is a right of every deaf child to learn to speak. For the reasons mentioned under 1 to 3 they believe that good speech learning is not possible in schools where signs or fingerspelling are used next to speech, so to satisfy this right a strictly oral approach is preferred (Lynas, Huntington & Tucker 1988, Mulholland 1981b, 40, Stoker 1991).

Ling (1989, 404) says 'Each hearing-impaired child requires the type of treatment that permits her to achieve educational and communication skills at an optimal rate. This requirement implies that no child should be placed in an educational setting that has the potential to hinder the development of spoken language.' It is clear from the context that with this last phrase he indicates an educational setting where signs or fingerspelling are being used. Northcott (1981), former president of the Alexander Graham Bell Association for the Deaf, sums up the arguments for an oral education in an article with the significant title 'Freedom through speech: every child's right'.

8. Oralists think that simultaneous communication, as it is practiced in the classroom and the home, is ungrammatical and incomplete, and therefore does not render grammatically correct language to the child. Because of the difference in speed (talking goes quicker than signing) and in mode (a

sign system, although modelled according to the structure of spoken language, is still a spatial way of communicating and thus more simultaneous in character, whereas spoken language is more successive in character), it is very difficult for someone to speak and make signs at the same time, according to Oralists. Thus, one or both modes will suffer. Either important parts of speech are deleted, such as function words like 'the', 'is', etcetera. Or the sign-component is not executed properly, for instance, signs for plurals or conjugations that should be added to the signs for nouns and verbs are deleted (Lynas, Huntington & Tucker 1988, 11-21, Marmor & Petitto 1979, Nix 1983, Strong & Charlson 1987, Swisher 1984). Thus, because of a lack of complete and grammatical language-input the child does not develop adequate spoken language.

9. According to a minority of Oralists sign languages hinder the cognitive development of the deaf child, for they are not genuine languages, they are just incomplete and poor systems of communication.

In the past this has always been the strongest argument for the Oralist case, especially since this was assumed by many signing deaf people too (Humphries, Martin & Coye 1989, 138, Lane 1984), and even by educators of the deaf who used signs in the education of the deaf (Reagan 1989, 41). Thirty years ago, however, the American linguist William Stokoe laid the basis for sign language research. He and his successors concluded that sign languages of the deaf are complete, rich, and linguistically 'true' languages (Stokoe 1960, Klima & Bellugi 1979, Kyle & Woll 1985). A majority of educators of the deaf accept this statement nowadays, but not all of them. Especially in Europe there are educators who still maintain that sign languages of the deaf are not full-fledged languages (Gipper 1981, 1987, Gschwind 1989, Hogger 1992, van Uden 1986b, 1989, 1990). Gschwind (1989, 34) for instance says 'Durch reduzierte Sprache werden nun mal nicht differenzierte Gedankengehalte dargestellt.'[24] And Van Uden (1986c, 92) concludes his book named 'Sign languages of deaf people and psycholinguistics-A critical evaluation' by denying 'the thesis ...that deaf people possess visual systems of communication which are real languages.' And in an article in the German journal 'Hörgeschädigten Pädagogik' (1990, 118) he says 'Eine Sprache im linguistischen Sinne des Wortes ist die Gebärdensprache nicht, und der informative Wert ist schwach.'[25]

10. Some educators and investigators acknowledge that sign languages are genuine languages, and that they are adequate for communicative purposes, but they think that sign languages lack certain features that spoken languages do have, and which are required for higher, complex forms of reasoning and thinking. Breiner (1986b, 82) states that sign languages are characterized by simple structures and easy accessibility. Van Uden (1981c, 163) says 'It seems to be obvious that this difficulty [i.e. the lack of comparative expressions as 'larger than' etc.]...in sign language is hampering deaf children in their thinking.' Diller (1987) thinks that the lack of a written form makes sign language unsuitable for higher forms of thinking. And Sharpe (1985) thinks that the

oral-aural mode of communication 'uniquely facilitates the development of cognition because it facilitates the perception of contrast more effectively than any other mode' (p.40). Hogger (1992, 228), though acknowledging that for most deaf people spoken language also never transcends the level of the strictly necessary communication with hearing people, thinks: 'Die Gebärdensprache ist kein der Verbalsprache des Vollsinnigen gleichwertiges Zeichensystem'[26]. Lynas, Huntington & Tucker (1988, 5), defending Oralism against manual methods, say 'Oralists generally do not deny that sign language in many situations provides an effective means of communication. They question, however, the capacity of sign language to perform all the educational functions that can be achieved by a conventional language, such as for example, English.'

11. Sign languages of the deaf differ significantly from any spoken language as far as their surface structure is concerned (Klima & Bellugi 1979, Kyle & Woll 1985, Northcott 1981, 170). This consideration, together with a Whorfian view on the relationship between language and thinking, leads some Oralists to maintain that sign language leads to another 'world of thinking'. Although nowadays this argument is not heard very often anymore, occasionally it pops up again. The argument runs somewhat like this. Language and thinking are very closely related, each language establishes a specific world of thinking, sign languages are very different from spoken languages. Thus, sign languages establish worlds of thinking that are very different from the worlds of thinking constituted by spoken languages (Breiner 1986b, 81, 87/88, Gipper 1981, Van Uden 1977). Van Uden (1981c, 165) says '...the thesis, that *every language is a worldview* [italics by V.U.], seems to be completely correct.', and later on (ibidem, 182) 'Because a language includes a *worldview* [his italics], the experiential education of a child should be as verbal as possible, for a social integration into the culture of the environment.' And Breiner (1986b, 20) says '...die andere gedankliche Struktur gebärdensprachlicher Zeichen ... entfremdet das Kind der Sprach- und Geisteswelt der vorherrschenden Sprachgemeinschaft.'[27]

In former days, it was also maintained that speaking was a more 'human' way of communicating. Arnold (1984, 34) quotes John and Haworth (1973) who say that deaf individuals should use speech '...because...spoken language is a peculiarly human activity and the most distinctive feature of man.'

12. Finally, there is a sort of negative argument to refuse the use of signs. Oralists believe that normal deaf children can learn to speak and speechread adequately without the help of signs or fingerspelling, provided that they have cooperative parents and are placed in a good oral school where all the above mentioned requirements are fulfilled or are mainstreamed in a good hearing school. Thus, signs and fingerspelling are seen as superfluous (Ivimey 1981, Löwe 1991, Stoker 1991). Lynas, Huntington & Tucker (1988, 2) state '...we...are convinced in the light of experience and evidence that the vast majority of even profoundly deaf children *can* [italics by L, H & T] achieve standards of oral communication adequate for satisfactory participation in the hearing

world.' So, the reasoning seems to be, why use signs or fingerspelling, communication means that are not understood by the majority of hearing people, if they are not necessary for communication or learning? Manualists are sometimes blamed for their lack of courage to walk the more difficult way of Oralism and instead choose the allegedly easy way of manual signs. They are called weaklings (Stoker 1991, 76), defeatists (Van Uden 1986b, 108), or even egoists (Van Uden 1986b, 114).

13. Arguments against fingerspelling are seldom found in literature about deaf education, although Oralists do not use fingerspelling with normal deaf children. Objections concentrate on signs. Considering that fingerspelling is a manual coding of *spoken* language, like writing, there seems to be no didactic reason for forbidding fingerspelling and allowing writing, except that fingerspelling is more transient than writing. But this seems not to be a very weighty objection. Van Hedel-Van Grinsven, Maas-Van de Wiel & Van Os (1989, 38) say that the 'sehr grosse Nachteile' [very big disadvantages] of *fingerspelling* are, that its tempo is slower than the tempo of speech, and that it has little rythm. But this of course holds also for writing. Probably it is just the fact that fingerspelling is a means of communication not normally used in hearing society that makes Oralists object to it.

Of course there is an objection, made against signs, that also could be made against fingerspelling. It is the belief that the deaf child, once acquainted with the easier ways of communication by means of signs and fingerspelling, doesn't want to communicate any more through speech and visual-auditive speechperception.

14. Also arguments against Cued Speech are rare in Oralist literature. Van Uden (1981b, 97-98) however lists some objections. Most of them are similar to the Oralist objections against signs. Cued Speech is regarded as an esoteric system, not known to the majority of hearing people, and Cued Speech interferes with speech.

Not all these arguments are equally important. Perhaps the adversaries of Oralism most effectively summarize the main objections of Oralists against Manualism. Barnum (1984, 404), for instance, in an article that proposes the use of sign language in educating deaf children, in an ironical voice sums up what she calls the 'myths' of Oralism: 'It would seem that hearing people know instinctively that a deaf child who is allowed to sign in a natural sign language ... will give up trying to speechread and to vocalize. Certainly, to communicate through sign is to isolate oneself from the mainstream of society, to be locked forever in a small deaf culture group. Further, the use of ASL will preclude learning English...'. And Pahz & Pahz (1978, 83-86), who are themselves ardent proponents of Total Communication, summarize the Oralist criticism as threefold: First, one can't expect the 99% of the population to be willing to learn signs, second, the deaf child, if approached with speech and signs, will choose the easy way and will just sign and not speak any

more, and, third, in manual plus oral programs the child's speech will suffer

19 'We have to consolidate thinking and speaking in spoken language, therefore we cannot consolidate thinking in signs'
20 signs reduce speech
21 the dominance and aggression of signs buries and covers up the still instable speech motorics of the child '
22 'Only an exemplary oral education can give the deaf child the capacity to make the most important decision of her life in a skilled and knowledgeable way '
23 the dead end of social and mental isolation'
24 'Through reduced language differentiated thinking cannot be represented
25 'A sign language is not a real language in the linguistic sense of the word and its informative power is weak.'
26 'Sign language is not a symbol system that is equal to the spoken language of the unimpaired '
27 'The different thinking-structure of the signs of a sign language alienate the child from the mental world of the prevalent language-community '

3.6 Empirical underpinnings

In this section some of the empirical underpinnings Oralists put forward in connection with the arguments described in section 3 5 are sketched Neither a complete overview, nor a thorough review of empirical research is intended here A complete *overview* would not be possible because of the large amount of research that has been done and is being done on deaf subjects in many different areas Moreover, much of the research is not directly relevant to the methods controversy A thorough *review* is outside the scope of this book, for two reasons First, it would require another type of inquiry and thus another type of researcher, that is, an empirical researcher Secondly, as I have argued in chapter 1, presuppositions underlying empirical research and arguments with respect to the methods controversy need to be clarified first before empirical research can be judged on its merits However, leaving empirical underpinnings of arguments entirely out of this book probably would make the reader very curious so I decided to mention some of the research In this section, as well as in the equivalent sections of chapters 4 and 5, I have tried to give an as fair as possible short overview of research results regarding the different approaches

I have mentioned the research I find most relevant Also, some of the ongoing disputes about the research and the results of research are described Summarizing, it can be said that most of these disputes concern, on the one hand, alleged methodological faults like the ones I mentioned in chapter 2 ('these children were not really deaf', 'the time of onset of deafness of these children is not mentioned', etc) and, on the other hand, what is called 'the cohort effect' The cohort effect means that research-results are not relevant for the current educational practice because current educational practice is different from the educational practice in which the subjects of the investigation were raised Arguments like 'these children were not raised with signs from birth on; if they were the results would have been otherwise' refer to this cohort effect.

I will now briefly repeat the arguments presented in 3 5 and add the relevant empirical

underpinnings to them.

I In a method where signs are used next to speech, speech will suffer, because children no longer will be motivated to speak (argument 1), because the learning and the use of signs takes away time that is necessary for speech-learning (argument 2), and because children cannot at the same time process speech and signs (argument 3).

Most sources just state the first two arguments, without giving a theoretical rationale or empirical evidence (Breiner 1986a, 1986b, Calvert & Silverman 1983, Gschwind 1989, IJsseldijk 1992, Ling 1984, 1989, Nix 1983, Van Uden 1977). These authors seem to consider it self-evident that the deaf child will avoid the difficult way of learning to speak when the easy way of communicating through signs is available too. They also seem to think that learning to speak properly needs all the time it can get, so that as a matter of course signing robs time from learning to speak. Lynas, Huntington & Tucker (1988) digress a little bit on this subject, saying that too much attention paid to visual input by the child impedes the development of hearing and thus of speech and speechreading. Von Unkelbach (1986, 133) and Breiner (1986b, 20, see also 82) think that the liveliness and crudeness of manual signs will divert attention from speech.

Some authors do not even give the above mentioned arguments but confine themselves to just stating that manual communication impedes the development of speech and speechreading (e.g., Hartmann 1992, IJsseldijk 1992, 47, Ling 1989). Other authors mention these arguments in the framework of a description of Oralist views, which they themselves oppose or are neutral about, but they never give a source. In other words: they say that Oralists oppose manual communication means because they dispel the motivation for and rob time from speech learning, but they don't tell which Oralists in fact give these arguments (e.g., Barnum 1984, Ogden & Lipsett 1982, Ringli 1991, 278, G. Wolf 1992). There has, however, been some research on the achievements regarding speech and visual-auditive speechperception of orally educated children and of children educated with Total Communication. I will now mention some of the research that speaks in favor of the orally educated children.

Geers, Moog & Schick (1984) compared orally educated and Total Communication-children (N=327) on a test that is constructed to evoke a variety of simple sentence structures. Tested were the oral utterances of the orally educated children, and the oral, manual, and oral-plus- manual utterances of the TC-children, respectively. The oral productions of the orally educated children were better than those of the TC-children in all grammatical categories. The oral utterances of the orally educated children were better than the manual-only and the manual-plus-oral utterances of the TC-children in more than 50% of the grammatical categories. The manual utterances of the TC-children were better than the speech utterances of the oral children in less than 20% of the grammatical categories. The overall manual-plus-oral utterances of the TC-children, however, did not differ significantly from the spoken utterances of the orally educated children.

Parasnis (1983) compared two groups of deaf college students, one group having deaf parents and having learned American Sign Language (ASL) since birth, the other having hearing parents and having learned signs between the ages of 6 and 12 years. The second group, by the author referred to as the 'delayed sign language group', did significantly better than the ASL-group on speechreading and speech intelligibility.

Sims, Gottermeier & Walter (1980) report that from the 108 born-deaf students with known or suspected hereditary deafness entering a deaf college between 1974 and 1976, 30 students could be rated as having 'good speech' and 35 students were rated as having 'poor speech', 43 students had average speech quality. From the poor speech group, only two subjects had been educated in schools with 'an oral-aural emphasis' (ibidem, 377/378), the other students came from Total Communication-schools. From the good speech group, it is reported that at least 10 came from a program with oral-aural emphasis.

WheiPing, Strong and DeMatteo (1991) did a longitudinal study on severely hard-of-hearing and deaf students. At the end of the study, whose subjects were between 15 and 17 years old, those with an oral-aural educational background spoke better than those with a Total Communication background.

Markides (1988) investigated the speech intelligibility of eight orally educated children and eight children taught by Total Communication, over a period of five years. While the speech intelligibility of the oral children increased during the investigation period, that of Total Communication-taught children decreased. The children were matched on sex, age, age at onset of deafness, degree of hearing loss, type of school (i.e., school for the deaf or deaf class in a hearing school, respectively), intelligence, and use of hearing aids.

Musselman, Keeton Wilson & Lindsay (1989) found that oral-aural children had better speech than Total Communication children, but they also found that these oral-aural children had more hearing, a better IQ, and came from parents with a better education and a higher income than the Total Communication children.

Huntington & Watton (1986) compared teachers and pupils from six special schools for the deaf and two deaf units attached to mainstream schools: two oral-aural schools, two 'laissez faire' schools (each teacher used speech plus signs or fingerspelling in an unsystematic way), and two (systematic) Total Communication schools. In the mainstream-units the oral-aural method was used. Teachers and pupils were compared according to the richness of their spoken language utterances, also, the children's speech intelligibility was assessed. Teachers and pupils in oral-aural settings did better on all variables.

II Deaf children who are educated in a program where manual communication means are being used will not be integrated into their hearing family nor in hearing society, because they do not learn enough speech (argument 4, based on argument 1-3), and because the hearing parents as well as the rest of hearing society are not willing or not able to learn sufficient manual communication

(arguments 5 and 6).

There has been virtually no research into the degree to which deaf people integrate into their hearing family, into hearing society, or into the Deaf community. There has, however, been some research done — though not much — into the capacities of parents to acquire and use a sign system.

Bornstein, Saulnier & Hamilton (1980) did a longitudinal investigation on the ability to speak and sign simultaneously. Three years after the school in question introduced simultaneous communication, mothers had a skill between a beginner's level and an average level, while fathers did not get beyond the beginner's stage. Bornstein et al. however say that results cannot be generalized because the method of simultaneous communication was still being developed and proper sign teaching programs had not yet been developed at all. Evans (1982, 29-30) confirms this suggestion of Bornstein et al. by saying 'Whereas only about 10 percent of parents of older students, who had been brought up under a pure oral approach, gained competence in signing, about 80 percent of new parents learning signing at the same time as their young children in the parent-infant program became proficient.'

Nix (1985) reports one investigation done by Crandall in 1974 in which it turned out that 75% of the hearing mothers in a sample used SimCom in a grammatically incorrect way.

Swisher &Thompson (1985) found, in an investigation with four signing mothers, that 40,5 % of their oral expressions were signed fully, and that 18% of spoken morphemes were deleted. They conclude that the difficulty for parents to learn simultaneous communication has been underestimated.

Breiner (1986b, 85) does not base his view that signs hinder integration on empirical evidence but on the very nature of any visual means of communication, because visual communication can be terminated by a simple turning away of the eyes: '...das Sehen...[trägt]... den Keim der Isolierung schon von Natur aus in sich.' [by nature sight [bears] the germ of isolation]. He seems to forget that, by definition, deaf people must rely primarily on visual perception of messages in communication, be it speech or signs.

III Simultaneous communication hinders the development of spoken language because it renders incomplete and ungrammatical language to the child (argument 8).

This argument refers to the alleged fundamental impossibility to sign and speak simultaneously in such a way that both the speech-component and the sign-component are grammatically correct. It is said that the difference in speed between, on the one hand, signing a message and, on the other hand, speaking that same message causes the speaker to delete the less important parts of the signed message. It is also maintained that, because of the difficulty to learn to speak and sign simultaneously, most teachers simply lack the necessary skills to communicate with deaf children

in a Total Communication program at an appropriate level.

Some research has been done into the skills of teachers. Marmor and Petitto (1979) and Kluwin (1981) point to grammatical deficiencies of SimCom used by teachers, whereas Wedell-Monnig and Bickmore (1982) point to semantic failures of SimCom as it is used by teachers of the deaf. Maxwell and Bernstein (1985), Maxwell (1990), and Maxwell, Bernstein & Matthews Mear (1991) however, maintain that the message communicated by simultaneous communication as a whole is grammatically complete. They state that what is rendered in simultaneous communication is bimodal English, i.e., neither the speech- nor the sign-component is complete in itself but speech and sign complement each other towards a grammatically complete message. So Maxwell and Bernstein seem to conceptualize grammaticality of simultaneous communication in a different way than Marmor & Petitto, Kluwin, and Wedell-Monnig & Bickmore do. The former are of the opinion that the communication as a whole should be grammatical, whereas the latter think that either of the components in itself ought to be grammatical.

Luetke-Stahlmann (1988), Mayer & Lowenbraun (1990), Hyde & Power (1991), and Wodlinger-Cohen (1991) found that teachers using SimCom do provide a complete manual representation of spoken English.

Kauthzky-Bowden & Gonzales (1987) found that teachers give neither consistent nor complete enough simultaneous messages to permit a young learner to acquire the rules of the language successfully; also Brodesky & Cohen (1988) found that sign systems do not render English well enough.

S. Fischer, Metz, Brown & Caccamise (1991) showed that deaf adults (N=7) who were skilled in speech, signing, and English reading and writing could perform SimCom without loss of intelligibility of both the sign- and the speech-component.

IV Sign languages of the deaf are either not genuine languages or, if they are genuine languages, they are inferior languages. Therefore, they hinder cognitive development (arguments 9 and 10). Also, sign languages are so different from spoken languages that they lead the deaf child into a different world of thinking (argument 11).

Until about twenty years ago sign languages were seen by linguists, as well as by most educators and many deaf people themselves (e.g. Humphries, Martin & Coye 1989, 138), as crude systems of symbols not equivalent to spoken languages. It was maintained — and still is maintained by a few educators — that signs are picture-like, holistic symbols, and thus sign language would cause thinking to remain picture-like and holistic, that is, concrete and non-analytic (Hogger 1992, Oléron 1977, Van Uden 1986b, 1990). One by one these assertions have been negated by linguists since William Stokoe began to investigate the sign language of American deaf people starting from the idea that sign languages could be full-blown, analysable languages. He and his successors proved the major common beliefs about sign languages to be false. It turned out that

signs are built out of a combination of parts, which are comparable to the phonemes and morphemes of spoken languages. And although there are major differences between sign languages and spoken languages, because the former are spatial in character whereas the latter are sequential, at the moment most linguists maintain that sign languages and spoken languages are equivalent. Anything that can be expressed in a spoken language can be expressed in a signed language as well, at least, in principle. The only aspect in which sign languages can be said to be inferior to spoken languages, that is, to Western spoken languages, is their vocabulary. As far as Western sign languages are known they all have a vocabulary sufficient for daily conversations but they often lack vocabulary regarding more abstruse areas. It is, for instance, obvious that in professional groups where no or few signing deaf people work, no sign-jargon regarding that profession will develop. This is different for different countries and their sign languages. In the United States, for instance, where American Sign Language (ASL) has been recognized as a genuine language for about twenty years, linguists, educators, and deaf people are actively engaged in expanding the vocabulary of ASL. At the National Technical Institute for the Deaf in Rochester (NY) there is even a special group of researchers whose daily work is to collect, list and sometimes invent (with the help of native ASL-users) signs that refer to technical concepts (F. Caccamise, personal communication, 1993, March 15). But developments do not proceed so quickly in all countries.

However, although most linguists agree that sign languages are full-blown languages, there are still educators of the deaf, especially in Europe, who maintain that sign languages are inferior languages. Sometimes the old objections are repeated (signs are holistic, not analysable, etc.) but mostly, either the lack of a sophisticated vocabulary is blamed, or it is said in rather vague terms that sign languages do not enable abstract thinking and full cognitive development (see e.g. Gipper 1981). In the first half of this century several investigations showed that deaf children (orally educated as well as manually educated) had inferior abstract thinking skills, but in the 1960s and 1970s these investigations were severely criticized for having a language bias (see for a discussion chapter 8, section 8.4).

One important exception is an investigation in the Netherlands in which the revised edition of the SON intelligence test[28] was tested on almost the entire population of (orally and manually educated) deaf children between 6 and 15 years old (Laros & Tellegen 1991). It was found that the performance of deaf children was equal to that of hearing children except on the subtests that call upon abstract reasoning ability. Unfortunately, researchers did not distinguish between orally educated children and children educated with Total Communication, or children who were native sign language users, so the investigation does not show whether there are any differences between these two groups.

As far as cognitive development is concerned, there is no evidence that children educated with sign language or a sign system perform worse than children in oral methods. On the contrary, deaf children from deaf parents who in most cases have been raised with some form of manual

communication achieve better results in school than deaf children from hearing parents, who in most cases are wholly or partly educated orally. Although the causes of this phenomenon have been heavily disputed for several decades, the fact that the phenomenon exists is not contested (a more extensive description of this phenomenon and the causes for it will be given in chapter 8 section 8.3). It seems safe to say that sign languages need not hinder cognitive development or abstract thinking abilities.

Finally there is the argument of the 'other world of thinking' to which sign languages allegedly lead. This argument is often stated in a somewhat concealed manner and it expresses the fear of parents that they will loose their deaf child to a different culture, the Deaf sign language culture. Evidence for this argument is only given in the form of anecdotes. For instance, the following anecdote of a hearing mother with a deaf toddler (R.C. Johnson, personal communication, 12 april 1994). The mother communicated with the child by means of speech and some signs. When she had to go to work during the summer, she hired a deaf woman to look after her child every day. This deaf woman communicated solely through sign language with the child and soon the child learned some sign language and became very attached to the deaf woman with whom the child could communicate so easily. The mother became jealous and fired the deaf woman, and the child mourned for her. Oralist educators warn parents about this phenomenon. They say that when the child learns sign language, it will grow farther and farther away from the hearing parents because hearing adults will never be able to learn sign language as quickly and as well as their deaf child will be able to (Gustason 1990b, 24). Apart from these more practical reasons, that is, that the hearing parents will never learn sign language as thoroughly and as well as their deaf child, educators seem to think that sign languages are so different in structure from spoken languages that they create a different 'world of thinking'. Here also, no empirical evidence is present. The idea is based on the thesis developed by Whorf (1956) who maintained that different languages create different world-views.

V The deaf child can learn to communicate by means of speech and visual-auditive speechperception without the help of manual means, so manual means are superfluous (argument 12).

This argument is also often only substantiated by rather vague remarks like 'There are sufficient examples of orally educated people who speak very well', 'Deaf children can learn to speak well in an oral method'. The problem is that norms are lacking for 'good speech'. When do we say that a deaf person 'speaks well'? As long as precise criteria are absent a good norm for the ability to communicate by speech and visual-auditive speechperception seems to be the amount to which orally educated children and adults are integrated into their own family and into hearing soiety. As I have said, there is hardly any research into this. In 1974 in America a study was conducted on nearly 1000 hearing-impaired children between the ages of 4 and 23 with regard to their speech

intelligibility as rated by their teachers (Jensema, Karchmer & Trybus 1978). At that time all, or nearly all, deaf children were educated orally. The question asked was whether the teacher thought the child's speech would be intelligible to someone not familiar with the child. It turned out that about 44% of the children were rated as either 'intelligible' or 'very intelligible', a somewhat lower percentage (about 42%) were rated as 'barely' or 'non' intelligible, and about 13% of the children 'would not speak at all'. In this sample 21% of the children had a hearing loss lower than 70 dB, 15 % had a loss higher than 70 dB but lower than 90 dB.

28 The SON is a non-verbal intelligence test

3.7 Two groups of Oralists

Since its beginnings, Oralism seems to have adhered fairly tenaciously to its principles. Although in the past centuries, the oral method changed while making use of the latest developments in hearing technology, linguistic theory, and didactics, Oralism as a philosophy seems to have changed little, in that the basic principle still remains: the exclusion of any use of signs or fingerspelling in the education of normal deaf children.

However, according to Van Dijk (personal communication, september 1992), the first professor on education of the deaf in the Netherlands and himself attached to the one oral institute in the Netherlands, there is a modern kind of Oralism that no longer has integration in the hearing society as its main aim, and that even allows adolescent deaf children to go to sign-classes in their spare time, although signs and fingerspelling are still not used in the school . Also the Oralists Ross & Giolas (1978, xvi), Stoker (1991, 71), and Van Hagen (1984, 10), speak about the free choice the deaf adult has to make, that is, whether she wants to belong to the deaf or to the hearing society. Both authors think, however, that such a free choice is possible only after good oral education. Therefore, to do justice to Oralism it seems better to distinguish between two groups of Oralists. I will henceforth refer to those Oralists who stick to the aim that the deaf child should be educated for the hearing community as 'Strict Oralists', whereas I will use the term 'Free-Choice Oralists' to refer to those Oralists who think that the deaf child should be educated orally in order to enable her to make a deliberate and well-considered choice for either the hearing or the deaf society.

We must, however, remember that Strict Oralists and Free-Choice Oralists only differ as far as this one aspect of the aim of education is concerned, namely the aspect of integration, and perhaps also somewhat as far as the prerequisites of education are concerned. As I mentioned before, according to Van Dijk, at his institute there is tolerance towards deaf youngsters learning signs in their spare time. But their is no difference in the teaching method and in the other prerequisites[29].

The description of Oralism I have given in this chapter does not entirely do justice either to the complexity of the Oralists' views or to the method controversy, that is, the way the different arguments depend on each other has not yet been shown. In chapter 6 I will put all the Oralists' arguments together into a scheme, showing their interdependency, and I will do the same with the arguments of the advocates of Total Communication and of Biligualism/Biculturalism. These schemes will make clear what are the main issues in the methods controversy, and will also help to clear up some of the confusion that kept the controversy for so long on such a dead ally.

29 Shortly before printing this book Prof. van Dijk informed me that the institute in St.Michielsgestel is starting a bilingual experimental group with deaf children of twelve years and older.

'...the oral method benefits the *few*, the combined system benefits *all* the deaf...' (McGregor 1880, quoted in Lane 1984, 395)

'Der hundert Jahre dauernde Kampf gegen die Gebärde kann als gescheitert gelten.' (The hundred year battle against signs can be considered to be lost, Ringli 1991, 274)

'The deaf know that the fruits of the pure oral method, as exemplified in their own lives, are as apples crumbling to ashes at the touch of the hard, practical experiences of real life, causing to the great majority only bitterness, disappointment, ruined hopes and lifes.' (MacGregeor in Holycross, 1913)

Chapter 4 TOTAL COMMUNICATION: HISTORY, AIMS, PREREQUISITES, METHOD, ARGUMENTS, AND EMPIRICAL UNDERPINNINGS

Introduction

Today, Total Communication probably is the most widely used method for educating deaf children, although its position is threatened from two sides, namely from the new technique of Cochlear Implantation which seems to strengthen the Oralist position, and from the side of rising Bilingualism/Biculturalism. In this chapter, I will follow the same line as in chapter 3, that is, I will successively discuss origins and history, aims, prerequisites, the method itself, the arguments in favor of it, and some of its empirical underpinnings.

4.1 Origins and history of Total Communication[1]

That deaf people can communicate through signs was known already in antiquity. Plato as well as St. Augustine saw that deaf people could be educated by signs (Buyens, 1982, Introduction). But the first *documented* attempts to teach the deaf were attempts to teach them to speak, around the year 700. Fingerspelling was used as a help to teach speech, but the first person known to use signs in educating deaf children was the French abbot De L'Epée (1712-1789). In Paris he met two deaf girls who were sisters and with the intention of introducing them to religion, he decided to educate them. Noting that the sisters communicated with each other through signs, he started to learn the sign language that the girls and other deaf people in Paris used, so that he could communicate with them. Epée was the first to start a public school for deaf children. Taking the signs of deaf French people as a starting point, he developed his 'methodical signs', a kind of sign system. He believed the language of instruction should be methodical signs, but his main aim was to teach deaf children written French so that they could read the Bible and have contact with religion. He was interested in teaching speech to deaf children too, but since his classrooms contained about sixty children and only one teacher he considered it simply impossible to spare the time to give individual speech lessons. Also, he thought it better to use his time for continuing '...to carry on the mental part of their education...which is the principal object of my concern...' (De l'Epée, 1789, quoted in Scouten, 1984). Not only education in signs, but also the methods controversy began with Epée. He exchanged letters with the German father of oralism, Samuel Heinicke (in Latin, because neither man spoke the other's language; Garnett 1968). It is remarkable how much the discussion then, in the eighteenth century, resembles some of the discussion now, almost three hundred years later. Heinicke believed that speech was a necessary requirement for the development of inner speech, and inner speech was a requirement for the development of thinking. He believed that signs hindered the development of abstract thought. Epée believed that signs could evoke thinking, for instance, the sign for 'Paris' could evoke images of Paris (as far as the person had experiences of Paris at her disposal (Garnett 1968). Epée finally took the matter to an impartial tribunal, the Academy of Zurich. In 1783 the Academy, after having deliberated on the arguments of both Epée and Heinicke, decided in favor of Epée. As we have seen in chapter 3, this by no means stopped Heinicke from gaining more and more influence, until his death a few years later.

In 1815 the American Thomas Hopkins Gallaudet went to Europe to visit European schools for the deaf and to choose an instruction method that could be used in the first, yet to be founded American school for deaf children. Because he was not allowed to watch the oral method as practiced by the Braidwood family in England unless he committed himself to an apprenticeship for several years and swore secrecy about all he would learn, he went to France to visit Epée's school, now lead by the abbot Sicard. There he was welcomed warmly and in 1816 he left for America, taking with him a deaf teacher of Epée's school, Laurent Clerc. Ever since, America has had a strong tradition in manual education for the deaf. Clerc, who had learned English from Gallaudet

during the boat-trip to America and, in his turn, had taught Gallaudet signs, started education for American deaf children in his own French methodical signs, mingled with local American signs. Later on, these methodical signs as a means of instruction were largely replaced by American Sign Language, which is a mingling of local American sign dialects and the French Sign Language used by Laurent Clerc. Stedt & Moores (1990) describe how the discussion between Bilingualists/Biculturalists and proponents of Total Communication was already carried on around 1850 in America and how this discussion stopped because both systems were defeated by the oral system, late in the nineteenth century. Meanwhile, in Europe the oral method was gaining ground and after a visit to Europe, Edward Miner Gallaudet, the son of Thomas Hopkins Gallaudet, recommended tempering somewhat the use of signs in American deaf schools and introducing the teaching of speech. Thus the 'combined method' was born: teaching deaf children both speech and signs.

During the nineteenth and the first half of the twentieth century the oral method gained more and more ground, but the combined method never totally disappeared, especially in the United States, but also in Europe. In the 1960s, there was a revival of the combined method, but now in a revised[2] form: Total Communication (TC). Not only had the results of the oral method turned out to be disappointing, but deaf people had also started to demand their right to be acknowledged as a minority group with its own language, namely sign language (Lane 1993a , Schulte 1981, 104). Deaf adults, who had themselves been raised orally and were sometimes very well educated (Scouten 1984, 348), advocated the use of some form of manual communication in educating deaf children. Deaf educators proposed to combine 'the best of both worlds' and in just two decades, under the heading of the expression 'Total Communication', instruction-methods involving the use of signs replaced oral methods in the majority of deaf schools. TC was based on the theory of Noam Chomsky, which says that children have an innate capacity to learn language. This meant that, if there was no reason to assume that deaf children in this respect were different from hearing children, their language difficulties must have something to do with lack of input and were not some kind of 'natural' given which goes together with deafness (Eagny 1987, 272). Nowadays, a majority of deaf schools in the United States and in Europe use signs in one way or the other.

Manual methods have also gained much ground in Europe during the last three decades, but not as much as in America. There are considerable differences amongst countries. Germany, for instance, the native soil of pure Oralism, still has a lot of oral schools and the German discussion about whether or not to use manual means now seems to be as vehement as it was in America twenty years ago[3]. Sweden, on the contrary, embraced manual communication means early in the seventies and has been using bilingual methods for about fifteen years (Andersson 1991, S.N. Davies 1991). Also several Danish schools use bilingual methods (S.N. Davies 1991). Sutcliffe (1983) says that according to a 'recent estimate' (i.e., in 1983) 64% of British schools are using 'Total Communication', but she adds that, due to confusion about definitions, one cannot be sure what this means precisely. G. Montgomery (1986a, 46) says that in 1970 the oral monopoly was

breached in Scotland and that since 1977 all Scottish schools for the deaf use TC. In the Netherlands, there are five institutes for the deaf. One of them, located in St.Michielsgestel, uses the oral method with normal deaf children, speech plus fingerspelling with severely learning-disabled children , speech plus a limited vocabulary of signs with deaf children with subnormal intelligence, and speech plus fingerspelling-in-the-hand with deaf-blind children. The institute in Groningen, the oldest one in the Netherlands, uses Total Communication but would like to change over to bilingualism as soon as there are enough teachers fluent in Dutch Sign Language. The other three, in The Hague, Amsterdam and Rotterdam, all use signs plus speech in one way or another (Van Hagen 1984).

In Amsterdam, an experiment has been going on since 1990 in which deaf toddlers in a day-care center are approached both in Dutch Sign Language (by a deaf native DSL-speaking caretaker) and in simultaneous speech with a sign system (by a hearing caretaker; G. Beck, Schermer, de Ridder & van der Lem 1995).

In chapter 2, section 2.4.4 I have explained that 'Total Communication' is a rather vague expression referring to a method in, as well as a philosophy about, deaf education (Hendrickx & Timmermans 1984, 2). In relation to education of the deaf the phrase 'Total Communication' was first used in 1968 by Ray Holcomb, a deaf teacher of deaf children, and it was adopted in the same year by David Denton, director of the first school in the United States that developed a Total Communication method with its pupils (Evans 1982, 12-13, Pahz & Pahz 1978, 67, Van Uden 1982, 249). As stated in section 2.5.4, I use the phrase 'Total Communication' here as a synonym for 'SimCom', the simultaneous use of speech and a sign system in all and every communication with the deaf child.

1 For this historical outline I mainly draw upon Scouten 1984, Lane 1984, Bender 1981, Pahz & Pahz 1978.
2 Manualists emphasize the differences between SimCom as used within a TC-philosophy and the old Combined Method (CM), whereas Löwe (1981, 20, 1986, 60), an Oralist, disparagingly says that TC is nothing more than the old CM with a veneer of a bit of audition and a new name Pahz & Pahz (1978, 62-63) list some of the differences between the CM and SimCom. Firstly, they say, since the victory of Oralism in 1880, the CM was used only when children had failed in the oral system, so these children had a past filled with frustration and failure. Also, they started education when they were 7 years old, that is, after the sensitive period for learning language had gone by. Thirdly, audition was not used in the CM. In TC children have a positive self-image, they start education at 3, and audition is used. Additionally, new insights about language development of children come to help in TC.
3 See for instance the 1990 to 1993 editions of the two main German journals on deaf education, Hörgeschädigten Pädagogik and Hörgeschädigte Kinder.

4.2 Aims of Total Communication education

Aims of TC can diverge. Sometimes the use of a sign system or fingerspelling in deaf education is just meant to improve communication between the deaf child and her surroundings and to be a help in acquiring spoken language, the aim being an *oral* child (De Blauw, Jolles-Vrolijk, Van der Lem & Schermer, 1986, 93). Berkhout (1982, 25) says somewhat cryptically '...ik ben puur Oralist,

daarom gebruik ik gebaren.'[4] Baker & Child (1993, 39) describe a school where 'signing in general was seen as a transitional crutch to enhance English vocabulary, with the ultimate objective being spoken English.' And Gardner & Zorfass (1983, 23) conclude from a case study that 'An early TC environment with strong signing and speech input fosters the development of an oral child.' In some cases young children are allowed to sign, but older children not, in other cases it is the other way around (Evans 1982, 9, Pahz & Pahz 1978, 59/60). An aim is that, in the end, the child will not need signs or fingerspelling any more but will communicate solely through speech, so that she can fully integrate into hearing society. Although this aim resembles that of Oralism, the attitude towards the use of signs is different, that is, signs are approved of as a means to communicate in some phases of education, and occasionally also for adult deaf persons, in situations where they need it.

There are also educators who want to try the oral method first with every deaf child, since it is difficult in the early years to precisely determine what useful residual hearing the child has, and the educators feel it would be a waste not to exploit this potential hearing to the fullest.[5] They believe that manual means have to be employed with those deaf children who have no usable residual hearing and who cannot benefit from a Cochlear Implant (Hartmann-Börner 1992, 149-150) [6].

Most advocates of TC, however, do not accept as a premise that an aim of education be that the deaf adult communicate solely through speech. They give equal value to communication by deaf adults using speech, signs, or a combination of both. Also, the choice by the deaf adult to integrate into hearing society or in the deaf community, or into both is seen as resting with the deaf adult herself (Prillwitz & Wudtke 1988, 29).

4 'I am a pure Oralist, therefore I use signs"
5 Apparently they assume that in manual methods full attention to the development of residual hearing cannot or will not be given
6 It is debatable, of course, whether it is appropriate to categorize these educators as 'Manualists' instead of as 'Oralists'. However, it should be noted that they are different from Oralists in that in some cases they want to use manual communication means with normal deaf children So according to the definition of Oralism I have given in section 2.5.1, I have chosen to categorize them as such. Oralists think that deaf children with no residual hearing can also be taught orally, provided they have no additional handicaps.

4.3 Prerequisites of Total Communication education

It can also be said about TC that it concerns a way of living rather than just a method practiced in the schools. Requirements of TC partly resemble requirements of Oralism, but the requirements also differ to some extent. Prerequisites for a successful Total Communication education are mentioned, among others, by Atchley 1984, Bollard 1984, Evans 1982, 110-111, Pahz & Pahz 1978, and Somers 1984.

1. As in oral methods, also in TC methods early diagnosis of deafness and an appropriate adjustment of hearing devices is seen as important. Regular check-ups are done and parents and teachers see to it that the child wears her hearing devices all the time.

2. Additional handicaps are diagnosed as early as possible. Multi-handicapped children participate in special programs, but they are not separated from deaf children without additional handicaps.

3. For a good emotional and social development of the deaf child, it is thought important that the child can identify with other deaf people. Therefore, in a TC-school, besides hearing teachers there are deaf teachers. Contacts with deaf children and deaf adults in leisure time, for instance through participation in deaf clubs, are encouraged. But also contacts with hearing people are encouraged.

4. It is considered very important that the child be exposed to signs, together with speech, as early as possible, in order to be able to develop a vocabulary (Evans 1982, 110, Prillwitz & Wudtke 1988, 29). Parents, teachers, and boardinghouse staff are carefully instructed in the sign system that is used, in addition to speech and writing, to communicate with the deaf child.

5. Also in TC-methods one prefers to work with small groups of children at equal levels of development. But it is also thought that children of different ages and levels of development can learn from each other.

6. Mainstreaming is an issue among advocates of TC. Some are in favor of it, while others oppose it. In America, where TC has achieved its greatest presence, many deaf children are educated in a partially hearing unit of a hearing school. This means that, if the capacities of the child in question allow for it, the child is mainstreamed during lessons where language plays a relatively minor part, for instance in mathematics or drawing, whereas in lessons where language-ability is important, the child is taught together with other deaf children.

4.4 The Total Communication method of teaching deaf children

Tervoort (1982, 10) describes what he views as the basic philosophical principle of TC. He starts by saying that living together is the essence of being human, and living together means communicating with each other. Thus, it is a human right that each human being has access to those forms of communication that suit her best. Limitation of this right on whatever ground is unacceptable. For deaf adults, but especially for young deaf children the easiest way of communicating is through signs. Therefore, next to speech, the learning of which is necessary for living together with hearing people, signs should be used in the education of the deaf child. He

says (1982, 14): 'Een verstandige spreekmethode, waarvan elk zinnig mens voorstander is, als het kind die aan kan, zou aan geloofwaardigheid winnen wanneer ze een fobie voor gebaren maken zou ruilen voor een bezorgdheid dat het kind communicatief tekort komt.'[7]

Those favoring TC either say that the offering of different communication means gives the deaf child the opportunity to choose those means that suit him best, or that the different communication means reinforce each other (Evans 1982, Pahz & Pahz 1978). They also base the idea of TC on the work of Jeremy Bruner (see for instance Bruner 1983), pointing to the fact that all human language starts with non-oral communication. Bruner says that communication starts for the baby with the exchange of looks and meaningless sounds between her and her caretaker, which later on is extended with pointing and gesturing. The supporters of TC think that this kind of non-speech communication has to be continued a bit longer with deaf children, combined with normal speech (Van Bekkum 1981). Oralists oppose this theoretical rationale by pointing to the differences between the body language that is going on between baby and caretaker on the one hand, and the systematic conventional character of sign languages and sign systems on the other hand. They remind advocates of TC of the fact that Oralism does not exclude normal pointing, gesturing and body language (Broesterhuizen 1981). TC started around 1970 based on this rationale. There was no empirical evidence to support it. Empirical results that came later on are controversial (e.g. Goppold 1988, Nix 1983, see further section 4.6).

7 'A sensible speech-method, which is advocated by every sensible man, if the child is up to it, would gain credibility'.

4.4.1 Speech, visual-auditive speechperception, audition, and reading and writing in a Total Communication program

Perhaps the most illuminating way to describe TC methods would seem to be to examine it along the lines of all the subjects I also discussed in section 3.2 of chapter 3: speech learning, visual-auditive speechperception, audition, and reading and writing, and to describe how differently they are taught in TC methods as compared to oral methods[8]. However, Oralists and advocates of TC agree more than they differ on these subjects. There are two major differences. First, of course, in TC programs signs and/or fingerspelling are used as a help in learning to produce and perceive speech and in learning to read, and signs are used and taught as a means of communication in itself, combined with speech. Secondly, in general it can be said that in oral programs the teaching of speech and visual-auditive speechperception is emphasized much more than in TC-programs since these are, next to reading, writing and normal body-language, the only means of communication that are used in oral methods. But regarding the way deaf children in a manual school learn speech, visual-auditive speechperception, audition, reading and writing, it only can be said that manual means are used as a help, but that the same teaching-methods are largely used, and

the same discussions about teaching-methods are conducted as in oral methods[9]. The most important difference is that each and every communication with the deaf child is conducted by simultaneously speaking and using a sign system.

There are two major reasons for using a sign *system* instead of a *sign language*. First, the word order of sign languages is radically different from that in spoken languages, so simultaneous communication in speech and a sign language is very difficult. Secondly, grammar and syntax of sign systems closely resemble the grammar and syntax of spoken languages, so that sign systems are considered to be a help in acquiring spoken language (Tan 1988).

8 See for instance Lionel Evans' book on TC (1982), and the book on TC edited by Daniel Ling (1984) describing TC-programs at four different schools.

4.4.2 Total Communication education

TC-education, like oral education, starts early. Here also, the parents are visited by people from the deaf school and are taught how to communicate with their deaf child. Parents take courses in signing and fingerspelling. A rich and complete communication between the parent and the child is seen as an important condition for sound cognitive, social and emotional development of the child (Prillwitz & Wudtke 1988, 28). At first, parents are told to simply reinforce all attempts of their child to communicate, no matter in what language or mode the child communicates, and to react adequately in a way the child understands (De Blauw et al. 1985, 16). This means that the parents use signs, mime, drawings, writing, speech or a combination of these means. Gradually this non-conventional way of communicating is replaced by the simultaneous use of a sign system and speech.

The child enters a TC-based Kindergarten when she is three or four years old and later moves on to primary school. Some deaf schools only use SimCom in Kindergarten and primary school and expect their older pupils to communicate solely through speech during school hours, or vice versa (Van Hagen 1984). But most deaf schools use SimCom all the time.

As in oral education, the child goes to a boarding school or lives at home and visits a school for the deaf, a deaf unit in a normal-hearing school, or is mainstreamed. Whereas in oral schools no deaf role models (or only oral deaf role models) are present, in TC schools deaf teachers are present. This is seen as very important, and not only because deaf children need deaf role models to identify with. Those advocating TC often tell poignant stories of deaf children who think they will become hearing at adult-age because they know only hearing adults and thus think that deafness is a kind of disease that will heal over the years. (In oral methods deaf teachers usually are not present because they are not the best examples of good speech for the deaf children)

4.5 Arguments in favor of Total Communication education

In 1979 the journal *The British Deaf News* published two articles from deaf authors (Frame 1979, Sheavyn 1979), originally written in 1958 and 1959, summarizing the main reasons why, during the 1960s, there was a turn away from Oralism. Nowadays, it is mainly the same arguments against Oralism that are still expressed both by advocates of TC and of Bilingualism/Biculturalism. I will start this section about arguments by quoting rather extensively from these two articles, to illustrate how heated and emotional the debate has sometimes been.

Frame, university-trained and a spokesman for his fellow-deaf, in his article with the title 'Pure Oralism criticised' does not think that '...the restricted outlook of the pure Oralist is conducive to personal progress in after school years. There are too many thou-shalt-nots in the code of conduct he is burdened with.' (p. 2). With the 'thou shalt nots', he refers to the prohibition of sign language and the prohibition of contacts with other deaf people (p.2/3). He says that these prohibitions are not only '...one part snobbery and the other part nonsense. ', but also 'It infers there is something shameful in deafness itself and the deaf as a group' (p.3). He makes an emotional appeal to educators of the deaf: 'Why do you preach that a primary aim of education is for deaf persons to become indistinguishable from the hearing in an exclusively hearing society, when the law of nature is that like seeks like...Why do you brush aside as unimportant the almost universal opinion of the adult deaf who have been through the mill and should know that Oralism has been tried and found wanting? Why do you, as hearing persons who do not know what it means to live in total silence, insist that you know what is good for the deaf when they tell you, with all the sincerity they can muster, that you are wrong?' (p.2). Apart from the view on deafness that is inherent to Oralism, Frame criticizes the lack of time oral methods can give to teaching language and general subject matters, because of the emphasis on articulation, and he draws attention to the difficulties of lipreading.

Sheavyn, also university-educated and a teacher of deaf children, and having been what she calls 'strongly Oralist at one time', begins by saying that she has no bitter feelings and that she has been thankful for her oral training, but that she has come to the conclusion that the oral way is not the best way for all deaf children. Then she talks about how important language is, and how having to receive language solely by lipreading can hamper progress in language development. She thinks everybody should realize how difficult lipreading is, and how many deaf children lack a language facility. She says 'I have been waiting for more than twenty years for some deaf person or persons to make their voices heard above the bitter controversy between the Oralists and the Manualists.' (p.3). She compares visual-auditive speechreception with using an artificial limb[9] and says that you do not expect a cripple to win a race with such an artificial limb. Then she talks about integration, saying that it is a rather popular, but in her view dangerous word. She rejects the Oralist's conception of integration as being a one-sided process of adaptation of deaf persons into the hearing world, and maintains that one first has to ask the deaf whether they want to be

integrated into the hearing world.

Prillwitz & Wudtke (1988, 121-122) summarize — and reject — the main objections Oralists have to the use of signs in deaf education when they emphatically say: 'Eine frühe Verwendung von Gebärden beeinträchtigt nicht die Hörentwicklung...die Sprechentwicklung...die Ablesefähigkeit...den Schriftspracherwerb...die Entwicklung von lautsprachlicher Grammatik und Satzstrukturen...[und]...die Verwendung von Gebärden führt nicht zu einem Verhaftetsein im Konkreten und Anschaulichen.'[10] They illustrate their statements with the case descriptions of ten children who where raised with TC in their early years.

G. Montgomery (1986a, 56) says that Oralism is based on five logical confusions, namely:
-Confusion of congenital profound deafness with lesser and later acquired deafness. Oralism might work for the latter group of children, but it certainly does not work for the former group.
-Confusion of speech with language. Command of the latter is what one should aim for, the former is just one way of expressing the latter.
-Confusion of retarded speech with retarded cognitive development. Being retarded in speech does not necessarily mean that one is also retarded cognitively.
-Confusion of educational aspirations with educational achievements. This is an important point to which I will return in chapter 6.
-Confusion of improvements in hearing aids with improvements in children's ability to benefit from them. This is an argument against what, according to Montgomery, is seen by Oralists as the ultimate panacea for deaf children: better hearing aids.

Now I will list these and other arguments against Oralism and pro-TC methods. Not all of the following arguments are put forward by all advocates of TC, and not every argument is put forward equally often. The arguments are, more or less, listed according to their frequency, beginning with the arguments that are stated most. (For a brief summary of arguments see R. Conrads one-page-article 'Why Sign' (1979b)).

1. The aim of Oralism is unattainable for the majority of deaf children, that is, most deaf children are not able to learn to communicate solely through speech and speechreading (J. Cohen 1990, 32, Jacobs 1989, 52/53, G. Montgomery 1986a, 45, Morris 1979, Wisch 1991, 85). They need manual means as a help.

This conclusion was drawn since it turned out, between about 1960 and 1980, that the school-achievements of orally educated deaf children (which constituted the great majority of deaf children in those years), especially in language-related areas, were very poor. In later days, investigators sometimes took oral deaf children as subjects when they wanted to study children with poor language skills. For instance, Friedman (1984, 70) does this and she says 'For deaf children trained exclusively by the oral method of education there is a generalized language deficiency because signing is not used to compensate for their limited oral abilities.' Issel (1992,

159) maintains that, according to figures from the German Union of the Deaf, from the 60.000 prelingually deaf persons in West-Germany, only about 300, that is about 0.5 %, are fully competent in the spoken language. Reed (1982) describes how even the few very successful oral deaf adults keep feeling isolated in hearing society because, even if they speak and perceive speech very well, communication with more than one person at the time remains a problem. Overall, advocates of TC tend to be more pessimistic than Oralists are about the possibility to teach deaf children adequate speech.

Sometimes it is suggested that, through the over-emphasis on articulation, in an oral method the children do learn to *speak* but that they do not learn to *use language*, that they utter words without properly knowing what they mean (Barnum 1984, 406, Charrow & Wilbur 1989, 105).

TC-adherents sometimes accuse Oralists of, either consciously or unconsciously, misleading parents of deaf children and others involved in the discussion. For instance, G. Montgomery (1986a, 48) says that the Oralist claim that hearing-impaired children are essentially no different from hearing children misleadingly reassures parents who are still trying to cope with the shock of having a deaf child. A more serious delusion Oralists commit, according to TC-adherents (e.g., G. Montgomery 1986a, 48) is showing the parents a hearing-impaired child who speaks rather well, and not telling them that this child belongs to the small minority of children who were not born hearing-impaired but became hearing-impaired after spoken language had been acquired, or that this child has only a relatively moderate hearing-loss.

2. Visual-auditive speechperception without the help of manual communication is a difficult job. Many sounds cannot be read from the lips unambiguously. Also, the young deaf child does not have knowledge of the world and knowledge of the language required to fill in the gaps (Charrow & Wilbur 1989, 107, Conrad 1979b, Stelle 1980, 37). It is ridiculous to expect that the deaf child will acquire a reasonable amount of language with this very limited way of communicating (Denton 1972, 53). Signs are a viable means for communicating thoughts and emotions from and to the child (Atchley, 1984, 17, Bollard 1984, 63-66).

3. It is morally wrong to demand all the efforts from the deaf child (and her parents) to learn to speak and perceive speech without the help of manual means, leading to, in most cases, so small a result (Pahz & Pahz 1978, 58). Barnum (1984, 405) speaks of 'all those years of frustration and sacrifice'.

4. Fingerspelling and a sign code can be a help in acquiring spoken language and in related skills like reading and writing (Bevilacqua 1980, J. Cohen 1990, 33, Jacobs 1989, 53).

Signs reinforce visual-auditive speechperception. When the educators speak and sign simultaneously, the child will spontaneously imitate the adults and will speak too. Also, the sign component helps the deaf child to understand the spoken component (Denton 1972, 54-55).

The Oralist idea that signs impede the development of speech and speech-reading by advocates of TC is seen as a never documented prejudice (Bollard 1984, 64, S.Fischer, Metz, Brown & Caccamise 1991, 146, Prillwitz & Wudtke 1988, 16, 39, 86).

5. Manual communication is the most natural and easy way of communicating for deaf children. Deaf children learn signs relatively easily (Arnold 1989a, 146, Clements & Prickett 1986, 218, List 1991, 246). If not prohibited by their educators they even develop an elaborate gesture system all by themselves which evolves into a more formal sign language if signs are being used with the child (Denton 1972, 54). TC gives the deaf child the best of both worlds (J. Cohen 1990, 33). With TC the deaf child can communicate with both deaf and hearing people.

6. Deaf children have the right to learn signs (Clements & Prickett 1986, 219, Tervoort 1982, see also Northcott 1981, 175). Deaf adults themselves propose to use signs in addition to speech with deaf children (Czempin 1981).

7. Advocates of TC sometimes accuse Oralists of trying to create a 'normal', seemingly hearing child (Barnum 1984, 404, 406, Clements & Prickett 1986, 218, Tervoort 1982, 15). They think Oralism is in fact a denial of deafness (G. Montgomery 1986a, 48). The use of signs helps the child to identify herself with other deaf persons and to feel pride about her identity as a deaf person (Denton 1972, 55, Hase 1992, 155, but see also Clements & Prickett 1986, 218, Pahz & Pahz 1978, 74, 79, Pufhan 1992, 151, Zeh 1989, 207).

The POLS, a group of deaf former pupils of the Dutch oral school in St.Michielsgestel, though maintaining that the schooling they have received was very good, protest against the oral philosophy of the school, which hinders the development of an identity as a deaf person, and causes loneliness. Deaf persons educated according to this philosophy try to hide their deafness and do everything to conform to the taste of the hearing people (POLS 1991, 2). Pahz & Pahz (1978, 74) say '...many parents of deaf children and some educational institutes try to deny the children's deafness by forcing them to adhere to a method of education that deprives the children of their greatest learning asset, vision, and a way to utilize that asset: communication via a visual system.' Also G. Montgomery (1986, 48) speaks about the 'denial of deafness' by Oralism. Stokoe (1987, 32) speaks about people who are becoming 'quasi-hearing through oral education'.

8. Keeping manual communication means from the deaf child deprives her of an easy way to express herself and to receive information about the world. This hinders the cognitive, social and emotional development of the child (G. Montgomery 1986a, 47, Phoenix 1988, 629).

Oralism is said to provide the deaf child with very little general knowledge. Advocates of TC give two reasons for this. First, because manual means are excluded, the language-vocabulary of the oral child is very poor, and second, in the oral method a lot of time is spent on learning speech,

time which cannot be used for transmitting knowledge (Clements & Prickett 1986, Wisch 1991, G. Wolf 1992, Zeh 1989). Harlan Lane, in his history of deaf education, even claims that in former days signing deaf people were well educated, knowledgeable people, and that with the victory of Oralism around 1880 the under-development of deaf people began (Lane 1984). Because of all the time that is spent in speech-lessons, there is not enough time left to teach the children other subjects. As a result, the general knowledge of deaf children is poor (G. Wolf, 1992, 236, 241, 244, Zeh 1989, 206). It is thought that knowledge can be transfered to deaf children more easily by means of manual communication plus speech, than by speech alone.

J. Montgomery (1988, 610-611) says that several behavior patterns, like rigidity, bed-wetting and temper tantrums, are mistakingly thought to be typical of deaf children in general. In fact, she says, these behavior problems disappear when the deaf child is transferred to a TC program, as has been experienced when the school Montgomery is attached to changed from oral education to Total Communication education.

9. For most advocates of TC the aim of Oralism is not only unattainable, it is also undesirable. The aim of deaf education should be a deaf adult who communicates either through oral plus manual means, or through one of both, as she herself chooses.

10. Advocates of TC often assume that there is a sensitive period for first language learning (G. Montgomery 1986a, 47, Conrad 1979a). If the child does not acquire a nearly complete language during the first, say, five years of her life, her language remains defective. Since almost no deaf child can acquire spoken language to a sufficient degree in these first five years when taught by an oral method, a sign system can provide the deaf child with much more language.

9 Interestingly enough, Van Uden (1977, 195) makes a similar comparison. Also in his view speech and visual-auditive speechperception are like an artifical limb for the deaf person, but to him this is something beneficial. He compares sign language for deaf children with crawling over the floor by handicapped persons with only two short stumps for legs, while it is possible to give them prostheses (i.e , speech and spoken language).
10 'An early use of signs does not hamper the development of hearing, speech, speechreading, writing and reading, grammar and syntax of spoken language, and the use of signs does not bind the child to the concrete and the visible.'

4.6 Empirical underpinnings

I will now summarize the arguments against Oralism and in favor of TC and add some of the empirical underpinnings that are being given by advocates of TC.

I The aim of Oralism, that is, creating a deaf adult who communicates exclusively through speech and visual-auditive speech-perception, is unattainable for the majority of deaf children (argument 1 and 2).

Advocates of TC base this assertion partly on empirical evidence, partly on personal experience. The new movement towards the use of manual communication methods in deaf education, around the 1960s, was as much a reaction to empirically investigated disappointing results of the oral method, as a result of the protests of orally educated deaf adults against oral methods. A crucial study of this issue was done by Conrad (1979a). He did a major investigation on almost all deaf and hard-of-hearing 16-year-old children in England and measured several cognitive abilities, for instance, reading, visual auditive speechperception, and speech intelligibility. All these children had had an oral education. Conrad found a mean reading age of 9 in the 16-year old deaf children. Visual-auditive speechperception ability was tested by comparing the achievements of the deaf group by achievements of hearing children who were wearing a headphone through which noise was passing. The hearing children had no prior experience with visual-auditive speechperception. Both groups achieved similar results. Speech intelligibility was measured by ratings of the teachers of the deaf children on a five point scale, and by a formal intelligibility test. Of the sample, 14% were rated as wholly intelligible, 20% as fairly easy to understand, 18% as about half understood, 25% as very hard to understand, and 23% as effectively unintelligible. The formal intelligibility test measured the amount of (words in) sentences and the amount of numbers read aloud on a tape by the deaf child that turned out to be intelligible to listening panels unfamiliar with deaf speech. Conrad does not give absolute percentages but splits the results out to different percentiles and relates them to several other variables. However, with respect to the deaf group (those with a loss of 90 dB and higher) he concludes speech intelligibility to be extremely poor in 73.5 % of the subjects.

In the literatue I have found one[11] description of an attempt to make predictions about young deaf children as to whether or not they will develop good speech in the future. Geers, Moog, Popelka & Calvert (1988) describe a 'Spoken Language Predictor Index' (SLP) developed for the oral program of the Central Institute for the Deaf in Saint Louis. Five variables are measured in the child, together counting for 100 points: functional hearing (30 points), language competence (25 points), nonverbal intelligence (20 points), family involvement (15 points), and communication attitude (10 points). If the child scores above 80 she is 'without question candidate for speech instruction'; if the child scores 50 or below, 'most likely [she] requires sign language to communicate'; if the child scores between 55 and 75, 'a period of diagnostic teaching will be required ...before a prediction can be made'. Geers et al. describe a sample of 41 children, 11 of whom fall in the lowest category in both a preschool-rating and in a rating at age 10-15, 14 of whom fall in the middle category, and 10 of whom fall in the highest category. The remaining 6 children changed categories in the period between the two ratings[12]. This means that reliable predictions could not be made about half of the sample, either because they changed categories between the first and the second measurement, or because in both measurements they scored between 55 and 75 points, which means that diagnosis, and thus prediction, was not possible as yet.

Geers et al. do provide a definition of 'good speech' here, they say a good speaker is 'one who uses spoken language effectively to communicate and has sufficient spoken language skills to understand and be understood with relatively few communication breakdowns' (p. 381), but in the investigation described by them the speech of the children was rated either by their teachers, who of course were used to the way deaf children speak and therefore probably could understand them more easily, or by a standardized language test in which the speech of the children was compared to the average speech of the deaf child. Whether these deaf children 'understand and are being understood' by hearing people in society was not investigated.

II Because of the disappointing results of oral methods it is morally unacceptable to expect the deaf child to go through so much pain and efforts for so little result (argument 3). Deaf children have a right to communicate in what is for them the easiest way of communication: signs (argument 5 and 6). Oralism tries excessively to 'normalize' the deaf child and to force her to integrate in hearing society (argument 7 and 9).

These are moral arguments for which further underpinning is usually not given.

III Signs can help the child to learn speech and visual-auditive speechperception, to read and write, and to acquire knowledge because they provide much more information to the deaf child than speech can do, especially in the period during the first years of life that is language development sensitive. Thus, the cognitive and social-emotional development of the deaf child is fostered (argument 4, 8 and 10).

How well do TC-children speak, perceive speech, read and write? How good is their general knowledge? How well do they develop socially and emotionally? Does TC indeed provide the child with more information than an oral method does? The research described below has shed some light on these questions.

Speech and visual-auditive speechperception

A few case-studies show that young deaf children raised with simultaneous communication tend to change from using mainly signs to using mainly speech within a few years (De Blauw et al. 1985, Gardner & Zorfass 1983).

Morris (1986) investigated the speech of orally educated and TC-educated children as rated by their teachers. The TC-children tended to have better-rated speech quality.

Markides (1988) compared the speech intelligibility of a group of orally taught children and a group of TC-taught children in a 5-year study. He found the former to have better speech intelligibility than the latter, he also found that over the 5-year period the intelligibility of the oral children increased whereas the intelligibility of the TC-children decreased.

Conklin, Subtelny & Walter (1980) investigated the speech of NTID-students[13] at the moment they entered the school (1972) and two years afterwards (1974). At NTID simultaneous communication is used but most students entering NTID in 1972 had been educated orally at least for the greater part of their youth. The mean speech intelligibility of the students increased over the two years, and the mean visual-auditive speechperception ability remained the same. These results, according to Conklin et al., do not support the thesis that manual communication takes away the motivation for speech. The investigators, however, say they do not want to generalize these results. They point to the stress that the NTID lays on audition and on instruction in producing and perceiving speech. They say that in schools where this is not the case results may be worse.

In an investigation performed by Evans (1988) parents who had transferred their deaf child from an oral to a TC-program were asked whether their children, since the transfer, had improved their ability to speak and perceive speech. About 85% of the parents answered in the affirmative.

Language-development

Goppold (1988, 285) reviewed twelve articles regarding the academic achievement of children in TC-programs or children with an early manual communication input, published over a period of 25 years, and concluded that prelingually deaf children 'who receive TC in a cognitive-oriented parent-infant language program will be more successful than similar children in oral educational settings.'

Bornstein, Saulnier & Hamilton (1980) did a 4-year investigation on the English language development of 20 hearing-impaired children enrolled in a simultaneous communication program. At the beginning of the investigation the schools in question had just started with simultaneous communication and during the years of investigation they were still developing the sign system, and teachers were still learning simultaneous communication. Results showed that after four years simultaneous communication the children reached a vocabulary level (sign+spoken words) at age 8 that was similar to the vocabulary level (spoken language) of hearing-impaired children at age 11 taught by other methods.

J. Montgomery (1988) compared the spoken language skills of deaf children in TC-schools with the spoken language skills of deaf children in those same schools when they were still oral schools, eight years earlier. She found the TC-children to be ahead in every measured aspect. However, the TC-children were 13 months ahead in intelligence, so not all relevant variables were kept equal in the study. Montgomery thinks that this better intelligence may be a result of the TC-program and that the formerly used oral method might have had 'a stultifying effect' on the children (Montgomery 1988, 612-613).

Morris (1986) investigated the spontaneous expressive communication ability of TC-educated children and orally educated children, as rated by their teachers. He found the former to use much more sophisticated forms of expression than the latter (phrases and sentences as against single-word-utterances).

WheiPingLou, Strong and DeMatteo (1991) found orally educated adolescents with a loss of

at least 80 dB to outperform TC-adolescents with a similar loss on the verbal subtests of the WISC-R and on written syntax performance and story recall.

Informative power of different communication means

Several studies have been done into the receptive quality and quantity of different communication means with deaf subjects.

Cokely (1990) did a pilot study of communication effectiveness in the classroom with deaf college students. The study showed sign alone to be more effective than oral communication, and oral communication to be more effective than SimCom. This runs contrary to previous findings (between 1972 and 1977, Paul & Quigley 1994, 135-137) showing SimCom to be better than any other means for receiving information. Cokely reviews five of these studies and concludes that their validity is suspect due to methodological limitations.

Ouellette & Sendelbaugh (1982) investigated three groups of university-students with a hearing-loss of 80 dB or more. A short story plus a set of comprehension-questions was presented to the three groups in written English, Signed English, and ASL, respectively. There was little difference between comprehension of the written English and the Signed English version. The ASL-group, however, did significantly worse than both the written English and the Signed English group. The investigators came up with a reasonable explanation for the less good results in the ASL-version of the test (unfamiliarity of the subjects with the strict ASL-form that had been used) and thought the most important result of the study was the finding that Signed English seems to provide as much information for deaf students as written English.

Crittenden, Ritterman & Wilcox (1986) did a videotaped vocabulary test with 6-12 year-olds using five modes of communication: SimCom with and without sound, manual communication alone, and oral communication with and without sound. They found all manual modes to be more effective than the oral modes, and no differences in the conditions with and without sound. There was also no significant difference between 'manual alone' and 'manual with sound'.

Eagny (1987) found 91 severely hard-of-hearing and deaf children between 5 and 15 years of age to understand sentences in ASL, simplified signed English and standard signed English all equally well. However, the subjects had had formal teaching only in signed English, but not in ASL.

Grove & Rodda (1984) found reading to be the most effective receptive communication means for deaf students, followed by TC, pure manual communication, and oral communication, respectively. Pudlas (1988) found similar results.

Hyde & Power (1992) investigated the receptive communication abilities of two groups of hearing-impaired students raised with TC, a 'severely deaf' (66-95 dB, which, in my terminology, would be called hard-of-hearing) and a 'profoundly deaf' (96 dB and above) group, under 11 different communication conditions. They name as their most important findings the following. For both groups, TC, defined by the authors as simultaneous lipreading, audition, and signing in a

sign system, was no more effective than the use of a sign system alone. The severely deaf students did better than the profoundly deaf group in all modes, except in those modes where signing was involved, where both groups did equally well. Also, for the severely deaf group signing did not seem to add information; for them results in the mode 'audition+lipreading+signing' were no better or worse than results in the condition 'audition + lipreading'. Finally, both groups did much better in the 'audition + lipreading condition' than in the 'audition-alone' condition, but 'audition + lipreading' wasn't any more effective than 'lipreading alone'. In view of this last result, the authors question '...the recent emphasis on audition alone in some oral-aural programs ...' (ibidem, 394). The authors conclude that signing is needed for profoundly deaf students, but perhaps not for all severely deaf students.

Morris (1986) found that children who were in a TC-program comprehended a text which was presented in the signed and oral mode much better than a group of orally educated children could comprehend that same text when presented orally. Both groups were matched on socio-economic background, non-verbal intelligence, age, and degree of hearing loss.

Social and emotional development.

J. Montgomery (1988, 610-611) says that the deaf children in her school stopped bed-wetting after the school had changed from an oral to a TC-method.

In Evans' investigation into the opinions of parents of deaf children who had changed from an oral to a TC-program, 85% of the parents thought that their children had grown socially and emotionally due to the use of SimCom (Evans 1988).

Cornelius & Hornett (1990) looked at the social play behavior of young TC children as compared to that of oral children. They found the TC children to be less aggressive and to show a higher level of social play behavior.

Morris (1986) found that children, ages 5-11, who had been in a TC-program since four years, showed better social-emotional adjustment patterns than a comparable group of orally educated children.

Farrugia & Austin (1980) compared the social-emotional adjustment of deaf and hard-of-hearing students in different settings with hearing students. They found that deaf public school students (i.e., mainstreamed deaf students) were less mature, and had less self-esteem, emotional adjustment and social adjustment than deaf students in residential schools (i.e., deaf schools, not mainstreamed), hard-of-hearing students in public schools, and hearing students in public schools. According to the authors, 'deaf students in residential schools and hearing students in public schools were the most similar in all areas of development.' (Farrugia & Austin 1980, 535)

General knowledge

There has not been much research into the general knowledge level of deaf children. Most research concerns issues that are more directly language-related. The above mentioned authors all state that

Oralism hinders the acquiring of general knowledge without giving empirical evidence. The only investigation I have found that measured 'academic achievement' was the longitudinal research done by Delaney, Stuckless & Walter (1984) showing that, over a period of ten years, TC-children did better than non-TC-children.

In an investigation into the opinion of ex-pupils of three oral deaf schools in America on their schools, done by Ogden in 1979 (reported by Arnold & Francis, 1983), 40,6% of the 637 subjects reported that they thought that too much emphasis had been put on oral skills and too little on academic skills.

From the parents of deaf children who since about five years had been transfered from an oral to a TC-program, 95% thought that the use of SimCom had increased the educational growth of their children (Evans 1988).

11 Shortly before this book going to press Professor J. van Dijk informed me that a model for predicting speechdevelopment in deaf children has been developed by M. Broesterhuizen, based on earlier work of A. van Uden (Broesterhuizen 1995).

12 No information has been given about the degree to which this sample perhaps was a selected sample. It is, for example, possible that these children were enrolled in an oral program already Manualists claim that children in oral schools are likely to come from higly educated, high-income, white families. In 1986 Geers & Moog investigated the spoken language abilities of about half of all the orally educated 16 to 17 year-olds in the United States, and of this sample about three quarters had parents with an above average income and an education on at least college-level (Geers & Moog 1989).

13 'NTID": National Technical Institute for the Deaf, an institute for higher education into technical vocations, in Rochester, New York, equivalent to Gallaudet (liberal arts) University for deaf students, in Washington DC.

'...driving the languages of the deaf beneath the surface...is the single most important cause -more important than hearing loss- of the limited educational achievement of today's deaf men and women, eighty percent of whom, in America, are engaged in manual or unskilled labor.' (Lane 1984, 387)

'...the oral 'holocaust'...' (Ladd, 1992, 84)

'Wenn das Sprechen einer Sprache bedeutet, dass man die Welt in einer bestimmten Weise sieht, so bedeutet zwei Sprachen zu sprechen, den Zauber durchbrochen zu haben, ...es bedeutet zu wissen, dass es verschiedene Weltbilder, verschiedene Zivilisationen, verschiedene Kulturen gibt, so wie wir unterschiedliche sprachliche Strukturen kennen.'
(If speaking a language means seeing the world in a particular way, speaking two languages means having broken the spell, it means that one knows there exist different worldviews, different civilisations, different cultures, just like there exist different language-structures Wisch, 1991, 90)

Chapter 5 BILINGUALISM/BICULTURALISM: HISTORY, AIMS, PREREQUISITES, METHOD, ARGUMENTS, AND EMPIRICAL UNDERPINNINGS

Introduction

Next to the 'old' controversy between Manualism and Oralism, about ten years ago the 'new' controversy arose between advocates of Total Communication and advocates of Bilingualism/Biculturalism (Bl/Bc)[1]. A Bl/Bc-education means that the deaf child is educated first

with a sign language, after which a spoken language is taught as a second language (Madebrink 1988, 603). In some cases the written as well as the spoken form of the spoken language is taught to all deaf children (e.g., R.E. Johnson & Liddell 1990, 62, Paul 1990), in other cases the written form is taught to all deaf children and the spoken form is taught only to those children who show an explicit interest in and an ability for speech (Cullbrand 1988, 552, Madebrink 1988, 603, Philip & Small 1991). The 'bicultural' aspect usually is reflected mainly in the hiring of Deaf teachers and in 'Deaf Culture' being a subject on the curriculum.

This new controversy, which has, up to the present, been going on mainly in the United States, is as emotional and intemperate in character as the old controversy was in former days. Bl/Bc originated some ten to twenty years ago and is still practiced in all the deaf schools of Sweden and in some deaf schools in Denmark, but in those countries it is hardly contested.

1 As I have mentioned in chapter 2, section 2.4.5, bilingualism does not necessarily go together with biculturalism. D.A. Stewart (1990), for instance, describes a program in which ASL is used only as a means to develop English language skills and academic achievement and in which English is seen as the primary language of the deaf child, so this program is bilingual but not bicultural. However, this is an exception The movement I am describing here is one towards bilingualism *and* biculturalism, sometimes abbreviated to 'the Bi-Bi approach' (e.g., Newman 1992).

5.1 Origins and history of Bilingualism/Biculturalism

The rise of Bl/Bc is inextricably bound up with the research into sign languages of the deaf and the acknowledgement of these sign languages as true, complete languages. This research originated in the United States with William Stokoe (around 1960, see Stokoe 1960, 1972). As yet the sign language used by most deaf Americans, American Sign Language (ASL), is the most extensively researched sign language in the world. It probably is also the most developed sign language, that is, the sign language with the largest vocabulary and the greatest expressive potential. There are two reasons for this latter fact. First, in American schools for the deaf, manual language never has been so heavily suppressed as in deaf schools in other countries, such as the nations of Europe. Secondly, in America during the last two decades, deaf people and hearing and deaf educators of the deaf have consciously worked at an extension of the vocabulary of ASL with, for instance, technical terms, sexual terms, etcetera (see e.g. Denton 1990, 18). At the moment ASL is the fourth most widely spoken language in the United States (Christensen 1990a, 28). Together with the growth and acknowledgement of ASL, American Deaf Culture developed. In America the deaf have their own sport clubs, television-programs, churches, theatre, and several magazines.

In the history of deaf education in the United States there is a short period in which ASL was used as the dominant means of communication in deaf schools, namely, between 1830 and 1870 (Scouten 1984, 104, 167-173). Around 1870 the rise of a sign system ('Methodical Signs') and later of Oralism dispelled ASL from the deaf schools. However, ASL survived in the American

Deaf community. Because of its disappointing results strict Oralism was replaced by Total Communication during the 1970s. TC meant using simultaneously speech and a sign system. Sign language was not used for several reasons. First, it is almost impossible to use a sign language simultaneously with speech because of the very different word order in signed and in spoken languages (R.E. Johnson, Liddell & Erting 1989, 5). Secondly, a lot of educators still considered sign languages to be inferior languages. Thirdly, a sign system was used because it followed the word order of the spoken language and, therefore, was considered to be a help in acquiring spoken language.

Advocates of TC started the simultaneous use of speech and a sign system with high hopes. It was expected that simultaneous communication, because of the rich early language input it would give to the deaf child, would cause the TC-educated deaf child to perform much better than the orally educated child in all language-related areas, like speech, speech-reading, reading and writing. But after two decades TC turned out to show results that fell short as well (Luetke-Stahlman 1990b, 326). Many investigations showed that parents and teachers often do not succeed in rendering a grammatically complete message through simultaneous communication. And in particular, the reading level of deaf students, which had, for several decades, remained at a performance plateau at the third-grade level, hardly improved with TC (Allen 1986, Bockmiller 1981). These disappointing results prompted educators of the deaf to look for new educational methods.

But the true beginning of the shift towards Bl/Bc is said to lay in the Deaf community (Lane 1993a, 191-202), especially in the most educated part of that community, the students at Gallaudet University, the only university in the world especially for deaf students. In 1988 there was a student revolution at Gallaudet University (often indicated as 'the Revolution', see for instance Lane 1993a, 191). Students demanded that the new-to-be-elected president of the university be a deaf person. The governing board of Gallaudet originally appointed a hearing candidate but after five days this candidate resigned and the board appointed a deaf candidate. This revolution is seen as a turning point in the emancipation of deaf people. Since then, the Deaf community has felt stronger and this community, together with linguists and educational researchers, has started promoting Bl/Bc.

Bl/Bc was supported by new findings on bilingually raised hearing children, and by the school-achievements of deaf children from deaf parents. Contrary to earlier findings it turned out that bilingual education did not necessarily hamper language development, and could even enhance achievements, provided that both languages were offered consistently to the child (Cummins 1979b). And deaf children from deaf parents — those children considered to be native sign language users — were consistently shown to perform better than deaf children from hearing parents in all subject-areas at school except in speech, where they performed equally. There has been much debate concerning this fact. Nobody denied the fact itself, because it was shown time and again in different investigations. But educators disagreed about the cause of it. Oralists tended

to say that the good results of so-called 'deaf- deaf' children, as compared to the results of 'deaf-hearing' children, should be attributed to the fact that deaf parents expect to give birth to a deaf child. So they do not or hardly experience a shock or grief, and from the beginning they know how to communicate with their deaf child. Manualists tended to say that the fact that these children from early on have been raised with a complete language, sign language, causes deaf-deaf children to perform better[2].

Similar developments in the field of education of children from minority language groups were another factor in the rise of Bl/BC (Madebrink 1988, 602). Hispanic children in the USA, and Turkish and Moroccan children in Western Europe, were thought to learn the language of their guest-country better if they had first learned their native language adequately. Apart from that, it was considered that these minority-groups had a right to preserve their own language and, with that, their own culture.

So in the middle of the eighties of this century a few schools in the USA started Bl/Bc-programs. In 1991 there were 15 to 20 schools for the deaf in the United States and Canada which practiced or were changing to Bl/Bc (Philip & Small 1991, 3). In Sweden, Bl/Bc has already been in practice for about ten to twenty years, and in other Scandinavian countries there are also some Bl/Bc-programs (see e.g. Rasmussen 1988). In Sweden, after the oral wave, TC was practiced for just a few years. The disappointing results soon, and without much conflict, caused Swedish educators to change to a Bl/Bc-program (S.N. Davies 1991, 9). In 1981 the Swedish parliament granted deaf people the right to be bilingual and to have Swedish sign language as their first language (Andersson 1991, 401). In some other European countries Bl/Bc is also slowly achieving a presence. Baker and Child (1993, 46) conclude, in a depth-study into nine deaf schools in the United Kingdom, that there is 'an increasing openness towards the potential value of British Sign Language as an educational resource'. In the Netherlands, the deaf school in Groningen would like to change over to Bl/Bc but as yet is hindered by practical problems, such as finding enough teachers who know Dutch Sign Language (Oostra, personal communication, June 8th 1993).

2 For an extensive discussion of the achievements of deaf-deaf children and the different explanations see chapter 8 section 8.3.

5.2 Aims of a Bilingualism/Biculturalism education

The following aims for Bl/Bc-programs are mentioned in the literature:
-That the deaf child will acquire grammatical and communicative competence in sign language as a first language (Bourigault 1988, 539, R.E. Johnson et al. 1989, 15).
-That the deaf child will acquire spoken language as a second language (R.E. Johnson, Liddell & Erting 1989, 17).

-That the deaf child will acquire the same curriculum-content at the same age as hearing children do (R.E. Johnson et al. 1989, 21).
-That the deaf person will move easily between the two cultures and enjoy the benefits of both (Christensen 1990a, 28, Cullbrand 1988, 552).

This usually is also the order of importance of the aims as viewed by advocates of Bl/Bc. The deaf child is first and foremost a member of a linguistic minority group, so competence in the minority group language is the primary aim of education. Because this minority group lives in a society with a different majority language, the deaf child has to learn this majority language too, but not necessarily in the spoken form. As a result of the view of the deaf child as a non-handicapped member of a minority group, similar school achievements can be expected from the deaf child as from the hearing child.

5.3 Prerequisites of a Bilingualist/Biculturalist education

Most prerequisites of Bl/Bc-programs for deaf children are borrowed from bilingual programs for hearing children. Cummins (1980) investigated several bilingual programs for hearing children and listed the properties of the successful ones. They are adopted by several proponents of Bl/Bc:

1. Language-contacts must be consistent, that means that the same person always uses the same language (Cullbrand 1988, 555). If possible, the language models should be native speakers (Cornett & Daisey 1993, 494). Language-input must be complete and comprehensible (Luetke-Stahlman 1986).

2. Both languages must have the same status and should be encouraged to develop equally and in an as natural and spontaneous way as possible (Cullbrand 1988, 555, Humphries, Martin & Coye 1989, Lane 1990, 82).

3. Well-trained, bilingual teachers as well as bilingual material should be available (Lane 1990, 82).

4. It is important that educators provide deaf children with a positive view of themselves and their language (Humphries et al. 1989, 126, Lane 1990, 82).

Another prerequisite regards the majority-language. In real society it seldom happens that two languages in one community have the same status, usually there is a majority- and a minority-language. With respect to the majority-language it is said:

5. There should be adequate emphasis on the majority-language and enough opportunity for pupils to learn and practice the use of the majority-language with majority-language speakers (Lane 1990, 82).

As stated earlier, not all Bl/Bc-programs have adopted the latter prerequisite, that is, not all programs teach all deaf children speech so that they can use this with hearing people.

Other prerequisites for Bl/Bc-programs for deaf children are:

6.The presence of deaf teachers who serve as language models and identity models for the deaf child is important (Bourigault 1988, 539, Martin 1991a, 509). Therefore, native ASL-speakers and persons who are fluent in ASL should be trained to become teachers, but schools and programs for the deaf should also recruite native ASL-users for other jobs in school, for instance cleaning-personnel, janitors, etc. (Christensen 1990a, 30).

7. Schools and programs for the deaf should provide training courses in ASL for parents and staff (Christensen 1990a, 30).

8. The sign language and the spoken language should be treated as separate languages in the educational setting. This usually means that all educational content is taught by means of sign language. The spoken language is taught separately, by means of a sign system (e.g., English is taught by means of signed English), a sign language (sign language to elucidate spoken language structures) or by means of reading, writing, and perceiving spoken language (Bourigault 1988, 539, Christensen 1990a, 30, S.N. Davies 1991, 11, Humphries et al. 1989, 125, R.E. Johnson et al. 1989, 16-17, Philip & Small 1991, 30).

5.4 The Bilingualist/Biculturalist method of teaching deaf children

As I already mentioned in the Introduction, the most striking characteristic of a Bl/Bc-program is the fact that sign language is taught as a first language to deaf children. This is often also the only fact that is known about Bl/Bc-programs. Since in America they are so new, there has not been much written about them in English. Most publications on Bl/Bc do not describe actually existing programs, but make proposals for Bl/Bc-programs that are yet-to-come, or provide arguments in favor of the establishment of Bl/Bc-programs. There are some English publications about the Swedish schools, but they are few. Therefore, the description of the Bl/Bc-method in the next two sub-sections is bound to be rather sketchy.

5.4.1 Speech, visual-auditive speechperception, audition, and reading and writing in a Bilingualist/Biculturalist program

According to its Information paper, in The Learning Center for Deaf Children in Framingham, Massachusetts, where a Bl/Bc-program has been in operation for a few years now, no speech is used in the communication with deaf pupils. If the deaf pupil herself wants to speak, SimCom is used with her in an open area, and speech-only is used only when in an enclosed area. If the deaf pupil wants to use speech-only when in an open area, this is only possible 'provided that they have informed the other students in the group about what they will be discussing and checked with the other students to find out if they feel comfortable with this.' (Philip & Small 1991, 30). In the Information paper, no further rationale for this is given except that the Learning Center 'attempts to keep the two languages, ASL and English, separate' (ibidem).

Other Bl/Bc-programs pay more attention to speech. In the Bl/Bc-schools in Sweden deaf children are taught at least 'survival' speech and visual-auditive speechperception (e.g., enough speech and visual-auditive speechperception to go shopping etc.). Swedish speech-teachers report that teenagers, especially, are interested in learning speech because they are more out-going in the hearing world and want to meet hearing boys and girls (S.N. Davies 1991, 9-10). In the curriculum for a Bl/Bc-program proposed by the Gallaudet-researchers R.E. Johnson et al. (1989) the teaching and training of speech and visual-auditive speechperception and auditory skills on an individual basis — that is, outside the regular classroom-teaching which primarily takes place in ASL — has a place from preschool onwards. However, they do not tell how much time will be devoted to this training relative to other parts of the curriculum.

In the curriculum described by R.E. Johnson et al. instruction in reading and writing in the spoken language (which is taught to the deaf pupil as a second language) begins in first grade, just like with hearing children. How this instruction takes place (for example, by means of Signed English, or by means of written texts) is not mentioned (R.E. Johnson et al. 1989, 20-21). In Sweden and Denmark, the spoken language is taught mainly by means of written texts. In the classroom teachers translate these texts into sign language for the pupils (Björneheim 1988). In other cases classic children's stories are shown both on a video-tape in sign language and in written Swedish or Danish (Birch-Rasmussen 1988). First it is ascertained that the children understand the story in both languages, then the differences between the two languages are discussed (S.N. Davies 1991). Christensen (1990a, 28) says that for deaf children from deaf parents sign language is their first language and spoken language should be taught as a second language, whereas for deaf children of hearing parents both languages should be taught in parallel.

5.4.2 A Bilingualist/Biculturalist education

Basically the idea of Bl/Bc-education for deaf children is to imitate the situation in which deaf

children from deaf, signing parents grow up: from birth on the deaf child should be 'bathed' in sign language just like a hearing child is 'bathed' in spoken language (Newman 1992, 93). Therefore, in most Bl/Bc-programs, just as in oral and TC-programs, much attention is payed to early home-training and to preschool activities with parents and their deaf children. Parents are urged to spend as much time as possible learning sign language. Often deaf adults visit the home and instruct the deaf child and her parents in sign language and in Deaf culture and the history of the Deaf community. The school also provides courses in sign language for parents, teachers and other people who are interested in learning sign language (Andersson 1991, 402, Cullbrand 1988, 556, R.E. Johnson & Liddell 1990, 60).

R.E. Johnson & Liddell (1990, 60/61) think it is unrealistic to expect that hearing parents be the primary language model for their deaf child. While trying to provide the hearing parents with as much sign language ability as possible, deaf adults must be the primary language model for the deaf child.

In Sweden duo's of a deaf and a hearing teacher often work together in the classroom, and this has also been proposed for the American Bl/Bc-programs (Björneheim 1988, Christensen 1990a, 28).

The transmission of Deaf culture is usually achieved by the Deaf teachers present in school, and often 'Deaf Culture' is a subject in the curriculum. However, it is not very clear to what extent both languages and both cultures — the hearing and the Deaf — are treated equally in Bl/Bc-programs.

The National Cued Speech Association has a somewhat different approach to Bl/Bc (Cornett & Daisey, 1993, 491-492). They support the idea of bilingualism for deaf children, because they think deaf children have a need to interact both with the deaf-signing and with the hearing-speaking world, but they oppose to the idea that the learning of a spoken language should be delayed till the child goes to elementary school. They think spoken language should be taught to all deaf children in the pre-school years by means of Cued Speech, to serve as a base for learning to read and to write in the elementary school. The language of the parents should be the language of the home. So *hearing* parents should communicate with their child by means of speech, preferably Cued Speech, and beyond that, the child should learn a sign language from a native sign language user. *Deaf* parents communicate with their child in sign language, and next to that the child learns spoken language from a teacher from a deaf school, by means of Cued Speech. Hearing parents should not try to learn a sign language, but only a few hundred signs in order to be able to communicate with the deaf signing friends of their deaf child, and should spend as much time as possible communicating with their child in spoken language.

5.5 Arguments in favor of Bilingualist/Biculturalist education

The arguments for Bl/Bc-education for deaf children usually start by pointing to the drawbacks of TC, of which Bl/Bc is the successor.

1. TC works hardly any better than the oral method, especially where reading and writing a spoken language is concerned (Brodesky & Cohen 1988, R.E. Johnson et al. 1989, 2, R.E. Johnson & Liddell 1990, 60, 61, Luetke-Stahlman 1990b, 326).

2. TC, although an improvement as compared to Oralism, still maintains a pathological view of the deaf child. The low expectations regarding school achievements of deaf children that result from this view cause deaf children to perform badly (R.E. Johnson et al. 1989, 12-13, Reagan 1989, 44-45). TC in fact is a kind of 'crypto-Oralism' (Moore & Levitan 1992, 78).

3. Spoken language is not meant to be received by seeing someone's lips, as occurs in TC- and in oral methods. If it were, sounds would be easier to see from the lips. Spoken language can better be taught by means of writing (Barnum 1984, 405).

Arguments directly supporting Bl/Bc are:

4. Sign languages are rich and complete languages, in every respect equivalent to spoken languages, and they can be acquired easily by deaf children (Bockmiller, 1981, Issel 1992, 158, Klima & Bellugi 1979, Orlansky & Bonvillian 1985, 129). Sign language communication in a classroom with deaf children is as effective as spoken language communication normally is in a classroom with hearing children (Bosso & Kuntze 1991, 29-30, R.E. Johnson et al.1989, 8, R.E. Johnson & Liddell 1990, 59/60, Livingston 1986, Newman 1992, 93).

5. Bl/Bc gives the deaf child the opportunity to learn a complete primary language during the 'critical period' for language-learning. Thus, this primary language can serve as a basis for learning spoken language. Advocates of Bl/Bc expect that deaf children in a Bl/Bc-method will learn to read spoken language at age-level (Barnum 1984, 405-406, Bosso & Kuntze 1991, 29-30, R.E. Johnson et al. 1989, 16, R.E. Johnson & Liddell 1990, 59/60, Newman 1992, 94, Paul 1990, 107).

6. Sign language as a primary language also gives the deaf child the basis to acquire knowledge and to acquire the same social and emotional abilities as hearing children do (Barnum 1984, 408, Christensen 1990a, 28, R.E. Johnson et al. 1989, 15-16, R.E. Johnson & Liddell 1990, 60, 61, Lane 1990, 81, Newman 1992, 94, Paul 1990, 109).

7. Deaf children from deaf parents do better in learning to read and write a spoken language. In a Bl/Bc-method the situation of deaf children from deaf parents is copied as much as possible (Barnum 1984, 406, R.E. Johnson et al. 1989, 10).

8. Deaf children have a right to learn sign language. Recognizing the deaf child's sign language is recognizing the deaf child herself. Sign language, if it is taught and respected as a rich and complete language, provides the deaf child with a strong and positive identity (Lane 1990, 82, Newman 1992, 94). Pufhan (1992, 151) formulates it like this 'Das Bekenntnis zur Gebärdensprache und deren unverzichtbarer Existenz bedeutet, dass ein anderes Menschenbild wächst, welches die Identität gehörloser Menschen bejaht'[3].

9. The Deaf form a linguistic and cultural minority (Bosso & Kuntze 1991, 29, Cullbrand 1988, 552, Lane 1990, 81, Madebrink 1988, 603). Hearing society for centuries has oppressed this community. Hearing society has denied deaf children access to their language and culture and has treated them from a pathological perspective. Bl/Bc sees deaf children from a cultural perspective in which deaf people are complete human beings. Therefore, deaf children should learn first the language of their Deaf community (Bosso & Kuntze 1991, 29, Clements & Prickett 1986, 218, Johnson et al. 1989, 18, Ringli 1981, 119-121).

10. Bilingual education with hearing children is successful provided that certain conditions are met (Cullbrand 1988, 554, R.E. Johnson et al. 1989, 11, Lane 1990, 86-87, 1990, 84, Luetke-Stahlman 1983, Woodford 1987).

11. Some recent, rather remarkable findings support the Bl/Bc-case. It turns out that deaf children from hearing parents who have been educated in a TC-program tend to use more and more sign language-like structures in their simultaneous communication the older they get, even when these children have little or no knowledge of a sign language. So, although these children are educated in a unilingual system, they tend to become more and more bilingual. It is assumed that one of the reasons for this phenomenon is that manual signs do not lend themselves very well to spoken language-like structures and that the use of signs according to sign language-like structures satisfies the need for communication of the deaf child better. Children adapt their signing to meet the general modality constraints on manual languages (Gee & Goodhart 1985, Gaustad 1986, Knoors 1993, Livingston 1983, Loncke 1990, Mounty 1986, Supalla 1986, 1991).

Some of the above mentioned authors also express caveats besides arguments in favour of Bl/Bc. Christensen (1990a, 30) warns that the successes of bilingual hearing children cannot be simply transmitted to the situation of deaf children. Hearing children come to school while fluent in one language, and then they learn a second language, or they are already more or less fluent in both

languages when they enter school. Deaf children, the vast majority of whom have hearing parents, usually enter school with very little language. Bornstein (1990b, 38-39) expresses similar thoughts.

Newman (1992, 94-95) warns about extremism, for running blindly and wildly on the path towards teaching ASL to each and every deaf child. He raises some questions with respect to what this new Bl/Bc-approach brings with it. Will hearing parents and teachers be able and be willing to learn ASL? Should every deaf child be treated the same? Aren't we as blind as the advocates of the oral/aural approach, pressing all deaf children into the same mold?

Other critical notes come from advocates of oral methods and of TC-methods. Denton (1990, 18) is worried about this new controversy between TC and Bl/Bc and fears that a new bitter dispute will divide the field of deaf education. He, as well as Gustason (1990b, 22-24) think that TC is pictured too negatively by the advocates of Bl/Bc. Gustason also worries about the bonding process between the deaf child and her hearing parents if the parents are not the primary language model and if deaf adults come into the home to teach the young deaf child her primary language. She also points to the fact that research shows that many deaf mothers do not use only sign language with their deaf child, but some combination of sign language, a sign system, and speech. She therefore doubts the necessity of strictly separating the sign language and the spoken language (ibidem).

Martin (1990, 31-32) points to the danger of attributing all problems deaf children experience in school to one single factor, namely, the factor of what language is taught as a primary language to deaf children. The situation of deaf children is confounded by their lack of worldly experiences (because of their deafness), by the fact that they usually come from families with a lower socio-economic status than hearing children, and by the fact that expectancies of teachers towards the achievements of deaf children usually are low. Martin recommends the development of experiments and studies in which these separate factors are controlled.

Ross Stuckless, who won his spurs in deaf education and went through all the changes from Oralism to TC and now to Bl/Bc, and who has a deaf brother himself, expresses his concerns after a visit to the Bl/Bc-program in Massachusetts (1991). He thinks that when sign language is learned as a first language, the deaf child has little aptitude and motivation to learn speech, especially when spoken language is taught after the critical period for learning language has gone passed. He says that, if indeed the deaf child has a greater propensity for learning sign language than for learning spoken language, it would be better to teach spoken language during the critical period, and teach sign language later. He also doubts whether hearing parents will be willing and able to learn a sign language, while SimCom is much easier for them to learn. Further, he thinks that Bl/Bc-programs neglect individual differences between deaf children, that the idea that just changing the educational language from English to ASL and hiring more deaf teachers will change the achievements of deaf children dramatically is naive, and that much more research and evaluation is needed on existing Bl/Bc-programs before the idea is spread so wildly and enthusiastically.

Maxwell (1990, 372) puts some questions to bilingualism: '...who will teach? only deaf teachers? what will parents learn? what about reading?...'. She also wonders why the advocates of Bl/Bc expect teachers and parents to learn a sign language quickly, while at the same time these advocates point to the inability of parents and teachers to learn a sign system, which is assumed to be easier to learn for hearing people because it follows the grammar of the spoken language.

Ogden & Lipsett (1982, 116) point to the fact that only a few hearing teachers know sign language. They doubt that Bl/Bc-programs will find enough qualified teachers.

Van Dijk (1991b, 182) sees bilingualism as a movement towards the old deaf-and-dumb education. He cautions against too hastily embracing yet another panacee for 'the' deaf child. Elswhere (1991a, 42) he doubts whether all deaf children want to learn sign language and integrate themselves into the deaf community, and in a later publication (Van Dijk 1995), although exhibiting a more sympathetic view towards bilingualism, he doubts whether a bilingual method will succeed where few educated native signers are present.

An extremely sarcastic and sharp rejection of Bl/Bc is uttered by the American Larry Stewart (1992). Profoundly deaf since the age of eight, with a doctorate in psychology, fighter for the human rights of deaf children and adults, member of the National Association for the Deaf's committee on Equal Educational Opportunities for Deaf Children, according to a description of him provided by the editor of the journal in which he published this 1992 article, he is a distinguished person in the field of deafness and deaf education and can hardly be suspected of being 'anti-deaf' or 'pro-Oralism'. Under the title 'Debunking the Bilingual/Bicultural Snow Job in the American Deaf Community', he mops the floor with what he calls the 'cult-like movement' towards Bl/Bc (p., and especially with those who translate 'bilingualism' as 'ASL first and for all'. He thinks that both 'ASL' and 'Deaf Culture' are political creations, not discoveries. He thinks deaf people, though bound by similar communicative needs, do not form a separate culture but rather form a distinct group within American culture. He calls the principles of Bl/Bc 'shallow' and the thesis that deaf education and TC until now have failed 'pure speculations'. He points to some facts he thinks are usually ignored by the advocates of Bl/Bc, such as the fact that 30 to 50 % of deaf children have one or more additional disabilities next to their hearing loss which hinder the development of communicative abilities, and inadequacies of the American health and education system which lead to relatively late detection of deafness and to the ill-considered mainstreaming of children who are not fit for it. He ridicules the fact that deaf Bl/Bc-advocates refuse to be called 'impaired' or 'disabled' while at the same time willingly accepting federal and state financial support for the disabled. He denies clear-cut that ASL has the same expressive and receptive powers as English and cuts down several other euphemistic and 'politically correct' statements of the Bl/Bc-movement. He advises deaf people who think they are oppressed by hearing people to spend a week in a prison in Iraq or Cuba 'where they would learn a new definition of 'oppression'. He acknowledges that American schools in general and schools for the deaf in particular are far from perfect, but he says over the past decades American schools have been

improving gradually and continuously.

Stewart turns especially against the more radical elements among the advocates of Bl/Bc. Their views are expressed eloquently in Harlan Lane's book with the suggestive title 'The mask of benevolence' (1993a). They think that the entire, centuries old enterprise of educating deaf children has been one big attempt to colonize the deaf and to profit from them. The deaf have always been seen as ignorant and they, consciously or less consciously, have been kept ignorant by their hearing educators. If the deaf would be acknowledged as a not-handicapped linguistic and cultural minority group, and if deaf children would be educated with a sign language as their first language, the deaf would achieve similarly to hearing people in all areas of society. But, Lane says, hearing educators have no interest in doing so, because this would cause them to loose their jobs as educators of the deaf. A lot of money is involved in the business of deafness, and therefore hearing people want to keep the situation as it is. The culmination of this colonization-attempt is the recent trend to provide deaf children with a Cochlear Implant. This mutilating, irrevocable surgery forces the young and helpless deaf child to become Hearing instead of Deaf. Harlan Lane says that, even if deaf children could be made 100% hearing by means of a cheap, painless surgery in which no physical or psychological risks were involved, it should not be done on ethical grounds. He, and also, for instance, Govers (1995), compare it to making black people white. I will describe the issue of the Cochlear Implants more extensively in chapter 7.

3 'Acknowledging sign language and its interminable existence means that another concept of man arises which confirms the identity of the deaf person.'

5.6 Empirical underpinnings

As I already mentioned, Bl/Bc is relatively new in America. As yet no empirical research has been done into existing programs. Some research exists that supports the arguments of the advocates of Bl/Bc, predominantly regarding the school achievements of deaf-deaf children. And although in the Scandinavian countries Bl/Bc has already been practiced for about ten to twenty years, no research is known about these programs either. I will, however, in this section summarize the arguments of the advocates of Bl/Bc, just as I did for the arguments of the advocates of Oralism and of TC in the chapters 3 and 4, and I will add the empirical evidence available.

I TC fails, just like Oralism does (arguments 1 to 3).

Luetke-Stahlman (1990b, 326) cites the investigation of Allen (1986) as the most clear evidence that simultaneous communication has not lived up to expectations. Allen compared reading abilities of deaf adolescents in 1974 (when most children were still educated orally) with reading abilities of deaf adolescents in 1983 (when Total Communication had already been in practice at most schools

for several years) and found only a very small gain in reading achievement: in 1974 deaf adolescents read at a mean grade level of 2.80, in 1983 they read at a mean grade level of 2.90. Further, several investigations have shown that teachers are not capable of rendering a complete and grammatically correct message both in speech and in signs at the same time (for a discussion of these investigations see chapter 3, section 3.6).

II Sign languages are full-blown languages which easily can be learned by the deaf child in the 'critical period' for language learning and which can form a base to learn spoken language, to acquire knowledge, and to develop social and emotional abilities (arguments 4 to 6).

The development of sign language in deaf children of deaf parents has been investigated by linguists and psycholinguists who were interested in the similarities and the differences with spoken language development among hearing children of hearing parents. Both these groups of children acquire a mother-tongue, but very different ones. It turns out that deaf children of deaf parents acquire sign language following the same stages as hearing children of hearing parents acquire spoken language, but deaf signing children are quicker. They acquire their first signs, their first two-sign-sentence, etcetera, several months earlier than hearing children acquire their first word and their first two-word-sentence (Bonvillian, Orlansky & Folven 1990, Orlansky & Bonvillian 1985, Prillwitz & Wudtke 1988, 109-118).

One investigation supports the idea that a sign language can be a help in acquiring spoken language, at least with older students. Akamatsu & Armour (1987) found that English writing of deaf adolescents improved when more insight was given into the structure of American Sign Language (their preferred mode of communication) as compared to the structure of English.

J.S. Johnson & Newport (1989) investigated whether the 'critical period' for language learning extends to second language learning as well as to first language learning. They tested the competency in English of native Chinese and Korean speakers who arrived in the United States at different ages. It turned out that the earlier arrivals did indeed do much better than the late arrivals . There was a linear age-effect up to puberty. After puberty, competence was not related to age anymore.

III Deaf children from deaf parents do better in school than deaf children from hearing parents, due to their early acquaintance with an easy to acquire, complete language. Bl/Bc copies the situation of deaf-children as much as possible (argument 7).

Time and again deaf-deaf children turn out to achieve better than deaf-hearing children on all kinds of cognitive tasks, except on speech, where their achievements are usually equal to those of deaf-hearing children. Deaf-deaf children also do better on IQ-tests, sometimes even better than hearing children. Manualists attribute these better results of the deaf-deaf group to the fact that these

children have been educated with manual communication means from birth on. An implicit but never really investigated assumption here is that all deaf parents use manual communication means with their children. Oralists attribute the better results of the deaf-deaf group to the better social-emotional environment during the first years. Whereas hearing parents usually do not expect to give birth to a deaf child, deaf parents are prepared for this. Thus deaf parents are better equipped from the birth of the child onwards for educating a deaf child. They do not suffer from shock and they know precisely how to communicate with their deaf child. Another explanation that has been given is that the cause of deafness plays a part. Since most deaf-deaf children have hereditary deafness, this might be the explaining variable. As yet research has not given conclusive evidence as to what could explain the better results of deaf-deaf children (for an extensive discussion of research and explanations of this phenomenon see chapter 8, section 8.3).

IV The deaf child must not be seen as a child with a handicap, but as a member of a linguistic minority group. Therefore, she should be taught the language of this minority group as a primary language (argument 8 and 9). That the deaf child has a greater propensity for sign language is evidenced by the fact that deaf children tend to use sign language-like structures even when they never have learned a sign language (argument 11).

I will go extensively into this view on the deaf child and her culture in chapter 7. The phenomenon mentioned in argument 11 is described, amongst others, by Goldin-Meadow & Mylander (1990), Luetke-Stahlamn (1990a), and Morariu & Bruning (1984).

D.A. Stewart (1983) asked 162 American deaf adults about their opinion of sign language and the education of deaf children. There was general agreement that ASL should be taught as a first language to all deaf children in a bilingual program, and that spoken language should be taught as a second language by means of a signed English system.

V Bilingualism works with hearing children, provided that certain conditions are met. Therefore, it can be made to work also with deaf children.

Advocates of Bilingualism/Biculturalism especially point to research which shows that bilingual children do acquire both languages adequately if certain conditions with respect to the teaching situation are met. Since this is research with bilingual *hearing* children, I will not elaborate on this and I confine myself to referring to Cummins & Swain (1986).

5.7 Two groups of Manualists

In section 3.7 of chapter 3 I have distinguished two groups of Oralists according to the aim they set

for educating deaf children, namely, Strict Oralists, who want to educate the deaf child as a member of Hearing society who communicates solely through speech, and Free-Choice Oralists, who want to educate the deaf child in such a way that, as an adult, she can choose freely about what way she wants to communicate and into which community she wants to integrate herself.

Manualists, who I have defined in section 2.5.1 of chapter 2 as those educators and researchers who, in the education of deaf children, propose to use speech and/or writing, visual-auditive speechperception, reading, and the usual 'body language' or mimicry, in some way combined, preceded or followed by the use of fingerspelling, a sign system, and/or a sign language (thus including both the advocates of TC and the advocates of Bl/Bc), also have different aims, as we have seen in the sections 4.2 and 5.2. There are advocates of TC who aspire to create a deaf adult who communicates mainly through speech. Because these are very few in number, I will not categorize them as a separate group according to their aim. Most advocates of TC want to educate the deaf child so that, as an adult, she can choose to communicate in whatever means she wants in different circumstances. These advocates of TC can be categorized as Free-Choice Manualists. As we have seen, they think that for the deaf adult to be able to make a free choice, an education with both speech and signs is required, whereas Free Choice Oralists think that for such a free choice a pure oral education is required.

How about the advocates of Bl/Bc? According to the name 'Bilingualism/Biculturalism', the aim is to educate the deaf child with two languages and two cultures. Based on their name, it seems that advocates of Bl/Bc could best be categorized as Free Choice Manualists: as an adult the deaf person can choose whether she wants to integrate mainly into the Deaf, the Hearing, or both communities, because through her education both options are available to her. However from the little that has been written about Bl/Bc, it is not clear whether both languages and both cultures are stressed equally. Some advocates rather seem to defend a unilingual[3] and unicultural education of the deaf child, namely, educating the deaf child with a sign language for the Deaf culture, and teaching spoken language as a second language, just like hearing children are taught a second language in school. Thus we can end up with the following categorization of educators of the deaf according to their aims and to the methods they use. Next to Strict Oralists and Free Choice Oralists we have Strict Manualists and Free Choice Manualists. As Strict Manualists, I categorize those Manualists who want to educate the deaf children solely or predominantly for the Deaf culture, with a sign language as their first and primary language and a spoken language only as a second language, taught mainly or exclusively in the written form. As Free Choice Manualists, I categorize advocates of TC, and also those advocates of Bl/Bc who want to stress both languages and both cultures equally in the education of deaf children. It should be noticed, however, that Free Choice advocates of Bl/Bc have a different view about how to make free choice possible than both Free Choice advocates of TC and Free Choice Oralists. The first group thinks that free choice requires teaching a sign language and Deaf culture is necessary, the second group thinks for such a free choice an education with speech and a sign system is necessary, and the third group thinks a

purely oral education is required for a free choice .

3 'Bilingualism' usually means that the child learns two languages more or less equally well and more or less at the same time, as if she acquires two mother tongues. The Manualists I am here referring to do want to teach the deaf child English as a second language, but more like a foreign language, rather than as a second mother tongue.

Chapter 6 MATERIAL ANALYSIS; CONFUSION ABOUT THE REAL ISSUE OF THE METHODS CONTROVERSY; SOME CONSEQUENCES

Introduction

In this chapter I will try to explicate and disentangle some of the knotted arguments about the methods controversy. To do this I will first, in section 1, put the Oralists' arguments together in a scheme showing their internal dependencies, and in subsequent sections I will do the same with the TC-arguments and the Bl/Bc-arguments. These schemes show that the three groups implicitly disagree about the definition of what is the real issue in the methods controversy. This disagreement is caused by the lack of thorough empirical investigation into the speech and spoken language abilities of deaf children, which in its turn is caused in part by insufficient explicit determination of what 'good communication', 'good speech' and 'good spoken language' mean. I will clarify this disagreement about the real issue of the methods controversy and I will show that most *Oralists* ' arguments are invalid or inconsistent if the definition of advocates of TC and of Bl/Bc is taken as a viewpoint. By contrast, the ethical arguments *advocates of TC and of Bl/Bc*

put forward keep some force when the Oralist' definition is taken as a viewpoint, but then the TC-choice as well as the Bl/Bc-choice probably will find few defenders. This confusion about the real issue of the methods controversy penetrates several of its main themes. In the sections 2 to 4 I will give a material analysis of three of these themes and I will show how they are related to the confusion about the real issue of the methods controversy as described in section 1. In section 6.5 and 6.6 I will give a material analysis of two issues that are less related to the confusion about the real subject of the method controversy.

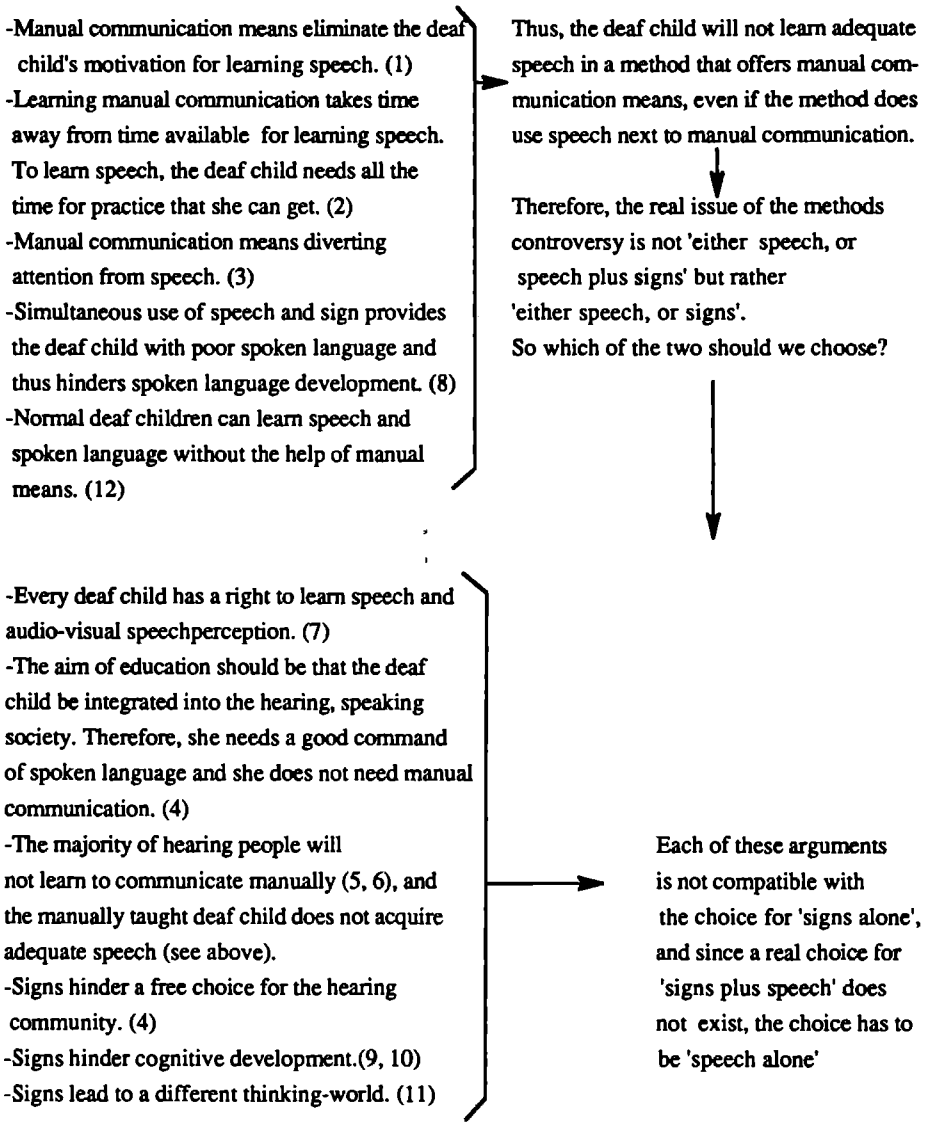
I will end this chapter by listing in a table most of the conceptual, normative, and empirical questions that are relevant for the methods controversy. The table shows some of their interdependencies and an order in which they should be dealt with. This table is meant to be a tool with which everyone individually can weigh the pro's and the con's of the different methods in deaf education and thus find a way out of the entanglement the methods controversy has become.

6.1. The interdependency of the Oralist, the TC, and the Bl/Bc-arguments; confusion about the real issue of the methods controversy

A mere enumeration of the respective arguments of the three parties would not do justice to the complex character of these arguments and of the methods controversy. Therefore, I will put the main arguments of each party into a scheme that shows their internal interdependencies. In this section, then, it is not the importance of the different arguments, nor their correctness or truth that is at issue, but their interdependency, and thus the order in which they should be dealt with and decided.

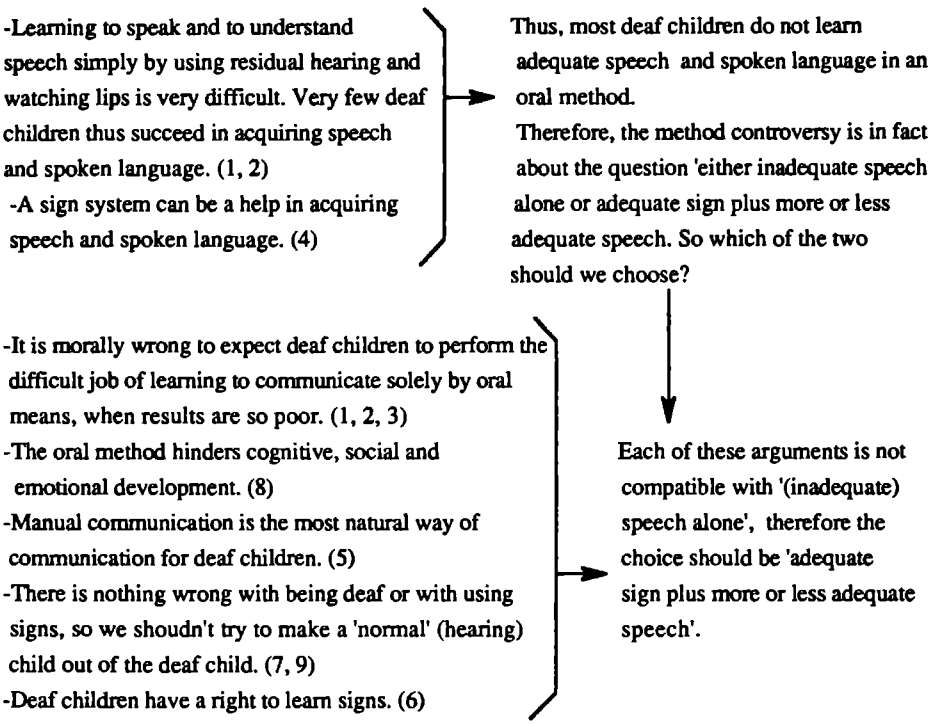
6.1.1 The interdependency of the Oralist arguments

Numbers refer to the numbers of the arguments in chapter 3, section 3.5.



6.1.2 The interdependency of the TC arguments

Numbers refer to the numbers of the arguments in chapter 4, section 4.5.



N.B. It should be noted that if advances in technology and didactics would make oral methods more adequate, so that argument 1 to 3 would not hold any more, or if Oralists could otherwise show the Manualist arguments 1 to 3 to be wrong, then the issue for the advocates of TC would become: 'either (adequate) speech alone, or (adequate) speech plus (adequate) sign'. Provided that the same prerequisites for the oral method would still hold, most advocates of TC would still prefer 'speech plus sign', based on an argument running something like this: 'Why shouldn't we teach deaf children signs if it does not harm them in any way, and if it is such an easy way of communicating for them?[1]. On the other hand, if Manualists could show the Oralist' arguments 1 to 3, and 6 to 8 to be wrong, the Oralist arguments, as I will argue below, would have little ground left.

1 I here assume that, however good didactics, hearing aids, and other aids may become, deaf children will still learn signs easier than speech and audio-visual speechperception. By definition (see chapter 2, section 2.1) hearing-impaired children who can be trained or can have surgery so as to learn and understand spoken language *as easily* as

they learn signs, are not 'deaf' but 'hard-of-hearing'. For the strict advocates of Bl/Bc this would create a moral dilemma: is it right to perform surgery or to train children who are born 'deaf' (and thus 'Deaf') to become semi-hearing (and thus 'Hearing')? Harlan Lane (1993a, 236-238) raises this question and answers it in the negative.

6.1.3 The interdependency of the Bl/Bc-arguments

Numbers refer to the numbers of the arguments in chapter 5, section 5.5.

-TC, just like the oral method, does not work (1)
-TC has a pathological view of the deaf child that is hardly better than that of the oral method, and this impedes the deaf child's performance (2)
-Sign language can be taught as a primary language to the deaf child and thus serve as a base for learning spoken language as a second language albeit in the written mode. (4, 5, 6)

→ Thus, the deaf child will not learn adequate spoken language, neither in the spoken, the written, or the signed mode in an oral or TC education.

↓ Therefore, the real issue of the method controversy is 'either no adequate language, or sign language as a first language and spoken language as a second language, albeit in the written mode.'

So what choice do we make?

↓

-Sign languages are rich and complete languages able to express anything a spoken language can express. (4)
-Sign language can serve as a basis for full social and emotional development and for acquiring knowledge of the world. (6)
-The deaf form a linguistic and cultural minority group. Therefore, the deaf child has a right to learn the language (i.e., sign language) and the culture of that group.(8,9)
-Deaf children are predisposed to acquire sign language. (11)
-Bilingualism works with hearing children. (10)

→ Therefore, the choice should be: 'sign language as a first language and spoken language as a second language, mainly in the written form'.

It can also be said here that if the oral method and the TC-method produced good results with respect to learning speech and spoken language, advocates of Bl/Bc would still maintain that the deaf child should be educated with a sign language, since they have a lot of arguments in favor of teaching a sign language to the deaf child. Perhaps they would give more attention to teaching speech, since the oral method and the TC method would then have shown that the deaf child can learn to speak adequately.

6.1.4 The real issue of the methods controversy

Thus far I have described the issue of the methods controversy as being 'either speech alone, or speech plus some form of manual communication'. I have described it in that way because at least formally this has always been the major issue of the methods controversy. In the last few years a second major issue has joined the first one, namely, the disagreement among Manualists, between advocates of TC and advocates of Bl/Bc. Formally the issue of this controversy is 'either speech plus a sign system, or a sign language as a first language plus spoken language as a second language (mainly in the written form)'. Oralists *say* they educate the deaf child by and for 'speech alone', advocates of TC *say* they educate the deaf child by and for 'speech plus a sign system', and advocates of Bl/Bc *say* they educate the deaf child by and for 'a sign language plus a spoken language in the written and -if possible- in the spoken form', and 'officially' these three aims and their corresponding methods are what the methods controversy is about. However, it remains to be seen whether these are really the issues of the controversy or whether perhaps there is no such thing as 'the' issue of the methods controversy. Taking a closer look at the arguments of the three parties, we have now seen that each of the three parties involved defines the issue of the methods controversy differently. Let me explain this a bit further.

Time and again hearing people who are not familiar with the methods controversy tend to think that it concerns the question 'either speech, or signs'[2]. And after having heard that the issue is 'either speech alone, or some form of manual communication plus speech or writing', they usually wonder why anyone would object to the latter. That these impressions of the controversy arise is partly due to the fact that two of the three parties, namely, Oralists and advocates of TC, often argue as if the issue *is* 'either speech or signs'. And the extremists under the advocates of Bl/Bc sometimes argue as if the issue is 'either sign language, or spoken language'.

In fact, for Oralists the real issue is 'either speech or signs' indeed, as can be seen in the scheme above. Because, according to Oralists, in a speech+sign program the child will not learn to speak adequately, speech+sign is not a real option, therefore, the actual choice is 'either speech or sign'. Sometimes this is explicitly stated. For instance, Van Uden (1982, 226) describes Total Communication as 'een opvoeding hoofdzakelijk in gebaren' [an education mainly in signs]. Campbell (1981, 72), in a book on oral education, says 'In fact, the oral-manual controversy boils down to a difference between the willingness to communicate with anyone in society and the willingness to communicate very effectively with a restricted group of people.'. The Oralists Lynas, Huntington & Tucker (1988, 32), in a discussion paper about the methods controversy, state it even more clearly: 'Generally, given that for most deaf children total communication is an impossible goal because an impossible practice the alternatives seem to lie between selecting a pure oral-auditory *or* [italics by L, H & T] a sign-only approach to communication.'.

If indeed the choice were between 'speech alone' or 'speech with signs', that is, if a TC-

method could be successful in teaching deaf children adequate sign *and* adequate speech, most Oralist arguments would be either inconsistent or irrelevant. The right of deaf children to learn to speak and perceive speech could then be satisfied in an education with 'speech plus signs'. The deaf child would have speech as a tool for integrating into hearing society, even if in all other contacts she would communicate through signs. That hearing people do not learn signs would not be a big problem, for the deaf child could *speak* with hearing people. As far as the arguments regarding the cognitive development and the 'different world' are concerned, these arguments would become problematic if the deaf child would be able to acquire adequate speech in a method using speech and a sign system or a sign language. If a sign system is being used, these arguments are irrelevant anyhow (that is, even if in such a method the deaf child would not learn adequate speech), because the child does not learn a sign language, but a spoken language in the signed form. But let us assume, for the sake of the discussion, that the arguments about cognitive development and about the 'different world' not only apply to a sign language but also to a sign system. Then in a method where the child learns adequate speech and spoken language in addition to a sign language or a sign system, the deaf child learns a language which is 'good' for cognitive development together with a language or a language form which is 'bad' for cognitive development. But what happens then? Will one influence be dominant, or do they hold each other in balance? And the same goes for the 'different world'. Into which world does the deaf person reside if she learns both a spoken language and a sign system or sign language?

The only two arguments that would remain for Oralists would be the argument that manual communication is not necessary for learning to speak and perceive speech and the argument that learning two languages at the same time is bad anyhow. Regarding the former, one could argue that, though Oralists cannot see a positive reason for using manual means, they also cannot have an objection against the use of it, so why bother? Regarding the latter, empirical proof would be needed.

Whilst Oralists think the choice is between either speech or manual communication forms, advocates of TC think that the issue is 'either speech alone, or speech and a sign system', or rather: 'either poor speech alone for the majority and good speech for the happy few, or good manual communication plus speech-as-good-as-it-can-be for all'. The quote given above chapter 4, dating back more than a century, already states this clearly: '... the oral method benefits the *few*, the combined system benefits *all* the deaf ...' (McGregor 1880, quoted in Lane 1984, 395). And Moores (1987a, 10) says '...it is... inaccurate to speak of an oral-manual controversy...The difference is between oral-alone educators...and oral-plus educators...'.

Advocates of TC have always tried to refute the Oralists' arguments. They deny that signs hinder the development of speech and spoken language, thereby implicitly rejecting the conception Oralists have of the methods controversy. We have seen that if the conception of the methods controversy held by advocates of TC is correct, most Oralist arguments would become irrelevant or problematic. But what if the Oralist conception were correct, and the methods controversy were

indeed about the question 'either speech alone, or sign alone', and deaf children were able to learn adequate speech in an oral method? The ethical arguments of the advocates of TC and of Bl/Bc would still retain some value. Also Oralists admit that speech learning is a difficult job for the deaf child. The question of whether such a job is not too big a burden for the deaf child is a legitimate one, and so is the question of whether the deaf child should be educated for the Deaf or for the Hearing community. However, if the choice would indeed be *either* speech *or* sign, speech being a viable option for deaf children, then most hearing people, including the 95% of the hearing parents of deaf children, probably would opt for the former. For why should a deaf child, living in a hearing-speaking environment, communicate through a sign system or a sign language, if she could adequately and easily communicate through speech as well? The only argument for rejecting an oral method would then be that the deaf child should be educated as a culturally Deaf person and thus have sign language as her primary language. Probably only a small minority of hearing parents would then make that choice for their deaf child, because the argument that the deaf child should be educated for the Deaf community would be problematic if indeed the majority of deaf children were able to easily learn adequate speech.

Clearly, in practice the choice is not that cut and dry. If indeed a TC or a Bl/Bc education would produce children with zero speech and oral education would produce children with 100% speech, or if a TC or a Bl/Bc education would give children 100% manual communication *and* 100% speech, then the discussion probably would die out quickly. Empirical evidence shows, however, that almost every deaf child acquires at least some speech, but few deaf children acquire 100% speech (Jensema, Karchmer & Trybus 1978, Wolk & Schildroth 1986).

We see that, in view of the logical structure of their arguments, the controversy between Oralists and advocates of TC basically seems to come down to determining whether it is possible for deaf children to learn adequate speech and audio-visual speechperception in a method that uses manual means in addition to oral means, and whether that is possible in a method that uses oral means only. Outsiders to the methods controversy probably will be amazed that this question has not simply been solved by empirical means as yet. Several factors are responsible for this phenomenon.

Much research has been done into the achievements of both orally educated and manually educated deaf children. However, as will have become evident in chapters 3 to 5, the results of this research do not clearly show the one or the other method to be the better one, and Oralists and Manualists disagree on most of the research results. Both parties point to defects or shortcomings in the design of research that shows the other party's method to be better (e.g., Arnold 1983, Nix 1983). And this can be done easily because in fact almost every research in the field of education of the deaf shows some flaws. Not because investigators are careless or incompetent or unreliable, but because so many variables seem to play a part in the development of the deaf child that it is almost impossible to create, for instance, two groups of deaf children who are matched on all

relevant variables[3]. This problem also creates difficulties for those who want to compare different investigations: no two of them take the same variables into consideration. Hollman-Borsjé (1990, 12) for instance names the following variables for investigating the social position of deaf people: time of detection of deafness and acquaintance with deafness by the parents at that time; existence of other handicaps; acceptance of the handicap by the parents; communication method used by the parents and by the school, residential school or dayschool; deaf school or mainstreamed in a hearing school; and all kinds of variables with respect to the employer and the work-place of the deaf person. As regards investigations into the school achievements of deaf children one could add: time of onset of deafness (prelingual or postlingual), degree of hearing loss, actual use of hearing aids, IQ, cooperativeness of parents, income-status and educational level of parents, hearing status of parents and siblings (deaf or hearing), cause of deafness (genetic or acquired), quality and consistency of communication of parents and teachers with the deaf child.

But there is a more important problem. If one asks what method renders the deaf child the best speech, immediately another question comes up, namely, what is meant by 'good' or 'adequate' speech, and also by 'good' or 'adequate' communication by manual means? Should the deaf person be able to communicate easily with her parents and siblings? Or also with her grand-parents and other family-members? With the neighbours? With the grocer on the corner? With a perfect stranger who has never met a deaf person? Should the deaf person's speech be so good that she can make herself understood immediately, or do we also consider her to have good speech when she has to repeat what she says one or several times before she is understood? And when do we consider a certain method to yield 'good speech'? If 100% of the children by that method acquire good speech? Or would 80% be enough, or 50%, or less?

And prior to these questions comes the question of how important good speech is anyhow. The majority of advocates of TC agree with Oralists that good speech has at least some importance for deaf people, but they often disagree with Oralists about how important it really is, as compared to the importance of manual communication. Connected to this is the question what good speech may cost, from an ethical point of view, a question which is raised by advocates of TC but has never been properly discussed in the field of deaf education. If every deaf child could acquire speech easily, there would be no problem, but this is not the case. What efforts can be reasonably asked from the deaf child and her educators, and what results should be expected in return? Oralists and advocates of TC hardly ever discuss any of these meta-theoretical and normative questions. In empirical investigations comparisons are made with hearing children of the same age, or oral and TC children are compared with each other, but neither Oralists nor advocates of TC ever specify what a realistic aim — qua speech and audio-visual speech perception — should or could be for deaf children. Most educators, especially Oralists, try to maximize the achievements of their pupils, and they hope that this will come close enough to the speech and spoken language level of hearing people. So if it were, at any rate, possible to reach an agreement on research results (in view of the methodological problems described above), such an agreement would be

hindered by the parties not having a shared conception of what counts as 'good speech' and what value speech has.

In conclusion, in order to clear up the methods controversy and create possibilities to solve it, we can say that a first and major task for Oralists and advocates of TC is to determine which criteria should be considered in attempting to answer the empirical question of whether or not a deaf child can learn adequate speech (and spoken language) in either method. This requires that, first of all, both parties discuss what is to be meant by 'adequate speech', and what the value of speech is for the deaf child, as compared to other communication means, and to other values in life. That the opinion of deaf adults and of parents of deaf children must weigh very heavily in this discussion goes without saying. A second task — after at least partial agreement is reached on meta-theoretical and normative issues — would be to discuss methodological issues. For instance, parties could try to draw up a protocol of research on speech development in deaf children, in which the precise methodological criteria the research should meet would be established.

The second major controversy, between advocates of Bl/Bc on the one hand and advocates of TC and (secondarily) advocates of Oralism on the other hand, is of a different kind. Here it is not the ability of deaf children to acquire speech which is at issue, since one of the parties involved assumes a priori that the majority of deaf children cannot learn adequate speech in whatever method. Advocates of Bl/Bc conceive the controversy as being 'either no adequate language, or sign language as a first language and spoken language as a second language (mainly in the written mode).' Their case rests on two basic assumptions, an empirical one and an ethica-anthropological one. First, neither the oral method nor TC work. Second, the deaf child is primarily a member of a linguistic and cultural minority group, the Deaf community. For these reasons they think that the real choice is between no adequate spoken language (in the spoken, written or signed mode) on the one hand, and adequate sign language plus more or less adequate spoken language, mainly in the written mode, on the other hand. Advocates of TC, by contrast, seem to conceive the controversy with advocates of Bl/Bc as being 'Either spoken language as the primary language of the deaf child, or sign language as the primary language of the deaf child'. Related to this question is the question of whether or not the deaf child should be seen as primarily a member of a cultural-linguistic minority-group, the Deaf community.

The issue is tangled by the more radical elements among the advocates of Bl/Bc, which I have defined as 'Strict Manualists' in section 5.7, mainly to be found within the American Deaf community. Although they officially propose bilingualism and biculturalism, they give the impression that they are actually proponents of unilingual/unicultural education. These Strict Manualists seem not to value speech very much for deaf children. For example, the Bl/Bc-program of the Learning Center for Deaf Children in Framingham, Massachusetts, in which, according to its information paper (Philip & Small 1991) it is urged that nobody speak in the vicinity of the deaf pupils, does not seem to treat sign language and spoken language equally.

Thus, several empirical matters must also be cleared up for the second major controversy in deaf education to be solved, but this must be preceded by a discussion on normative matters. Is it, for example, indeed the case that the majority of deaf children cannot learn to speak adequately, regardless of the method? Is it true that deaf children in oral and TC-methods do not learn to sign, read, and write a spoken language adequately? And prior to tackling these questions the normative questions must be addressed concerning the value of speech and spoken language for deaf children and determination of what constitutes 'good speech' and 'good spoken language'. Opinions about the value of speech and spoken language for deaf children have everything to do with views on the identity of the deaf child. Is the deaf child first and foremost a member of the Deaf community, or of the Hearing community, or should she accept living in two cultures, the Deaf and the Hearing? In the next section I will analyze the confusions about this question, but first I will summarize the analysis performed in this section.

The first controversy, namely, that between Oralists and advocates of TC, is complicated by the differences in the manner in which each party defines the issue. Oralists think the choice is between either speech or manual communication, advocates of TC think the choice is between either bad speech, or relatively bad speech plus good manual communication. The confusion is caused by insufficient clarity on central concepts, especially on the concept 'good speech', and by the differences in the parties' appraisals of the values of speech and signs/fingerspelling as means of communication for deaf people. The confusion could be cleared up by the parties' first discussing conceptual questions (e.g., what counts as 'good speech'?) and normative questions (e.g., what efforts can be asked from the deaf child for what results?) so as to determine the extent to which the parties have common ground upon which empirical research can be executed. For this empirical research to be fruitful, however, protocols should first be made for what, in this context, counts as good empirical research. In the second controversy, a third party comes to the fore, namely, advocates of Bl/Bc. They conceive choices in deaf education yet again differently, namely, as being between either no adequate language, or sign language first and spoken language as a second language. In this disagreement the central issue concerns the question of whether there is such a thing as a 'Deaf' versus a 'Hearing' community, and, if so, to what community the deaf child belongs. Also, disagreement exists on how the deaf child should be conceived, namely, either as handicapped and thus needing special assistance in learning (spoken) language, or as not handicapped but bilingual and thus needing an education in which she can learn both a sign language and a spoken language. Again, these philosophical-anthropological and conceptual questions should be discussed first in order to decide whether or not there is common ground for empirical research.

2 See for instance Van Weelden 1991, surely not a layman, and my comment on him, Tellings 1991b; see also Bergmans' complaint (1982, 62) that someone who defends the use of signs is always seen as anti-spoken language by Oralists.

3 See further chapter 2, section 2.1.2 about pedagogical definitions of deafness causing problems for interpreting research-results in which only the degree of dB loss is mentioned.

6.2 Choosing a community

One of the main issues in deaf education is the question whether, in one way or the other, deaf children should be educated for membership in the Deaf community, the Hearing community, or for both communities. This question of the community of the deaf child is fundamental. It underlies most issues within the methods controversy, not only the debate between Oralists and advocates of TC, and that between the latter and advocates of Bl/Bc, but also the disputes about mainstreaming and integration. Apart from that, parents of a young deaf child have to make a choice concerning the community to which their deaf child will belong. And some parties in the method controversy think that the choice parents make *determines* (and thus limits) the choices their child, as an adult, will be able to make.

6.2.1 Goals and achievements

One bit of confusion arises between Oralists and Manualists because they insufficiently distinguish what *should be* and what in fact *is* achieved in either method. There turns out to be a discrepancy between, on the one hand, what educators in one group say they aim at (and, implicitly, say they achieve), and, on the other hand, what their opponents say these educators actually achieve (or are capable of achieving), and vice versa. This discrepancy directly follows from the way the different parties define the issue of the methods controversy. To put it in other words: parties blame their opponents for not achieving the aims these opponents pursue; additionally, for the reasons listed in the tables in sections 6.1.1 to 6.1.3 they believe their opponents cannot achieve these aims.

As I have described in the foregoing chapters, Strict Oralists want to educate the deaf child for hearing society, wheras Strict Manualists want to educate the deaf child for the Deaf community. Free Choice Oralists think the deaf person as an adult should be able to choose for herself what community she wants to belong to, and they think such a free choice will be possible only after an oral education. Free Choice Manualists, by contrast, think that a free choice is best guaranteed by an education with *both* types of communication, manual *and* oral.

All of this is fairly clear. If we imagine a continuum with at the one end Hearing community, and at the other end Deaf community, then it can be said that Strict Oralists and Strict Manualists place the deaf child at either end of the continuum. Free Choice Oralists and Free Choice Manualists place the deaf child in the middle: as an adult the deaf person has to make the choice for herself. Problems arise when we look at the opinions parties have about the balance between educational goals as set, and educational achievements as realised by the opposing parties. Most

parties think the others cannot and, thus, do not realize what they intend to. I will explain this.

As far as Strict Manualists and Strict Oralists are concerned, there is no problem. All parties in the methods controversy acknowledge that they (more or less) do what they intend to do. The deaf child educated by Strict Manualists does indeed integrate into the Deaf community. The deaf child educated by Strict Oralists does integrate into the Hearing community, that is, as the Manualists say, if she belongs to those happy few who succeed in an oral method. The majority of orally educated children fall through the cracks and integrate neither in hearing society nor in the Deaf community. Thus, according to the opponents of Oralism, the effects of an oral education are more or less consistent with its aims except that these aims are reached not by the majority but only by a very small group of deaf children.

So, according to all groups, Strict Manualists and Strict Oralists (more or less) do what they say they do. Such agreement is lacking where the aims and the achievements of the other two groups are concerned. Both groups of Oralists think that every education with manual communication in fact forcloses a free choice for the Hearing community, either because a thus educated deaf child does not learn speech well enough to really integrate into the Hearing community, or because the thus educated deaf child gets involved in the Deaf community too much and will not be able, therefore, to judge objectively about both communities (Calvert & Silverman 1983, Lynas, Huntington & Tucker 1988). Consequently, according to Oralists, Free Choice Manualists can not really offer a free choice..

On the other hand, also Free Choice Oralists are accused by both groups of Manualists of not achieving what they aim. Strict Manualists think integration into the Deaf community requires an education with sign language. So because a Free Choice oral method does not teach the deaf child a sign language, the road to the Deaf community is closed. And therefore, although the oral deaf child still can prefer the Deaf community, such a preference is rather pointless when the child doesn't have the necessary tools for entering this community. Also Free Choice Manualists think a true free choice requires an education with both speech and at least some form of manual communication.

So we see that in the eyes of all parties only Strict Manualists and Strict Oralists achieve what they intend to achieve. Parties think that Free Choice Oralists and Free Choice Manualists factually do not render the deaf child a free choice. If all of this would be stated explicitly by Oralists and Manualists, a solution would be reachable. Discussions could start on how 'integration' and 'a free choice' should be defined, and empirical research could be started into the degree to which deaf adults integrate into the Hearing and the Deaf community, respectively, and the degree to which deaf adults have a free choice. However, Oralists and Manualists seldom are explicit about this. As I have shown in section 6.1 these opinions about the discrepancy between aims and results are *implied* in various arguments of Oralists and Manualists more than that they are *stated*, let alone discussed explicitly. Parties keep repeating their aims and the arguments that justify those aims while the question of whether or not these aims are attainable remains implicit. In the

background, however, it does play a part.

6.2.2 The ability to choose a community and the possibility to choose a community

When Free Choice Oralists and Free Choice Manualists say they want to educate the deaf child in such a way that, as an adult, she can choose herself into what community she will integrate, two aspects of such a choice are often confused. Choosing a community requires that one have true and impartial information about both communities and that one be able to weigh the different advantages and disadvantages objectively against each other. However, being able to choose freely is worthwile only if one can be accepted into the community that one prefers, that is, if it is really possible to integrate into that community. So choosing for a community requires both the *ability* to choose and the *possibility* to choose. Certain empirical conditions need to be fulfilled for both of these to be feasible, and these conditions can be of two different sorts, that is, conditions that cause a *temporary* ability (or inability) or possibility (or impossibility), and conditions that create a more*permanent* ability (or inability) or possibility (or impossibility). I will give an example of each type, with regard to both the ability (or inability) to choose and the possibility (or impossibility) to choose.

Several authors suggest that, because, in an oral education manual communication is seen as something one resorts to only if the child fails orally, the child comes to view the Deaf community as a community for losers, as an inferior community (e.g., Humphries, Martin & Coye 1989, 124, 138, Turfus 1982, 10). This hinders the ability of the deaf child to objectively choose for a community. However, if the child, as an adult, gets to know the Deaf community better, she can overcome her prejudices and in the end she will be able to evaluate the Deaf community in an unbiased way. But if it is true that a different mother tongue leads to a different world of thinking (an argument defended nowadays only by some Strict Oralists and — implicitly — by some Strict Manualists, see section 3.5 and 5.5), then, more permanently, a choice for one community or the other cannot be objectively made. For if a mother tongue determines a world of thinking, then it is obvious that having a spoken language as a mother tongue biases someone in favor of the spoken language world (i.e., hearing society), whereas having a sign language as a mother tongue biases someone in favor of the Deaf community. This bias is relatively permanent because, by definition, everybody has but one mother tongue, and one cannot change one's mother tongue.

Also with regard to the possibility to choose, temporary as well as more permanent empirical conditions can play a part. In the United States a deaf person who is a native user of American Sign Language is usually readily accepted as a member of the Deaf community, whereas acceptance is much more difficult for a deaf person who only knows a sign system or who learned sign language later in life (Dolby 1992, Markowicz & Woodward 1982, Woodward 1989). Thus, for the latter person the possibility to choose membership in the Deaf community is hindered to a

certain degree. But the Deaf community could change its criteria and also accept deaf persons who use a sign system or deaf persons who learned sign language later in life, and then the possibility to choose freely is restored. However, if the mother tongue someone acquires is as pervasive a characteristic as some Strict Oralists and Strict Manualists assume, then this is perhaps a conditon making it altogether impossible for the Deaf community to accept deaf persons with a different mother tongue. And again, because by definition, everybody has but one mother tongue, and a person cannot change her mother tongue, this is a permanent condition.

What now, mostly implicitly, do Oralists and Manualists accuse each other of with regard to the ability and the possibility of a free choice for the deaf person? The way Oralists and Manualists define the central issue of the methods controversy reveals this. Both Oralist groups think that both Manualist groups do not give the deaf child the possibility of choosing membership in hearing society, because they cannot provide the child with sufficient speech to be integrated into hearing society. As Ling (1989, 406) expresses it: 'The option to choose to communicate through spoken language is, therefore, one that is most often closed to them when their early treatment has been through Total Communication programs in which sign has predominated over speech.' Additionally, some Oralists think that an education with manual forms of communication hinders the ability to choose membership in hearing society, because the deaf child becomes biased against the Hearing community (Breiner 1986b, 87-88). Manualists reproach Oralists in a similar way. They think that Oralists prevent deaf children from being accepted by the Deaf community by not teaching them manual forms of communication, and thus the deaf child has no possibility to choose membership in the Deaf community (Lane 1993a, Padden & Humphries 1988, 56-71). Some Manualists also think that Oralists prevent the deaf child from be able to make a really free choice for the Deaf community because an oral education inherently biases the deaf child against the Deaf community (Ladd 1992, 84, Padden & Humphries 1988, 56-71). The distinction I have made above between conditions that cause temporarily abilities and possibilities (or inabilities and impossibilities), and conditions that create more permanent abilities and possibilities is important here. If it is indeed the case that the choice of a mother tongue determines what community the deaf child eventually will prefer, and into which community it will be possible for her to integrate herself, then the choice of a mother tongue for their child is even more difficult for parents of deaf children because it is an irrevocable choice.

In tackling the problem of 'choosing for a community', that is, of acceptance by and preference for a community, the following order of dealing with questions seems to be appropriate.

First, one should take a stand on the question of *who* should make the choice of a community for the deaf child, and*when*.. Free Choice Oralists and Free Choice Manualists think the choice can and should be postponed until the child, as an adult, can make her own choice, whereas Strict Oralists and Strict Manualists think the choice can and should be made by the parents by means of choosing an educational method for their child[4]. There can be good reasons for deciding not to postpone such a choice until the child has become an adult. For instance, one

could be of the opinion that it is factually impossible to postpone the choice because it is impossible to educate a child 'neutrally' without biasing the child in favor of one or the other community. Or one could be of the opinion that it is morally wrong to educate the child in a kind of 'vacuum' and that it is therefore the duty of the parents to make a temporarily choice for a community for the child, until she can make a choice for herself.

If one decides the choice can and should be postponed, the parents have to choose a method that best guarantees both the ability and the possibility to choose. If one decides the choice should not be postponed, then the heavy choice for a method for the deaf child rest on the parents. This involves considering a number of ethical, anthropological-philosophical, and empirical issues with regard to the possibility of being accepted by one or the other community. Questions come to the fore like: What is the relation between the individual and the community? What does 'integration into a community' mean? What are the chances of this deaf child being accepted by either community, given the terms of acceptance, the available educational methods, and the personal situation of the deaf child and her parents? Are there temporary or permanently hindering conditions? Answers to these and similar questions will lead parents to a choice of one or the other community for their child and to a choice for a method that best guarantees integration into the community they have chosen.

5 It is not entirely clear whether these two groups think the parents have to make a choice for a community for their child because choosing a method inevitably means choosing for a community (because of the type of language that is used in that method), or whether for other reasons they think the parents should make the choice.

6.3 The identity of the deaf person

In section 2.1 I have described three interpretations of the terms 'deaf' and 'deafness'. In this section I will show how different combinations of these interpretations bring about several different conceptions of the deaf person. Oralists and Manualists do not explicitly discuss the differences between audiological and pedagogical interpretations of deafness and seem to be unaware of their various implications. This, together with the implicit disagreement regarding the 'real' issue of the methods controversy that I described in section 6.1, causes Oralists and Manualists to maintain inadequate enemy-pictures of the other party as far as that party's conception of the deaf person is concerned, and it prevents them from reflecting on what could be two more adequate conceptions of the deaf person.

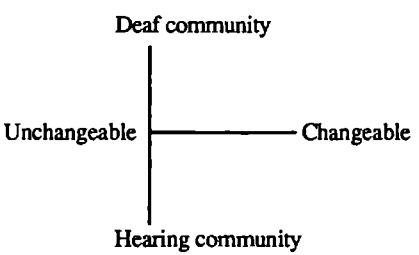
6.3.1 Opinions on the changeability of deafness and on the identity of the deaf person

I have distinguished audiological, pedagogical, and sociological conceptions of deafness. Measuring audiological hearing loss occurs by measuring the responsiveness of the ears of a deaf

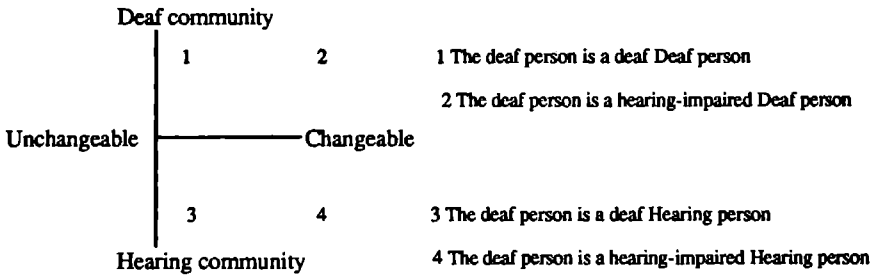
person to tones that are produced. Although the hearing of tones can be trained and can thus improve, the amount of audiological loss is a more static datum as compared to the loss that is measured when deafness is approached pedagogically. In the latter case, hearing is measured by measuring the responsiveness of the ears of a deaf person to speech. Whereas in measuring the hearing of tones only one or two variables are taken into account (i.e., hearing itself, and probably also the amount of training), in measuring the hearing of speech knowledge of the language, knowledge of the world, amount of training, and perhaps intelligence also play a part, and, more indirectly, the method of education. In addition, the amount of speech perception by means of hearing stands open to change much more than the amount of loss of hearing tones. Thus, these two interpretations of deafness can be placed in a dichotomy of 'deafness is changeable' versus 'deafness is not changeable'.

Two marginal notes are necessary here. First, of course the changeability of deafness must be taken relatively. A child who has been born deaf or became deaf at a young age, will never become completely hearing, leaving out of account the few cases in which surgery can help. Marginal improvements of hearing are what is thought of here. On the other hand, almost no educator of the deaf — except perhaps Strict Manualists — will consider deafness as totally *un*changeable. Most educators will help and teach the deaf child to use her residual hearing. But there are differences in emphasis. Secondly, views on the possibility of changing deafness not only depend on what is technically possible. In an analysis of costs and profits the possibilities to improve hearing are weighed against the time and the effort required. Qualitative, more than quantitative considerations play a part. And it is precisely at this point, where norms and values are at stake, that differences between Oralists and Manualists exist.

The third conception of deafness, the sociological one, is quite different in character. Here the amount of hearing loss is not the issue but the social-cultural identity of the deaf person as a member of the Deaf or of the Hearing community. Can and should the deaf person integrate herself completely into the Hearing world and function, from the cultural perspective, as a Hearing person? Or is — and should — the deaf person be a culturally Deaf person who feels most at ease in the Deaf community? We can put this 'Hearing community-Deaf community' dichotomy into a coordinate system together with the 'Unchangeable-Changeable' dichotomy as follows:



On the four extreme corners of this coordinate system we find four combinations of views on the changeability of deafness and on the community the deaf belong to, indicating four conceptions of the deaf person. These conceptions I will call the deaf Deaf, the hard-of-hearing Deaf, the deaf Hearing, and the hard-of-hearing Hearing person, as follows:



As we will see, Oralists think Manualists view the deaf person as a deaf Deaf person, whereas Manualists think Oralists view the deaf person as a hearing-impaired Hearing person. The other two views, that of the hearing-impaired Deaf person and that of the deaf Hearing person, are rarely found in the literature on deaf education.

6.3.2 Images of the deaf person

If one views deafness as relatively unchangeable and if one thinks the deaf person belongs to the Deaf community, this implies a view of the deaf person as being a deaf Deaf person. A deaf Deaf person primarily is a member of the Deaf community. Her contacts with hearing persons are limited and she participates in Hearing community only as far as this is necessary. She is physically and functionally deaf, and will always be so. A small improvement in hearing will perhaps be possible, but is not worthwhile. This does not hinder her particularly; she feels fully at ease being deaf in a Deaf community.

Diagonally opposite in the scheme we find a conception of the deaf person that results from considering deafness to be changeable and the deaf person as a member of the Hearing community. I have called this conception the 'hearing-impaired Hearing person' because in this view one stresses emphatically the possibilities of improving hearing and even of the child proceeding from being functionally 'deaf' to being functionally 'hard-of-hearing'. In sections 2.1.1 and 2.1.2 I already mentioned a periodical which has discarded the term 'deafness' in favor of the term 'hearing-impaired'. The hearing-impaired Hearing person is considered to be able to integrate completely into the Hearing community. She communicates by means of speech and a combination of hearing and audio-visual speechperception. She is in every respect a Hearing person, but she is a Hearing person with a problem: she has a very serious hearing defect. This, however, does not hinder her integration into the Hearing community.

In the lower left corner of figure 2 we find the deaf Hearing person, a view in which deafness is seen as relatively unchangeable and the deaf person as culturally Hearing. In this view the deaf person can function as a culturally Hearing person, despite her unchangeable hearing loss. This view implies that the concept of the culturally Hearing person is redefined in such a way, that people who communicate mainly by means of sign language or fingerspelling (because their unchangeable hearing loss is so severe that they cannot acquire adequate speech) can also be categorized as Hearing people. Integration here not only requires that deaf people learn to speak as well as possible, but also that hearing people be willing to learn to communicate manually, or that the Hearing community offers deaf people the opportunity to communicate with the help of an interpreter. In this way the deaf person is considered to be able to integrate into the Hearing community to a substantial degree. Indeed, her deafness is a handicap to her, limiting her severely and making her dependent on manual communication means to a considerable degree. Therefore, sometimes she will want to mingle with other deaf people who share her deafness and with whom she can communicate easily by means of signs, but her handicap does not extraordinarily hinder her integration into Hearing community.

Finally, the fourth view, that of the hard-of-hearing Deaf person. This view, of a person who belongs to the Deaf community but does take the trouble to improve her hearing, also requires a redefinition, this time of the concept of the culturally Deaf person. Now a person can be Deaf and still see the advantages of trying to improve to a certain degree what residual hearing she has, which makes her communication with hearing people much easier. In this view even functionally hard-of-hearing people, who perhaps learned to sign only later in life, can belong to the Deaf community. And here also integration no longer is a one-sided process. The Deaf community takes the trouble to use spoken language as-good-as-it-can-be to communicate with orally educated deaf persons who do not feel comfortable in the Hearing community and want to integrate into the Deaf community but do not — at least yet — sign adequately. In this way the deaf person belongs primarily but not exclusively to the Deaf community. She feels most at ease with other Deaf persons but she also has good contacts with Hearing people.

6.3.3 Images of the deaf person attributed to each other by Oralists and Manualists

Manualists tend to ascribe to Oralists a view of the deaf person as being a hearing-impaired Hearing person, and Oralists tend to ascribe to Manualists a view of the deaf person as being a deaf Deaf person. Manualists and Oralists have charged and still charge each other with mis-conceptualizing and thus mistreating the deaf child (e.g., Charrow & Wilbur 1989, Lynas, Huntington & Tucker 1988, Moschella 1992, 201-202). In the past, both parties described these enemy-pictures in rather colorful terms (e.g. Gipper 1981, Pahz & Pahz 1978, Van Uden 1977). The Oralist Van Uden, for instance, used to talk about 'the deaf ghetto' (1977, 198, 210; 1986b,

101, see also Von Unkelbach 1986, 129 who uses the same word). Nowadays, it are mostly Strict Manualists who pitch their comments so strongly against the other parties. But in more vague and guarded terms the same enemy-pictures still can be found among all parties involved in the methods controversy. Oralists blame Manualists for underestimating and impeding the capacities of deaf children by educating them for the, in Oralists eyes, limited Deaf Community (e.g., Northcott 1981, Van Hagen 1984, 10). And even if Manualists retort that they teach the child speech as well so that she can integrate into the Deaf as well as into the Hearing community, Oralists maintain their characterization because, as I have explained in section 6.1.1, they believe that in an education with manual communication the child can not be taught adequate speech.

On the other hand, Manualists think that Oralists maintain a view of the deaf human as a hearing-impaired Hearing person. They think Oralists have an unrealistic view of the capacities of most deaf children, and they think Oralists demand from the deaf child ethically unacceptable pains and efforts for what aultimately are often very meager results. And even if Oralists say that of course the orally educated child, as an adult, can choose for herself which community she wishes to join, Manualists maintain their attribution because they think that an oral education either prejudices the deaf child against the Deaf signing community, or makes integration into the Deaf community impossible because for such an integration an education with a sign language is required (see the table in section 6.1.2).

The attribution of these views by Oralists and Manualists to each other directly follows from the way parties define the real issue of the methods controversy, that is, from their definition of actually possible choices in deaf education. The described 'enemy-pictures' could come into existence mainly because Oralists think that with Manualist methods the deaf child does not learn adequate speech, and thus is 'condemned' to a life in the Deaf community. Manualists, in turn, think that learning to speak and perceive speech within an oral method is a task that is so difficult and painful and delivers so little success, that requiring such a task from a child is imposing upon her an unfeasible kind of integration.

The conceptions of the deaf Deaf person and that of the hearing-impaired Hearing person are rather extreme in that there are few deaf persons who live entirely in the Deaf community and do not use (or at least strive to use) their residual hearing at all, or who live entirely in hearing society and have no problems in communicating with hearing persons. The other two conceptions, that of the hearing-impaired Deaf person and that of the deaf Hearing person seem to be more realistic but also more nuanced; thus they can form the basis for a more fruitful discussion between Oralists and Manualists. However, a taboo seems to exist among educators of the deaf regarding the explicit discussion of conceptions of the deaf person. Parties in the oral-manual controversy seem to have recognized that attributing to each other extreme views is not acceptable any longer, and many educators certainly will have recognized that these attributions are not true either. Few Oralists nowadays will speak about the 'deaf ghetto' Manualism allegedly leads to, and few

Manualists will accuse Oralists of 'colonizing' the deaf. Both parties have tempered their utterances, rather, than beginning a fundamental discussion on this subject. However, the methods controversy, and with that the education of deaf children, would benefit from more clearness on conceptions of deafness and the deaf person. Talking in terms of extreme pictures is unfruitful, for the only reaction one can give to such blunt accusations is a denial of them, after which similar accusations can be given in return (e.g., Van Uden, 1985a, versus Conrad, 1979a). But ignoring the matter won't help either. Firstly, it is quite possible that some educators of the deaf still tacitly harbor these images, and thus they still influence the discussion *and* the education of deaf children. Secondly, other educators will have adjusted their image of the other party's view of the deaf person, and perhaps also their own view, and failing to reveal this to the other party in the debate also hinders the discussion. Reflection on one's own and the other party's view on deafness and the deaf person, and a clear and detailed description of it by all parties involved in the methods controversy, would enhance the discussion.

6.4 The 'natural' language of the deaf child

An important argument of the Manualists to use signs in educating the deaf child, is, that signs are very easily acquired by the deaf child and/or that signs are 'natural' to the deaf child. In the literature this argument is formulated in several different ways, but they all in one way or the other converge on the thesis that signs are the 'natural' language of the deaf child. The Oralist Northcott (1981, 175) describes this view as one of the 'myths' of Manualism, that 'Sign language is the mother tongue, the native language of the deaf.' In order to be able to assess the validity of this argument, it is first necessary to analyze the various meanings of this phrase that can be found in the literature on deaf education.

6.4.1 Four meanings of the phrase 'natural language'

When saying that a deaf child's natural language is sign language[5], four things can be meant.

First, it can mean that the deaf child *by nature* depends on signing. Because of her deafness she can not or only with much effort learn another way of communication besides signing. De Blauw, Harder & Knoors (1986, 102), for instance, say something like this. They discuss what the mother tongue of four-year-old deaf children is, and with respect to orally educated deaf children they say that these children develop signs by themselves: '[dit] zijn bij uitstek de kinderen die zelf uit communicatienood een systeem van home-made signs ontwikkelen.'[6] Regarding deaf children in Total Communication-programs they say that they will know a proper amount of signs and some words, but that they probably will use a sign language order when making signs: 'het is te verwachten dat de manier waarop deze gebaren gecombineerd worden meer overeenkomsten

vertoont met de syntaxis van een gebarentaal dan met de syntaxis van het Nederlands.'[7] Finally, regarding deaf children with deaf parents they say that they have sign language as a mother tongue. It is clear, by listing only these three categories, that these authors think that, by nature, the deaf child depends on sign language or a sign system.

A second meaning of the phrase 'natural language' can be that the deaf child develops a sign language 'out of her nature', that is, all by herself, even when she never sees people using sign language. I give three examples of places in literature where this meaning can be found. Firstly, De Blauw, Harder and Knoors in the above given quote refer to this meaning when speaking about deaf children in Total Communication programs. Recent research seems to put De Blauw et al. in the right (see section 5.5, argument 11). It was found that deaf children in Total Communication programs over the years tend to use signs more and more in a sign language order instead of in a spoken language order. Secondly, Tervoort (1982, 11) says, in a lecture about the philosophy and the implications of Total Communication, and after a short description of the language development of hearing children: 'Dezelfde eerste ontwikkelingsgang wordt ...bestudeerd bij ouders met dove kinderen. Gedurende het eerste levensjaar blijkt elk doof kind ...dezelfde eerste fasen van ontwikkeling van interactie en communicatie te doorlopen als het horende kind, maar dan in hoofdzaak via het visuele kanaal waaruit zich een gebarentaal ontwikkelt die naar eerste vocabulaire en semantisch-syntactische bouw duidelijk parallellen vertoont met de eerste spreektaal in diezelfde periode. Ook hier is sprake van een echte taal in wording...'[8]. It should be noticed that Tervoort here does not speak about *deaf parents* with deaf children, where such a sign language development in young children has indeed been described in the literature, the children learning sign language from their parents. Tervoort speaks here about 'parents' of deaf children, so he is including hearing parents. He suggests here that also those children, though not acquainted with sign language, develop a sign language all by themselves. A final example can be found with Morariu and Bruning (1984). They found that deaf individuals who were not trained in ASL (American Sign Language) showed a familiarity with the syntax of ASL that was not shown by hearing subjects. Morariu and Bruning hypothesize that the visual orientation of prelingually deaf persons leads to the development of a visual-simultaneous way of coding information, a way of coding which by its nature (visual-simultaneous instead of acoustic-successive) is constrained into a specific kind of syntax (see for a discussion Keppels & Jansma 1994, 72). If this and the above described research on TC-children holds true, deaf children could indeed, because of their deafness, be said to be 'naturally' designed for sign language.

A third meaning of the phrase 'sign language is the natural language of the deaf child' is a weakened version of the second meaning: it can be meant that the deaf child acquires sign language like hearing children acquire spoken language, 'naturally', through the contact with other users of sign language. Eagny (1987, 273) for instance says 'A switch to ASL is also advocated on the grounds that ASL is a 'natural' language for deaf people. Since ASL is a visual language, some believe that it is uniquely suited to the visual processing that deaf people must employ.'. Eagny

mentions some evidence that supports the idea that deaf children acquire ASL linguistic structures or structures resembling ASL more readily than English structures (see e.g. Suty & Friel-Patti, 1982).

Finally, that sign language is the most natural language of the deaf can be meant in a more sociological way: Sign language is the language that is 'natural', in the sense of 'peculiar', to the Deaf community, and thus to the deaf child. For instance Reagan (1989, 41, 45) speaks in this sociological way about sign language being the 'natural' language of the deaf.

5 When Manualists use the phrase 'sign language is the natural language of the deaf child', it is often not clear whether they actually mean sign *language* , or 'signing' (either a sign *language* or a sign *system*). In this section as far as possible I will use the expressions 'sign language', 'sign system', and the more general 'signing' according with the definitions I have given in chapter 2.
6 ' (these) are pre-eminently those children who, out of communication-want, develop a system of home-made signs'.
7 '...it can be expected that the way these signs are combined shows more resemblance with the syntax of a sign language than with the syntax of Dutch'
8 'The same first developmental process is being studied with parents with deaf children. During the first year of life each deaf child turns out to go through the same first phases of development of interaction and communication as the hearing child, but in this case mainly through the visual channel out of which a sign language develops which qua vocabulary and semantical-syntactical structure shows clear parallells with the first spoken language in the same period. Here also there is a real language growing ...'.

6.4.2 The validity of the 'natural language' arguments

How valid is the argument that signs should be used in deaf education because signs are, in one way or the other, 'natural' to the deaf? I will discuss each of the four interpretations of the argument succesively.

Is it true that deaf children depend on sign language? And if so, does this mean that signs should be used in their education? To begin with the last question: if we acknowledge the right of each human being to be enabled to communicate with her fellow-human beings, and if sign language is the only possible means of communication for deaf children, this question should be answered in the affirmative. But is sign language the only means of communication for deaf children? Empirical evidence shows that deaf children do not necessarily depend on sign *language*, normal deaf children can learn to communicate through a sign *system* too. And probably the majority of normal deaf children also can learn to communicate through fingerspelling. Therefore, stated in this form the argument is not valid. Can it then perhaps be said that deaf children depend on *some form of manual communication* ? It can not be said that *all* deaf children depend on some form of manual communication. Some deaf children can learn to communicate through speech, others depend on some form of manual communication. Therefore, it can not be stated bluntly that the natural language of 'the' deaf child is sign language or a sign system, meaning that 'the' deaf child depends on some form of manual language. Differentiation is necessary.

So much for the first interpretation of the natural-language-argument. What about the second interpretation? Do deaf children develop a sign language all by them selves? And if so, does this

justify the use of a sign language in education? Again there seems to be confusion here because the term 'sign language' is not used properly. What Tervoort says, in the above quote, would have been true if he had added the word 'deaf' before the word 'parents' in the first sentence. The evidence that deaf children of deaf parents using sign language acquire sign language in the same way hearing children acquire spoken language is not contested. Also, it is not contested that young deaf children, lacking enough spoken language, develop signs to communicate with their family and with other deaf children if they are allowed to. But whether they develop a sign *language* is contested (see e.g. Goldin-Meadow & Mylander 1990). Further empirical investigation is needed on this subject.

Suppose deaf children do develop a sign language all by themselves, if given the chance, would this be an argument to use sign language, or some other form of manual communication in deaf education? I can imagine two ways of defending the argument. First, a didactical reasoning, that if deaf children turn out to have so strong a predisposition for sign language, sign language could be easily offered to them as a first language and thus as a means of communication. Second, an ethical reasoning, that it is unacceptable to forbid children to do something that is not harmful to themselves or to others and to which they are so clearly inclined by nature. As I have shown in chapter 4 and 5, both arguments are indeed given by Manualists. Oralists deny that deaf children do develop a sign language by themselves (e.g., Van Uden 1977, 194) or they think that the inclination towards the making of signs should be suppressed because other things, for instance integration into hearing society, are more important (e.g., Lynas, Huntington & Tucker 1988).

The same goes for the third interpretation of the argument, that is, that deaf children acquire signs in the same way hearing children acquire speech. I already have said that this is true for deaf children from deaf parents. Here also didactical and ethical arguments can and are being given by Manualists, and they are contested by Oralists.

Finally, the fourth interpretation, that sign language is the natural language of the Deaf community and therefore of the deaf child. This interpretation can be found especially with advocates of Bl/Bc. Although some Oralist educators still dispute the existence of something like a 'Deaf community' with its own language, most educators acknowledge this nowadays. But some educators, Oralists *and* Manualists, deny that it follows from this that the deaf child should be educated with sign language. An important question here is whether deaf children 'by nature' belong to the Deaf community. Should deaf children be educated for the Deaf community, or for the Hearing community, or to be a 'citizen of both worlds'? This is a major issue in the methods controversy, which I will discuss in chapter 7.

Summarizing we can say that the first version of the natural language argument can be maintained only when it is re-formulated as 'the deaf child depends on some form of manual communication', and that empirical evidence must show the extent to which it can be maintained. The second and the third interpretations of the argument are widely disputed in that Oralists deny that deaf children can

develop a sign language all by themselves or that they, if not raised with deaf signing parents, acquire sign language 'naturally'. Here also empirical evidence is needed. Thereupon, normative issues can be discussed.

6.5 Quality of communication

In section 6.1 I have argued that the disagreement between Oralists and Manualists about how well deaf children learn to speak in different methods is fundamental. And in chapter 3 I have shown that Oralists have their doubts on the quality of signed communication in Total Communication methods. An important issue then is to establish a manner of defining 'qualitatively good communication'.

There are three aspects of communication that are relevant for determining its quality. These I would like to call the *ease*, the *width*, and the *depth* of communication. With 'depth' I mean the range of subjects that can be dealt with. Can one communicate on concrete subjects, like what one will eat today, or also on more distant or abstract subjects like the present political situation or the works of Beethoven? Width of communication relates to the number and the 'type'of people a person can communicate with. Can she communicate only with her parents and siblings, or also with the neighbors, the corner grocer, or even with a total stranger who has never met a deaf person? Ease of communication comprises several aspects. With respect to oral communication of the deaf, for instance, intelligibility is a valuable factor besides the ability of the deaf person to perceive the speech of the other person. If, say, a deaf and a hearing person speak together, how often does the deaf person have to repeat her words before the hearing person can understand her, and vice versa? Also command of the language in which the communication takes place is a factor. Ease of communication, apart from being an independent factor that should be weighed when deciding what method to choose for a deaf child, also plays a part in determining width and depth of communication. To decide on a norm for width of communication we first have to decide on a norm for ease of communication. If the deaf person succeeds in communicating with the corner grocer, but only in a very laborious way, after many repetitions and misunderstandings, should we say then that she 'can communicate with the corner grocer'? The same goes for depth. Do we say that someone can communicate on politics if this communication first needs tiring explanation of several concepts involved in politics?

Other considerations that should be taken into account when speaking about the quality of communication of deaf people are the social and emotional costs of learning good communication, especially oral communication. If the deaf child can learn easy, wide, and deep oral communication, but only with considerable social and emotional pain and labor, do we then wish to state that 'the deaf child can learn qualitatively good communication'? In other words, the value of good oral communication must be weighed against the social and emotional costs of it.

6.6 The socio-cultural status of the deaf person

In section 6.3 I discussed the identity of the deaf person in connection with the changeability of pedagogical deafness. I distinguished four conceptions of the deaf person, namely, the deaf Deaf, the deaf Hearing, the hearing-impaired Hearing, and the hearing-impaired Deaf person. Is the deaf person a Deaf or a Hearing person? What socio-cultural status should we attach to the deaf person?

Two important conceptual questions are implied in the question about the socio-cultural identity of the deaf person, namely, first, what is a culture, and, second, what is a human person. In deaf education, the existence of a 'Deaf culture', and thus of a 'culturally Deaf person' is contested. In order to know whether a Deaf culture does exist, we have to know how we conceive of a culture. Also, our views on personhood are crucial. What characteristics determine whether someone is or will become either a 'Deaf' or a 'Hearing' person?

There are also some normative and empirical views that are important for answering the question whether the deaf human being should be seen as culturally Deaf or as culturally Hearing. The views on 'good communication' analysed in the foregoing section and the abilities of deaf people to acquire adequate communication skills in the oral and in the manual mode will influence our view on whether the deaf human being belongs to the Deaf or to the Hearing community. Finally, the relation between language and social and personal identity is important. Advocates of the idea of a Deaf culture defend the claim that such a culture exists and that deaf people belong to it by pointing to the existence of the language of that culture, sign language. Is the existence of a specific language indeed a determining condition of a culture? Is it a sufficient condition? All these questions lead us to an answer to the question of what the socio-cultural status of the deaf person is, and by which we can choose an educational method for the deaf child. In chapter 7 I will more extensively discuss views of the culture and the identity of the deaf child, and the foundations of these views.

6.7 A way out

As we have seen, the discussion between Oralists, advocates of TC, and advocates of Bl/Bc is very complex. That the methods controversy has not been solved as yet is partly due to the fact that conceptual, normative, and empirical questions have been insufficiently distinguished, asked, and answered. In this concluding section I will present most[9] of these questions in a table, proposing an order for dealing with them. First I will show the main questions in a small, conveniently arranged table. Then I will present the same questions and the conceptual, normative, and empirical issues involved in a table that is somewhat more complex. Two major conclusions can be drawn from these tables. First, the most central issue in the methods controversy nowadays concerns views of the deaf person as being primarily a culturally Deaf person, a culturally Hearing person,

or a 'citizen of two worlds'. Secondly, the *leitmotiv* in all the different issues of the method controversy is *language* and the part language plays in cognitive, social, and emotional development. Chapters 7 and 8 are devoted to a foundational analysis of these two central issues.

9 A complete overview of all relevant questions is not possible. Many considerations determine what school a parent chooses for her child. In this section I do not deal with the more 'normal' questions that are relevant for choosing a school or a method, for instance, how well reading, mathematics, and other subjects are taught in a school or a method, how far away the school is from the childs' home, what it costs, etc.

1 Who should decide on the cultural identity of the deaf child and on the community she should integrate into?
a-The parents b-The deaf child as an adult If a, go to 2 If b, choose a Bl/Bc method or a TC-method, dependending on which one best teaches the child both speech and signs and best introduces the child in *both* communities

2

2.1 What quality of oral/sign system/sign lang. communication should and can the deaf child acquire in different methods and to what costs?

2.2 Do a 'Deaf' and a 'Hearing' culture exist?

2.3 What is the natural language of the deaf child?

2.4 Is changing deafness possible and worthwile?

2.5 What is 'integration in a culture'?

2.6 What is a 'person'?

2.7 What is the relation between the person and the society?

2.8 What is preferable, to be accepted fully in a minority- community or to be accepted partly in a majority-community?

2 9 Should a child develop the same cultural identity as her parents?

→ Anwers and views with regard to all these questions, plus personal considerations like the hearing status of parents and siblings, the degree of hearing loss of the child, the existence of additional handicaps (etc.) lead to an answer on 3.

→ 3
What is the deaf human being *primarily* ?

a culturally Deaf person	Choose a Bl/Bc-method
a culturally Hearing person	Choose an Oral method
a citizen of two worlds	Choose a Bl/Bc-method or a TC-method, depen-dend on which one best teaches the child both speech and signs and best introduces the child in *both* communities

1 Who should decide on the cultural identity of the deaf child and on the community she should

Conceptual questions → Normative questions → Empirical questions

What is free preference? | Is free pref. for the deaf adult desirable? Yes: How much may free pref. cost, socially and emotionally? No: go to 1b. | Is free pref. for the deaf person emotional costs. After all these

2

2.1 What quality of oral/sign system/sign language communication should and can the deaf child acquire in different methods to what costs?

Conceptual questions	Normative questions	Empirical questions
What is 'qualitatively good communication'?	With what ease should the exchange of messages between deaf and deaf/hearing people occur in order to be called 'good communication'?	How easy can the oral and manual communication of deaf children with deaf/hearing people be in different methods?
Communication that runs easily and has sufficient width and depth	How wide should the communication between deaf and deaf/hearing people be in order to be called 'good communication'?	How wide can the oral and manual communication of deaf children with deaf/hearing people be in different methods?
	How deep should the communication between deaf and deaf/hearing people be in order to be called 'good communication'?	How deep can the oral and manual communication of deaf children with deaf/hearing people be in different methods?
	What may learning and teaching easy, wide, and deep communication cost?	What does teaching and learning easy, wide, and deep communication cost in different methods?
	If ease, width and depth of a certain type of communication differ, which of the three is more important?	

2.2 Do a 'Deaf' and a 'Hearing' culture exist?

Conceptual questions	Normative questions	Empirical questions
What is a 'culture'? What is the relation between language and culture?		Is there a 'Deaf' culture? Is there a 'Hearing' culture?

2.3 What is the natural language of the deaf child?

Conceptual questions	Normative questions	Empirical questions
The 'natural language' of the deaf child is the language: -she depends on, or -she develops by herself, or -she develops most easily, or -used by the Deaf community	Should the deaf child signs/a sign language?	Does the deaf child: -depend on signs? -develop sign language by herself? -develop sign language most easily?

2.4 Is changing deafness possible and worthwile?

Normative questions	Empirical questions
Is changing deafness in principle worthwile?	Is changing deafness possible?
What may changing deafness cost, socially and emotionally?	What does changing deafness cost, socially and emotionally?
Is changing deafness worthwile?	

2.5 What is integration into a culture?

Conceptual questions	Normative questions	Empirical questions
What is 'integration'?	What should be the efforts of the one to be integrated, and what should be the efforts of the accepting community?	What efforts can and does the person to be integrated do? What efforts can and does the accepting community do?
	Into which community should the deaf person integrate?	Into which community can the deaf person integrate?

1b

possible? No go to 1b Yes under what conditions and to what social and considerations who should decide? The deaf adult go to 1b The parent go to 2

Choose a TC method or a Bl/Bc method, dependend on which one best teaches both speech and signs and best introduces the child in both communities

2 6 to 2 9 Conceptual, normative, and philosophical-anthropological questions like:

2.6 What is a 'person'?
Should the person be defined in terms of physical characteristics (deafness), or of cultural characteristics(membership of Deaf or of Hearing community), or otherwise?

2.7 What is the relation between the person and the society/the community?
Does society/community determine the person to a major degree, or is the person an autonomous being, or should the relation between the person and the society/community be conceived otherwise?

2.8 What is preferable, to be accepted fully in a (Deaf)minority-community or to be accepted partly in the (Hearing) majority-community?
Does this question reflect a choice that really exists in deaf education? Or is it perhaps a false dichotomy?

2.9 Should a child develop the same cultural identity as her parents?
What are the rights of parents and what are the rights of children with respect to this, and how are the rights of both related to each other?

Answers and views with regard to all these questions, plus personal considerations like the hearing status of parents and siblings, the degree of hearing loss of the child, the existence of additional handicaps (etc.) lead to an answer on 3.

3

What is the deaf human being *primarily*?

a culturally Deaf person → Choose a Bl/Bc-method

a culturally Hearing person → Choose an Oral method

a citizen of two worlds → Choose a Bl/Bc-method or a TC-method, dependend on which one best teaches the child both speech and signs and best introduces the child in *both* communities

Chapter 7 VIEWS ON DEAFNESS AND THE DEAF PERSON

Introduction

From the foregoing chapters it will have become clear that one of the main themes in the methods controversy is the relation between deafness, the deaf child, and an identity as a member of a Deaf community or of a Hearing community (or 'hearing society'[1]). In this chapter this part of the methods controversy will be analyzed.

As an introduction to and an illustration of this theme, in section 7.1 the hottest topic in present-day deaf education in the United States is described, namely, the debate on Cochlear Implants for young deaf children. In this debate all the relevant issues with regard to deafness and the identity of the deaf person are present on an exaggerated scale. In section 7.2 the views of the various groups of Oralists and Manualists on these issues are described and analyzed.

Section 7.3 is an intermezzo in which I develop some tools which are used in section 7.4 to analyze the foundations of the views described in section 7.2.These tools can be found in a debate going on in political and social philosophy, namely, the debate between what are called 'Liberals' and 'Communitarians'. This debate concerns (among other things, which I will not discuss) concepts of the person and the role the community plays in shaping the person. With the help of

these different concepts of the person, foundations of the views of Oralists and Manualists can be made explicit.

In section 7.5 I will discuss what Oralists and Manualists should do to come to more nuanced views of deafness and the Deaf person.

1 As I have pointed out in section 2.1.3, it is for analytical reasons that I write the expression 'Hearing society' or 'Hearing community' with a capital-H. Strict Oralists, especially, do not distinguish between a 'Deaf' and a 'Hearing' community; they only distinguish between hearing society, oral deaf people who are part of that hearing society, and deaf people who claim to be member of a separate 'Deaf' culture.

7.1 The Cochlear Implants debate in the United States

Over the past few years, a very passionate discussion has been going on in the United States about Cochlear Implants (CI's) for deaf children. A CI is a fairly new[2] kind of prosthesis which is worn partly outside and partly inside the body (in the inner ear), and which can give back some hearing to very deaf children. CI's have been available for deaf adults for about two or three decades and have been placed in young children for about the past five to ten years. The debate especially concerns their placement in young children, and the dividing line between the opposing parties is about the same as the dividing line in the methods controversy: on one side there are the Oralists, usually advocates of CI's for deaf children, on the other side are Bilingualists/Biculturalists, plus many deaf people, usually opposing CI's for deaf children. Advocates of Total Communication often take a middle position in the CI-debate.

2 In 1980 in the U.S.A. the first experimental implants on children were performed. In 1990 the FDA (Food and Drug Administration) allowed the placement of CI's in children two years old of age and above. CI's have been placed in adults for about thirty years. The very first implantation was in Paris in 1957 (Blume, 1995).

7.1.1 What are Cochlear Implants?

The most common[3] CI contains an internal and an external part. The internal part consists of an array of electrodes which are implanted in the inner ear, and an internal microphone which is imbedded in a bone behind the earflap. The external part consists of an external microphone which is placed in an ordinary behind-the-ear hearing device, a transmittor which, through a small magnet on the internal microphone, is fixed on the bone behind the earflap, and a signal processor which is worn in a little box around the neck or on the trouser-belt. The electrodes replace the haircells which normally convert the sound into electrical signals, these electrical signals in their turn in the brain are converted into sensations of sound. In most deaf children these haircells are damaged or destroyed. The CI partly takes over the task of these haircells. The human ear contains about 12,000 haircells, and the CI offers only a very crude substitute for these haircells (Cohen & Gordon 1994, Hasenstab & Laughton 1991, Kveton & Balkany 1991).

The procedure of fitting a child with a CI involves the following steps: selection of candidates, medical examination, placing of the internal components followed by the placement of the external components a few weeks later, training, evaluation and follow-up. Until recently only children who were so deaf that they can't benefit from a regular hearing device were eligible for placement of a CI, but there is a tendency to extend this category with children who are less deaf (M.Nezmek, A.G.Bell Ass., personal conversation, 6-4-1994). According to the CI-teams[4], parents are given extensive information about the device and it is ascertained that they have realistic expectations about what the CI can do for their child. After the CI is installed, the child has to learn to interpret the sound-sensations she receives from the CI. This is especially difficult for children who are born deaf and have no prior experience with sound-sensation, but also for children who have become deaf very young (at the age of 3 or 4) it still requires a great deal of exercise to learn to do something with the sound-sensations.

The results of CI's, that is, the amount of hearing the child will acquire with a CI, are higly disputed. There seems to be high variability between children and the results are unpredictable for individual children. Adversaries of CI's for deaf children accuse audiologists of making the results seem better than they are. Audiologists say it is not them but the popular media who present CI's as a panacea for deafness. Montgomery (1991), who in his other publications appears to be a moderate advocate of both oral and manual means in deaf education, investigated 229 publications concerning CI's in deaf children. He concludes that the results of placing CI's in young deaf children are at least dubious and at best limited. Audiologists themselves warn against having unrealistic expectations and say a deaf child with a CI will never become a hearing child — not even a moderately hearing-impaired child. At best the child will turn from a totally deaf child into a severely or profoundly hearing-impaired child. Of course, there are the usual exceptions of children for whom the implant seems to have brought about miracles. These are usually the ones who make the front pages.

3 Other CI's are either extra-cochlear or don't use a magnet (Blume 1994, 1995).
4 This is a point of discussion: those who reject CI's for deaf children deny that CI-teams provide parents with objective and realistic information (e.g., Bloch 1993).

7.1.2 The debate

Two parties are opposing each other regarding CI's for deaf children. The adversaries are often members of the American Deaf community, and hearing people who sympathize with them. The advocates of CI's for deaf children are mostly audiologists, hearing parents of deaf children, and educators of the deaf who support an oral education for deaf children.

The adversaries reject CI's for deaf children for several reasons. Firstly, they think that the medical and social-psychological risks of the operation, especially the long-term risks, are insufficiently known as yet. They also think that the degree of success, that is, the ability to hear

more than was possible with a conventional hearing aid, is still insufficiently known. The adversaries accuse the advocates of spreading unfounded success stories and of trying to create the false impression that a CI can turn the deaf child into a hearing child (Bloch 1993, Lane 1993b, 216-222). Secondly, they think that it is ethically unacceptable to perform such an operation on a child who is still too young to give her informed consent. They argue in favor of waiting till the child is old enough to make a deliberate choice (Lane 1992, 91, Pouliot 1993). A third argument, usually expressed somewhat more covertly, is that CI's threaten the existence of the Deaf community. Finally, and this is the argument which the adversaries take great pains to elaborate, the placing of a CI is seen as an attempt to 'fix' deaf children (Fleischer, 1993, 18, Pouliot 1993). This last argument needs some explanation.

On this point, two models are usually opposed to each other (e.g., Lane 1993a, Soderfeldt 1991). On the one hand there is the 'medical model' in which deafness is seen as a defect which should be repaired if possible. Within this model, which is ascribed most often to Oralists, one tries to educate the deaf child, with the help of powerful hearing aids or CI's and without the help of manual communication, to become a person who communicates exclusively by means of speech and visual-auditive speechperception. On the other hand there is the 'cultural model' in which deafness is seen as a cultural human variation which does not need repair. The deaf child is either educated to become a member of the Deaf signing community or to become a person who feels at ease both in the Deaf community and — with the help of a sign interpreter and some speech — in the Hearing community.

Adversaries of CI's for deaf children say that hearing parents who choose a CI for their child start from the medical view on deafness, which in their opinion is a mistaken view. They think hearing parents do this because they lack sufficient information about the Deaf community and about the possibilities for deaf children to succeed in society after an education with sign language. It is believed that such hearing parents do not really accept their deaf child. Physicians and audiologists are accused of giving the parents false information about sign language and about the Deaf community, and it is said that they force parents who choose a CI to place their deaf child in an oral program (Bloch 1993, Fleischer 1993, Lane 1993b, Moore & Levitan 1992, 142, Pouliot 1993, Treesberg 1991). In connection to this argument it is sometimes said that deaf adults are more able to decide on CI's for deaf children than their hearing parents (Lane 1993b, see also Apicella 1993).

The advocates of CI's for deaf children, and also some who take a middle position, dispute these arguments of the adversaries. They refer to empirical investigations showing that the medical risks of the operation have been sufficiently investigated (Goldstein 1991). The idea that one should wait with the implant until the child can decide for herself is rejected on practical-educational grounds: the younger the child is when implanted, the bigger her chances are to develop useful hearing and speech (Apicella 1993, 20/21). According to them it is not the physicians and the audiologists who exaggerate the successes, but the media (Woodcock 1992).

They deny that they have false information about the Deaf community and they maintain that they did make a deliberate choice. They deny that CI-programs force them to choose an oral method for their child (B. Fischer 1992, 3). They say that they do accept their child's deafness but refuse to see their child as a deaf human being exclusively. These parents find the idea ridiculous that unknown deaf adults know better what is good for their child than they themselves do (Apicella 1993, 22-23). They think that a prohibition of CI's for deaf children brings along an undesirable uniformization and confinement of the opportunities of deaf children. They point to the value of being able to perceive environmental sounds and to take part in hearing community (B. Fischer 1992, 19).[5]

The discussion in the United States about CI's in deaf children is attended by much emotion. Especially the adversaries of CI use vehement language. They use words like 'blinded' (Fleischer 1993, 23) or speak about 'overzealous people' (Lane 1993, 20). They speak about 'hobbling' the mind of deaf children (Treesberg 1991, 1), about 'medical child abuse' (ibidem, Mitchiner 1993, 8), or they describe the surgery in sinister, scary words (see e.g. Pouliot 1993). They compare the placing of CI's to Nazi-methods (Dolnick 1993, 43, Solomon 1994, 65). One Cochlear Implant doctor in the US was even shot down by a deaf man.

How far apart the parties are can also be seen from the fact that adversaries and advocates sometimes, in reproaching each other, use the same words and phrases, but with different meanings. For instance, both parties speak about limitation of the chances of deaf children (Apicella 1993, Treesberg 1991). However, the adversaries mean by this that the deaf child with a CI is deprived of exposure to sign language and the Deaf community, whereas the advocates mean that a prohibition of CI's takes away opportunities for deaf children to perceive environmental sounds and speech and to participate in the hearing community. Also, parties blame each other for violating what is seen as the important American value of diversity and multiculturality (B. Fischer 1992, Rosen 1992). The adversaries thereby mean that CI's imply a denial of the Deaf community. The advocates, by contrast, mean that adversaries of CI's keep open to the deaf child only one way, that is, the way that leads towards sign language and the Deaf community. Finally, both parties underline the importance of rich, meaningful communication between the deaf child and her surroundings (Apicella 1993, 20, Fleischer 1993, 21). But the adversaries, when speaking about 'rich communication' are referring to the communication in easy to learn signs with an indeed small group of people who know signs, while the advocates refer to the less easy to learn oral communication with a large group of hearing people.

5 For more information on CI's and the discussion about them see Geers & Moog 1991, Long, Hamil, Hawrylak Evans & Sanger 1993, Osberger 1993, Osberger, Dettman, Daniel, Moog, Siebert, Stone & Jorgensen 1991, Quittner, Richardson, Busby, Blamey, Dowell & Clark 1993, Quitmer & Thompson Steck 1991, Somers, 1991, Staller, Beiter, Brimacombe, Mecklenburg & Arndt, 1991, Tait 1993, Tobey, Angelette, Murchison, Nicosia, Sprague, Staller, Brimacombe & Beiter 1991, Tyler 1990, Young, Koch & Niparko 1994.

7.1.3 The Cochlear Implant debate as the culmination of the controversy about views on deafness and the deaf person

The debate on CI's for deaf children clearly illustrates how far apart views in the methods controversy are, that is, at the extremes of the methods controversy. Of course, there is a large group of people in the middle who take more nuanced views. However, adversaries of CI's for deaf children, starting from a view on deafness as a normal cultural variation, see the placement of CI's at best as misunderstanding the true nature of the deaf child and at the worst as abusing the deaf child, and as trying to eliminate the Deaf community with Nazi-like methods. Advocates of CI's, starting from a view on deafness as something that, if possible, should be repaired, see the CI as beneficial and as an expedient that possibly can help the deaf child partly to overcome deafness.

Underlying the debate about CI's are two main issues, namely, first, should *deafness* be seen as a cultural variation or as a physical handicap, and, second, should *the deaf child* be seen as a future member of the Deaf community or as a member of the Hearing community (or, as Oralists would express it, 'hearing society'). The CI debate is just one case in which these issues arise, and very markedly so; the two issues are also prominent in the methods controversy at large, as I will show in the next section.

7.2 Oralists' and Manualists' views on deafness and the deaf person: description and analysis

I will first describe the views of the different groups of Oralists and Manualists (section 7.2.1) and then go into some implications of the Strict Manualist view which may strike many people as rather odd (section 7.2.2). In my opinion, these odd implications stem from inadequate reasoning on the part of the Strict Manualists (section 7.2.3).

7.2.1 Views on deafness and the deaf person

In 6.3 I discussed views on the identity of the deaf child with respect to the possibility of changing audiological and pedagogical deafness. In this section I will describe in more general terms the views the different parties in the methods controversy maintain concerning deafness and the deaf person. Guiding questions will be, first, whether parties view the deaf child either as a (future) member of the Deaf community or as a (future) member of Hearing society, and, second, whether parties view deafness as a cultural variation or as a handicap which should be repaired. Taken together, these two questions result either in a cultural view of deafness or in a 'mainstream' view of deafness. The latter expression is proposed by Paul & Quigley (1994, 14) as an alternative for

the expression 'medical view of deafness' or 'deficit view of deafness' because they think the latter expressions have non-neutral, negative connotations. Additionally, the word 'mainstream' is more accurate because it refers to the fact that in this view the 'main' child, that is, the typical, normally hearing child is taken as a reference point. I agree with them and will use the expression 'mainstream view on deafness' henceforth.

7.2.1.1 The Strict Oralists' view

The traditional view on deafness, and this is still the view of the Strict Oralists, is that deafness is a handicap, just like blindness or paralysis. Everything possible should be done to overcome the limitations of this handicap and to let the deaf child function as 'normally' as possible, that is, as much as possible like hearing persons. Although Strict Oralists acknowledge that the deaf child is really deaf and thus can never completely function as a hearing person, they think a fairly close approximation is possible. Because the great majority of deaf children are born into hearing families, deaf children should be educated as members of Hearing community. Such an education meets the right of the deaf child to develop its potential to the fullest, just like any other child. I will give some evidence for this Strict Oralist view.

Lynas, Huntington & Tucker (1988) express a mainstream view of deafness and the deaf person in their 'A Critical Examination of Different Approaches to Communication In the Education of Deaf Children'. On page 5 they state, 'Oralists [among which they rate themselves] support the idea that attempts should be made to *overcome* the barrier to communication caused by deafness ... rather than ... *circumventing* the problems of deafness and communication by, for example, substituting sign language for speech.' [italics L, H & T]. One page further they maintain '...oralists insist that educators have a *moral* responsibility to enable deaf children to acquire the *dominant* language of our society as a first priority. Only an oral approach allows the life objectives of the deaf person to be as wide as those of all other people.' [italics by the authors]. And on page 31 they say '...the oral option offers the best hope for *minimising* the effects of the handicap of deafness and of enabling the deaf individual to participate in the normally hearing world' [their italics].

Stoker (1991), himself deaf, says somewhat disparaging 'Die Meinung, die mit Gebärden kommunizierende Gehörlose von sich haben, nämlich eine unterdrückte kulturelle Minderheit zu sein, wird kaum von mehr als einer nur winzigen Zahl oberflächlich informierter hörender Menschen geteilt werden'.

Northcott (1981, 175-176) attacks five views which she formulates as 'Deafness is absolute and irreversible. Sign language is the birthright of the deaf. Sign language is the mother tongue, the native language of the deaf. The deaf belong with their "own kind". To be integrated during the school years is to "deny you deafness".' Against these views she sets the view of a speaking deaf child who is integrated into Hearing society (ibidem).

Finally, I will quote a parent of a deaf child with a Cochlear Implant who says as a reaction to the discussion about CI's: 'I refuse to allow anyone to define her [i.e., his daughter] by limiting her solely to her deafness' (Apicella 1993, 20, see for a similar remark James & Parton 1991, 15).

All these quotes clearly express what I have called a 'mainstream view' on deafness and the deaf child: deafness is a handicap which should be overcome as much as possible, the deaf child should be educated for the Hearing society. We will see that the view of the Radical Manualists is totally different.

7.2.1.2 The Strict Manualists' view

Strict Manualists think deafness is not a handicap but a cultural variation. Because of her deafness the deaf child is predisposed to learn a sign language (Sachs 1989). The deaf child should be educated primarily for the Deaf community. No special pedagogy is needed to educate the deaf child. As Johnson, Liddell & Erting (1989, 18) say '...intervention is only necessary if some negative or pathological process is occurring...If ordinary language acquisition [i.e., in sign language] is permitted to occur, there should be no need for "intervention"...'. The only thing to be done is to teach the deaf child in her own language, a sign language. Just like English children should be educated in English, and French children in French, deaf children should be educated in their natural (sign) language. Because the deaf are a minority they also have to learn the majoritylanguage of the country they live in, that is, a spoken language, but mainly or exclusively in its written form.

Many Strict Manualists view the Deaf community as a value in itself. They think that hearing people involved in deaf education continually try to extinguish this community by forbidding its language, by forcing deaf children to achieve the impossible (i.e., learning to speak without help of manual means), by deforming deaf children with Cochlear Implants, etc. The Deaf community, though small, is a rich environment for the deaf child to grow up in and for deaf adults to flourish in. Some evidence for this view of Strict Manualists is the following.

Lane (1993b, 19) asks rhetorically 'Should we treat them [i.e., deaf children] like small hearing people who have lost their hearing, or should we treat them like small Deaf adults?', himself clearly choosing for the latter option. In his book with the appealing title 'The Mask of Benevolence' he describes deaf people as an oppressed, mistreated cultural minority, and Cochlear Implants as the last resort of Oralist colonialists to maintain power over the Deaf.

Padden & Humphries (1988) in their book 'Deaf in America. Voices From a Culture' describe Deaf Culture. They state (page 56) that 'Deaf people for the most part have always lived within the world of others [i.e., that of hearing people].' and they describe how these 'others' have imprinted in the minds of Deaf people the idea that Deaf people and their sign languages are inferior (page 56-70).

Madebrink (1988, 603) tells how organizations for the deaf in her country plea for the

education of deaf children in deaf schools so that they can be integrated into the deaf cultural-linguistic community.

Reagan (1989) objects to what he sees as the 'pathological' 'deficit' view of deafness which in his opinion characterizes both Oral education and Total Communication education and pleads for a cultural view of deafness.

Also Woodward (1989) describes deaf people as belonging to a cultural minority group and maintains 'The Deaf Community offers us unique insights into the nature of how a minority group can maintain linguistic and cultural identity and integrity despite heavy majority oppression' (page 163).

Bosso & Kuntze (1991, 29) maintain that 'The Deaf community is now challenging the longstanding oppression by a hearing dominated society'.

A prominent member of the NAD (National Association for the Deaf) compares the approval of the FDA (Food and Drug Administration) of placing CI's in deaf children with the invasion of Kuwait by Iran (Estes 1991, quoted in James & Parton 1991).

Finally, I would like to quote from an article about Cochlear Implants by Colleen Pouliot (1993) with the title "Deaf people don't need 'fixing' ". In this article Pouliot says (at page 7A): 'In deaf culture, we have a videotaped story about EYEth (a distant planet from EARth). In that world, deaf people dramatize our role as the majority and hearing people are seen in need of fixing. Three odd hearing people move their mouths grotesquely and we make fun of their 'stone' faces that have no expressions. Hearing children on EYEth might undergo medical procedures similar to cochlear implants (removal of the auditory nerve or an audiotectomy) to make their deaf parents happy.'

7.2.1.3 The Free Choice Oralists' view and the Free Choice Manualists' view

Free Choice Oralists and Free Choice Manualists either say very little about their view of deafness and the deaf child, besides maintaining that the choice should rest with the deaf adult herself, or they express rather unclear views. Sometimes on the one hand they explicitly maintain that the deaf child should make a choice for herself while on the other hand prominently expressing a particular view of deafness and the deaf child. Ling (1989, 405), for instance, says 'Hearing-impaired children require the type of education that permits them to be integrated to the fullest possible extent with their normally hearing peers', thus pleading for integration of the deaf child in Hearing society, while one page later he says that hearing-impaired children 'who are sufficiently mature should be able to choose the communication mode that best suits their own philosophies and needs as they perceive them'.

So Free Choice Oralists and Free Choice Manualists have one thing in common, and this seems to be the only one: they both say they want to educate the deaf child such that she, as an adult, can make a choice for herself (e.g., Cornett 1990, 35, van Dijk, personal communication,

Prillwitz & Wudtke 1988, 29, Van Hagen, 1984, 10). We have seen that both groups differ with respect to the methods they use. The educational method of the Free Choice Oralists seems to differ only marginally from the educational method of the Strict Oralists. They are less strict on conditions like using manual language in leisure time, involvement in deaf clubs, etc., but the basic elements of a strict oral education are preserved. However, it might be the case that some schools who used to be strictly oralistic are now in a state of change based on a free choice-view, and that gradually they will allow more aspects of manual communication and of the Deaf community to enter education. Contrary to Free-Choice Oralists, Free-Choice Manualists think that for a free choice to become possible an education with elements of both the Deaf and the Hearing community is necessary (Cornett 1990b, 35, Evans, 1982, 14, Moores 1991, 36). Among Free-Choice Manualists we find both advocates of Total Communication and advocates of Bilingualism/Biculturalism. The advocates of TC, however, seem to incline somewhat more toward the Hearing than toward the Deaf community, whereas the advocates of Bl/Bc incline more toward the Deaf community.

Surveying the views of the different groups in the methods controversy about deafness and the deaf child, it might be asked whether the views of the different groups are fundamentally different from each other because they are based on differing and incompatible foundations, or whether perhaps some agreement or reconciliation is possible. Before trying to answer that question, I will first go somewhat deeper into the view of the Strict Manualists. I will show some implications of their view which will strike most people as rather odd, and I will analyse what might be the reason for this.

7.2.2 Some implications of the Strict Manualists' view

The Strict Manualists' view that deafness is not a defect but a cultural variation and that the deaf child, *because of her deafness*, belongs to the Deaf community, has several logical implications which are seldom discussed and which, to many hearing people who are unfamiliar with deafness, must seem rather odd.

First, if deafness is not a defect, nothing should be done to prevent the occurence of deafness in a fetus or a newborn, or to 'cure' deafness in a child. It would be discriminatory and unethical to try to prevent it, just like trying to prevent the occurence of curly hair or green eyes in the fetus would be. Such a view is expressed sometimes by Strict Manualists. For instance, Harlan Lane (1992, 236-238) says that, even if perfectly safe Cochlear Implants exist which could painlessly provide deaf children with complete hearing, he thinks implantation should not be performed on deaf children. He and others (e.g., Govers 1995) compare making deaf children hearing with making black children white, neither of which ought, for ethical reasons, to be attempted. Also, there is an anecdote saying that the president of the World Federation of the Deaf (WFD) in a talk

about another International Year for the Handicapped rejected participation of the Federation if one of the activities in the Year would be taking measures to prevent Rubella in pregnant women (a virus infection that can cause deafness in the foetus). Whether or not this anecdote is true, and setting aside that Rubella can cause also blindness, brain damage, and heart problems in the fetus, the view expressed in the anecdote is consistent with the view that deafness is not a defect.

An argument brought forward by adversaries of CI's (mentioned in section 7.1.2) is that it ought not to be the hearing parent who decides on a CI for the deaf child but a member of the Deaf community because the deaf child most likely is a future member of that Deaf community (Lane 1993a, 234). If that were the case, it would be justified to reason the other way around as well, and demand that hearing people should decide on important issues with regard to the hearing offspring of deaf people because most likely these hearing children are future members of the Hearing community. Also this type of reasoning is perfectly logical when deafness is seen as a cultural variation: 'Deafness' as opposed to something like 'Hearingness'.

Strict Manualists often speak about 'deaf heritage' and about the right of the deaf child to get acquainted with this rich heritage (Gannon 1991, 56, Nomeland 1991, 379, Philip & Small 1991, 2, see also Dolnick 1993, 38). The use of the word 'heritage', which suggests that deaf people have 'qualities, traditions, or features of life that have been continued over many years and passed on from one generation to another, especially ones that are of historical importance or that have had a strong influence on society' (Collins Cobuild English Dictionary, 1995) gives rise to the question how should a hearing child from hearing parents be viewed when she becomes deaf at the age of, say, five. Does she, simply because she looses her hearing, become a part of this rich past? What about the 'Hearing heritage' in which she has taken part thus far? Is she suddenly altered from a culturally Hearing person into a culturally Deaf person? Is becoming deaf like turning a switch which tranforms a child, who until that moment has been culturally Hearing with a 'Hearing heritage' into a culturally Deaf child with a 'Deaf heritage'? Many people will be reluctant to answer these questions with a simple 'yes'.

Why do these implications of the view that deafness is a cultural variation seem rather absurd to many hearing people and probably to many deaf people as well, whereas the idea of treating an adult, once deaf, not as a handicapped person but as a member of a cultural-linguistic minority group will be more acceptable to many people? In the next section I will argue that the reason for this is that the comparison between Deaf people and other cultural groups does not hold with regard to two important aspects, and that ignorance regarding these two aspects reflects inadequate conceptions of deafness and culture.

7.2.3 Why these implications seem odd

The comparison between Deaf people and other cultural groups is factually incorrect in at least two respects.

First, children of other cultural groups, for instance, Indian children, Catholic children, etc., usually grow up with parents, siblings, and other relatives or friends who belong to the same cultural group, that is, who are Indian or Catholic as well. The great majority of deaf children, by contrast, are born in hearing families, have hearing siblings, relatives, and friends (Rawlings & Jensema 1977). This fact does not necessarily make the Deaf culture less of a culture, but it makes the Deaf culture a rather special one[6]. It means, for instance, that the Deaf community for its survival partly depends on decisions of others, mainly hearing people; the American trend towards what is called 'inclusion', based on a law that forbids the placing of children in special schools when it is possible to educate them in regular schools (O'Neill-Palmer & Modry 1993), is a direct threat to the continued existence of the Deaf community. It also means that there seem to be only three possibilities: either the deaf child is educated as a 'citizen of two worlds', or she is educated for the Deaf community (which by definition will alienate her to some degree from her hearing relatives), or she is educated for the Hearing community (which, according to Strict Manualists, will alienate her from her true identity as a Deaf person).

But this fact also illustrates clearly something on which Strict Manualists often seem to be ambiguous, namely, that an individual *is* not a member of a cultural group simply because of the possession of a physical characteristic (i.e., being deaf, being black, having 'Indian genes'), but *becomes* a member of a cultural group because the culture[7] of that group is transferred to that individual over a certain period of time. An Indian child or a Catholic child who is thus raised with the norms and values of the Indian or Catholic community quite naturally acquires the culture of her parents. A deaf child from hearing parents, by contrast, can become acquainted with Deaf culture only when she goes to deaf school and meets Deaf children from Deaf parents, or when her parents actively bring her into regular contact with the Deaf community. So a child of hearing parents who is born deaf *is* not immediately a member of the Deaf community, she can *become* so, but then her parents have to take special measures. Similarly, a child who becomes deaf at the age of five is not suddenly transformed from a 'Hearing' child into a 'Deaf' child; over the years she can get to know Deaf culture and eventually live partly in the one community and partly in the other community, or decide to live predominantly in only one community.

On the one hand, Strict Manualists seem to recognize this very well, hence their efforts to preserve deaf schools as the main institutes for transferring Deaf culture and for socializing deaf children into Deaf culture. On the other hand, expressions like that of Jack Gannon (1991, 55) that 'I am deaf...and that gives me another cultural identity', just like the assumptions of some Bilingual/Bicultural programms (see e.g. Philipp & Small 1991), seem to express the idea that a deaf person 'is' a member of the Deaf community *simply because of her deafness*. As I have argued above, this is a rather simplistic view of what it means to become a member of a cultural community. Perhaps in these expressions it is not meant to say that deaf children because of their deafness 'are' culturally Deaf, but that they, because of their deafness *should* become so. If this is the argument, it needs justification.

A second aspect on which the comparison between deaf children and children in other minority groups falls short, is that deafness, whichever way you look at it, means missing one sense, whereas Black children, or Indian children, or Catholic children, are in the possession of all their faculties. Of course, being born deaf, a deaf child or a deaf adult perhaps does not *feel* she really misses something. She can be perfectly happy being deaf, and can even refuse a medicine that in a safe and painless way would make her completely hearing because she does not want to break with her life as a Deaf person and exchange it for a life as a Hearing person. Nevertheless, deafness means missing one sense, and the pronouncement by I. King Jordan, when he accepted his appointment as the first deaf president of Gallaudet University (the only university for deaf students, located in Washington DC), that 'Deaf people can do anything but hear' is not literally true. King Jordans pronouncement is often quoted without the last two words, and he clearly has meant to emphasize the first five words in order to encourage deaf people and take away their feelings of being inferior to the hearing. But instead of shortening his quote it would be better to add a few words to it: 'Deaf people can do anything but hearing and the things that are directly related to hearing'. This, for instance, means that a deaf person cannot become a telephonist, or a professional musician, or a piano tuner, or an organ builder, or a music teacher, and it also means that a lot of occupations which require a lot of *speaking* will hardly be accessible to deaf people unless they belong to those few (according to Strict Manualists it is few) who speak very well. For example, the director of a circus will not easily hire a Deaf[8] person to be the ringmaster, because then she needs to hire a second person, a sign language interpreter, to interprete everything the Deaf ringleader signs. Whether or not deaf people *want* to become a ringleader, a telephonist, a professional musician, etc., is, for the moment, irrelevant.

It could be argued that also for other minority groups many professions are closed. We have never seen a black person, a woman, or an openly homosexual person as president of the United States, and in the near future we probably will not. But these are obstacles put up by a discriminating society. Deaf people have to deal with such obstacles but, in addition, their hearing loss causes obstacles which are solely due to hearing loss itself. A deaf person cannot become a professional musician, simply because she cannot or inadequately hear music.

In this framework a distinction used in social medicine and sociology (see e.g. Oliver 1990) can be helpful. It is the distinction between 'impairments', 'disabilities', and 'handicaps'. 'Impairment' refers to a physical and medical problem, in this case: having a hearing loss.'Disability' refers to the direct consequences of the impairment, for instance, not being able to hear speech and thus having difficulties with learning to speak, and 'handicap' refers to the social limitations the impairment and the disability bring with them, for instance problems in getting a job. An impairment often necessarily involves a disability: a major hearing loss implies that one cannot, or only to a limited degree, hear speech and music. But an impairment and a disability do not necessarily involve a handicap: society can make accomodations so that the impaired person experiences no handicaps. Thus, deafness is an impairment and a disability, but whether or not it is

a handicap depends on how society views deafness and deals with deaf people, and how deaf people themselves experience their impairment and their disability. Being black is *not* an impairment or a disability, although it often *is* a kind of handicap, that is, not a handicap which is based on an impairment but a handicap which is based on the prejudices of white people. King Jordan's pronouncement is factually true when he refers to deafness as a handicap: it need not, or at least to a much smaller degree than is currently the case, be a handicap. King Jordan's pronouncement is not true when he refers to deafness as an impairment or a disability: deafness factually *is* both an impairment and a disability. How this impairment and disability are*valued* by deaf people and by others is a different matter.

Perhaps Deaf people would object to the preceding analysis by saying: "Okay, perhaps we are somewhat careless in our saying that a deaf child 'is' a member of Deaf culture. Of course a child is not immediately a member of a culture but becomes it only gradually. What we mean is, that the deaf child *ought* to become a member of Deaf culture. And okay, the comparison with Black people falls short on some points, but what does it matter that deafness is an impairment and a disability, as long as Deaf people do not *experience* their deafness as such, that is, as long as they do not miss the sense of hearing, do not miss the things they would have been able to do if they could hear? "

However, the claim that Deaf or deaf people do not evaluate negatively their impairment and their disability is a fact (still) to be verified. Second, preventing deafness, on the one hand, and treating deaf adults as members of Deaf culture as well as educating deaf children for the Deaf culture, on the other hand, are not incompatible views. It is consistent to see deafness as an undesirable impairment and disability which should be prevented, while at the same time treating human beings who *are* (irrevocably) deaf as (future) members of a separate Deaf culture. The static view that the deaf child, simply because of her physical condition, *is* a member of Deaf culture, gives rise to incorrect reasoning from the position of the Deaf adult towards the position of the deaf child. That a deaf child from hearing parents, once having become an adult, once having accepted her deafness, once being happily integrated into the Deaf community, experiences altering her hearing loss as something similar to altering a black person into a white person is understandable. But it does not justify the conclusion that, *therefore*, for every deaf child who still stands at the beginning of such a road, *or a different road*, this is the road to follow. The dichotomic setting against each other of categorizing the deaf child as *either* a handicapped person who should be 'repaired' *or* as a member of a cultural-linguistic minority with whom nothing is wrong leaves no room for a more balanced view of deafness. If all value-connotations are removed from the words 'impairment' and 'disability', Oralists and Manualists could agree on the factual assertion that deafness is both an impairment and a disability, but that deafness need not be a handicap. Once this has been established, denying that deafness is a handicap no longer necessarily forces an individual to adopt the opposite position and acknowledge deafness as a cultural variation with all the odd implications described above. A new perspective on deafness, the identity, and the community of

the deaf child would be possible then. Such a new perspective requires that Oralists and Manualists discuss and analyse fundamental concepts with respect to identity and community. In the next section I will make a start with such a discussion and analysis, that is, with respect to the concept 'person' and the influence of the community on the person.

I now will return to the question put forward in section 7.2.1.3: are the views Oralists and Manualists maintain with respect to deafness and the deaf child essentially different? At first sight the view, on the one hand, of deafness as a handicap and of the deaf child as a member of Hearing society seems radically opposite to the view, on the other hand, of deafness as a cultural variation and the deaf child as a member of the Deaf community. In order to be able to answer the question of whether these views are indeed as opposed to one another as they seem, we must take a look into the foundations of these views. And to be able to do that, we need some tools which can help us to dig up these foundations, which for the greater part are implicit. To find these tools, in the next section I will discuss concepts of the person and the role the community plays in constituting the person. Maybe the relevance of such concepts for the subject of this chapter will not be clear immediately, but it will become so in section 7.4.

6 I do not discuss here whether or not there *exists* something like a Deaf 'culture'. This depends on how one defines a culture, and since there are very many definitions of culture in force, I do not dare to answer the question of whether or not a Deaf 'culture' exists But it is a fact that many deaf people (in some countries more than in others) *consider* themselves to belong to a Deaf culture, and, therefore, in this chapter I discuss the implications and the presuppositions of that view. However, the existence of a deaf culture is contested, see e g. Union 1992, 64, L.G. Stewart, 1992).

7 For the reason given in note 6, I will not attempt to give a definition of 'culture'. However, whatever definition of culture is used, it is true that one grows into a culture instead of being a member of a culture at birth.

8 I speak here of a 'D'eaf person and implicitly assume that this deaf person cannot speak Of course, most Deaf persons can speak at least a little, and of course the director could also hire an oral 'd'eaf person with very good speech. But since in this section I approach things from the viewpoint of the Strict Manualists, who claim sign language as the first language of deaf/Deaf persons, and since the reality is that only few deaf persons have such oral abilities that they can become a ringleader without needing an oral interpreter, my example is adequate.

7.3 Philosophical intermezzo: concepts of the person and the role of community in shaping the person

In section 2.1 I briefly discussed the views of Oralists and Manualists with respect to deafness and the deaf person. We have seen that, at first sight, these views seem to be radically different. Strict Manualists conceive deafness as a cultural variation and the deaf child as a (future) member of the Deaf community; Strict Oralists conceive deafness as a deviation which should be repaired as well as possible and they conceive the deaf child as a member of hearing society; the position of Free Choice Oralists and Free Choice Manualists is not always clear, but they seem to conceive the deaf child in more or less neutral terms, and leave the choice of a community to the deaf child, when she becomes an adult. How different these views are, and the extent to which discussion and agreement might be possible, can be found out by analyzing the foundations of these views.

As I have said in the Introduction, for such a foundational analysis I need some tools which can be found in the debate going on in political and social philosophy between Liberals and Communitarians about concepts of the person and of the part the community plays in shaping the person. It is not my intention to resolve this debate, or even to give a complete and adequate description of it (one of the issues in the Liberals-Communitarians debate is precisely the question what the debate exactly is *about*, as Mulhall & Swift (1992, viii-ix) in their discussion of the debate say!). I will only use this debate for developing some categories for analyzing the views of Oralists and Manualists, and thus I will only describe those features of it which are relevant for my inquiry.

The contemporary discussion about concepts of the person, more specifically, the relation between the individual identity of the person and her social identity as member of a cultural group, began when philosophers reacted to the concept of the person developed in John Rawls' book *A Theory of Justice* (1971).

Rawls' main endeavor was to develop a concept of a just society, but for us, it is only his conceptions of the person and the community that are relevant. For Rawls, the most basic characteristic of persons is their ability to form and pursue their own concept of the good life. Thus Rawls's concept of the person is that of a rational being who in principle is able to make autonomous choices. The person needs a community to belong to, to feel respected by, and to cooperate with in order to achieve shared ends. But although the person can never conceive of herself as being detached from *any* community, or from *any* ends or practices, she can always question the particular community, ends, or practices she is taking part in: the person is prior to her ends.

Rawls's conception of the person and the community was criticized, among others, by MacIntyre (1981) and Sandel (1982). The arguments they put forward mainly concern two aspects of the liberal view of the person. First, Sandel and MacIntyre emphasize that we can not choose our ends out of a vacuum. We discover the ends transferred to us by the community we are raised in by means of self-reflection. This self-reflection, according to Sandel, enables persons to distance themselves from these ends, but only to a limited degree. The point of reflection always will be secured within the boundaries of ones' history. Values and ends of a community *constitute* the person, values and ends are not *chosen* by her. The person is embedded in the community. Sandel and MacIntyre put forward a second argument. They argue that Rawls' conception of the unencumbered self conflicts with self perception. Human beings cannot see through their particular ends to an unencumbered self, they always perceive themselves as persons with particular traits, values, ends, etc.

Against Rawls' concept of what is usually called a 'thin' person, MacIntyre and Sandel advance a concept of the person as being 'thick': a person cannot be thought of without her values and ends, without values and ends there*is* no person. Persons as members of communities share a concept of the good life and this communal concept of the good life is the main standard for individual decisions. Although MacIntyre and Sandel do not maintain the view that the person is

entirely constituted by the community, they think she is constituted by it to a large extent[9].

Rawls (1982, 1985, 1988) but also, for instance, Kymlicka (1989), Caney (1992), and Alejandro (1993), in their turn have commented upon these criticisms. Rawls has argued that his concept of the person is that of a political or public person, not of a private person. He maintains that a private person can be embedded in a community while at the same time as a citizen she can and should detach herself from her community and from possible doctrines held within that community. According to Kimlicka, many of the arguments against Rawls' concept of the person are a consequence of misunderstanding his saying that a person is prior to her ends. This expression does not mean that a person can exist without any ends, or that a person can conceive herself as a being without any ends, or that a person can give up *all* of her present ends at one and the same time. It just means that 'no end or goal is exempt from possible re-examination' (Kymlicka 1989, 52). Alejandro maintains that Rawls' concept of the person is much more social than his critics claim it to be, and he illustrates his thesis with quotes from Rawls' *A Theory of Justice*. Caney (1992) thinks that Sandel is wrong in attributing to Rawls a view of the person as being 'unencumbered'. He states that Rawls and other liberals do not deny the sociological thesis that people are embedded in a community, and that they do value the community, though not to such a radical degree as some Communitarians do.

Setting aside the question of what exactly is entailed by the view Rawls developed in *A Theory of Justice* , as well as the question of whether later liberal views have moved up towards a more social conception of the person, two conceptions of the person and her identity can be distinguished.

The first conception takes the identity of the person to be first and foremost an *individual* identity, and the community to be a context for fully executing the ability to make autonomous choices. The second conception takes the identity of the person to be essentially a *social* identity, and the community to be an ingredient, a constitutive component of the person. In the first conception personal autonomy is possible to a major degree, while in the second conception personal autonomy is possible only to a minor degree. Detachment of the ends and practices of one's community in the first conception simply means making different choices. In the second conception it means detachment of one's identity. In the first conception the community is a conglomerate of individuals, in the second conception the community is viewed more or less in terms of a whole which is more than the sum of its constitutents.

Several authors (e.g., Caney 1992, Mulhall & Swift 1992, 12) have pointed to the fact that it is not entirely clear what is the status of the claims made by Rawls and his critics. Are the above described conceptions of the person and the community *descriptive, sociological* concepts ('this is how persons and communities *are*), or are they *normative* concepts ('this is how persons and communities *should be* ')? This is an important distinction, I will return to it in section 7.5.

The views sketched above are rather extreme and at first sight might seem to be incompatible, but , on further reflection, they may seem to be more or less caricatures of what merely are

differences in emphasis. Recently several attempts have been made to bring these two views closer to each other. Wong (1988, 325-327, 339) discusses different, 'strong' and 'weak' interpretations of the claim that human beings have a 'social nature', and he singles out the rather 'weak' interpretation that human beings need certain sorts of relationships with others in order to develop what he calls 'effective agency'. He does not want to accuse liberals of holding too atomistic a view of the person but he thinks they have paid too little attention to the social side of personhood.

Mason (1992, 179-182) tries to solve the apparent opposition between a social and an individual conception of personal identity by introducing a particular interpretation of the expression 'constitutive commitments'. He proposes to conceive of 'constitutive commitments' rather loosely, containing both commitments that are not chosen and commitments that are chosen, as well as commitments that can be abandoned or transformed and commitments that can not be abandoned or transformed. I will give some examples: being black is something which is not chosen, neither could it be 'abandoned', while entering a convent is a chosen commitment which could be abandoned. Being raised as a Catholic is not within the choice of the person, but as an adult the person can abandon the Catholic church (that is, according to a liberal view of the person; Communitarians might deny this). An example of a commitment which is both chosen and could not be abandoned is somewhat difficult to find. Perhaps it could be said that a drug-addict (more or less) has chosen to begin with drugs and now cannot (or only with much pain and labor) give up her use of drugs.

Also others, though often not very clear and explicit, have made a distinction between commitments which can be abandoned or transformed, and commitments which cannot be abandoned or transformed. Callan (1994, 39), for instance, illustrates the relation between the person and her constitutive commitments by adapting Otto Neurath's metaphor of science as a ship at sea which is gradually repaired. The self is like such a ship. Callan says 'The constitutive elements of the self commonly require (reflective and rational) repair and revision, sometimes even radical alteration, as our lives confront us with fresh and unexpected contingencies. But the challenge of staying afloat while we change means that revision always has to be piecemeal...' He makes a distinction similar to that of Mason, but does not speak about 'abandoning' or 'transforming' commitments but about 'revocable' and 'irrevocable' 'attachments' (ibidem).

This brief discussion yields two rather extreme views of personhood and the influence of the community on the person, plus some moderate, in-between views , as well as some attempts to bridge the different views with the help of the notion of 'revocability of commitments' or 'ability to abandon commitments'. In the next section I intend to show that the views of Strict Manualists on the one hand, and Free Choice Oralists and Free Choice Manualists on the other hand, diverge exactly on views of the person and of the influence of the community on the person, whereas Strict Oralists seem to take a kind of amended, moderate position. In section 7.5 I will maintain that the notion of revocability of commitments can be of help here in coming to a more nuanced conception of deafness and the deaf person.

9 Sandel and MacIntyre are not entirely consistent on this point. Sometimes they seem to maintain the view that the person is entirely shaped by the community (e.g., Sandel 1982, 58-59, MacIntyre 1981, 220),while at other times they maintain that the person is not entirely shaped by the community (e.g., Sandel 1982, 152, MacIntyre 1981, 31, 221).

7.4 Foundational analysis: Oralist' and Manualist' concepts of the person and the role of the community

What concepts of the person underly the views of Oralists and Manualists described in section 7.2.1?

It will be fairly clear that Strict Manualists have a view of personhood which is a special version of the 'thick' Communitarian view. Personhood of the deaf child is primarily constituted by her deafness, and, therefore and secondarily, by the Deaf community. For Strict Manualists, a deaf child is not simply a child with a hearing loss, a deaf child because of her deafness is a 'D'eaf child.

Barringer (1993) speaks about the 'birthright of silence' of deaf children, meaning that the silence in which the deaf child lives should not be broken by giving her a Cochlear Implant because this silence is a fundamental, constitutive ingredient of the deaf child's identity.

Also Lane (1993b, 21) speaks about the 'unique birthright' of deaf children. A somewhat longer quote from his book about what he views as the age-old oppression and colonization of Deaf people, 'The Mask of Benevolence' (Lane 1993b, 17-18) illustrates clearly that the Deaf community is viewed by its members in the way philosophers like MacIntyre and Sandel conceive of communities, namely, as constitutive for the persons who are member of them. Lane describes what he calls 'some of the salient values' of American Deaf culture as 'Deaf identity itself is highly valued, deaf people seem to agree that a hearing person can never fully acquire that identity and become a full-fledged member of the deaf community..... Speech and thinking like a hearing person are negatively valued in deaf culture. Deaf people who adopt hearing values and look down on other deaf people are regarded as traitors....the metaphor of family is fundamental and recurrent.....there is a penchant for group decision-making...there is less individual accounting than in American hearing society....there is fierce group loyalty, and this may extend to protectively withholding from hearing people information about the community's language and culture....one should marry within one's minority: marriage with a hearing person is definitely frowned upon.' If Lane is correct in his description of how Deaf people view their community and membership of that community, it is evident that they view the identity of the deaf child as determined by its community to a major degree.

Treesberg (1991, 1) expresses the view that identity is heavily influenced by (deeds of) the community. In discussing Cochlear Implants for deaf children she comments upon a parent of an implanted child who said that her child will perhaps take her implant off in some situations, while wearing it in other situations. Treesberg says 'As if one takes an identity on and off like a change

of clothes'. Apparently she assumes that Cochlear Implants (and in line with that, the Hearing community which recommend and place such implants) constitute a particular identity.

Free Choice Manualists and Free Choice Oralists, by contrast, seem to adhere to a view of the person as being autonomous and as having an identity which is essentially constituted by herself. Cornett (1990, 35) states the deaf child should be educated for 'real freedom...of ...association', and M.M. Moore (1976, 154) says, referring to choices between the hearing and the Deaf community, that education should 'enable the deaf...to find their own ways of making their contribution to the community'. In saying that an autonomous choice for one or the other community *can* and *should* be made by the deaf child when she has become an adult, it is implied that the community in which the child is educated does not constitute personhood of the child to such a degree that an autonomous choice for a different community, at a later age, is not possible. Free Choice Oralists, however, make an amendment to this view: such an autonomous choice is possible only when the child has been educated orally. If the child has been educated in a Total Communication environment, or in a Bilingual/Bicultural environment, autonomous choice for the Hearing world is not possible any more because in such methods the deaf child will not learn adequate speech. As Van Hagen (1984, 10) says: '...dat een werkelijk vrije keuze (!) alleen realiteit kan zijn bij een zo zuiver mogelijke orale opvoeding- en onderwijspraktijk en dat daar waar hiervan wordt afgeweken er niet meer van keuze gesproken kan worden; immers dan staat nog enkel één spoor open, voornamelijk het kontakt met mede-doven.'[10] So whereas the view of Free Choice Manualists with respect to the person is that of a 'thin'person, relatively uninfluenced by the community, the view of Free Choice Oralists with respect to the person is that of a 'restrictedly thin' person.

What view of the person and of the influence of the community on the person Strict Oralists maintain is somewhat more open to discussion. Their emphasizing that the deaf child is not a member of the Deaf community but of the larger hearing society reflects the view that personhood of the deaf child is not constituted by her deafness. Also the statement of Rick Apicella, quoted in section 7.2.1.1: 'I refuse to allow anyone to define her [i.e., his daughter, who has a Cochlear Implant] by limiting her solely to her deafness' reflects a 'thin' concept of the person.

The Oralist Northcott (1981, 176) says that one of the myths Manualists cherish is, that to be integrated during the school years is to 'deny your deafness'. One page later she says: 'Deaf pride? NO! Person pride? YES!'. This setting against each other of the 'Deaf person' and the 'Person', and preferring the latter to the former, also seems to reflect a thin concept of the person, and a view of the person to be autonomous.

However, other aspects of Strict Oralism point to a view of the identity of the deaf child being *social*, and to a 'thick' concept of the person. Strict Oralists choose the Hearing community for the deaf child to integrate into. They seem to do so not only because of a moralistic idea that life in hearing society is better for the deaf child than life in the Deaf community, but also because of a fear of the deaf child's ability to make autonomous choices being negatively influenced by the Deaf

community. Several ingredients of their method, as described in chapter 3, point to such a fear. Their emphasis on a strict as possible separation of deaf oral children from deaf manual children, their fear of deaf oral children being 'contaminated' with signs, their Whorffian view that the language the in which the child is educated determines the child's worldview — all of this seems to reflect the idea that a community (i.e., the Deaf community) and a language can play a determining part in a (deaf) child's life.

The view that the deaf child is a 'Person', that is, is not determined by her deafness, seems to be incompatible with being afraid that that Deaf community will transform the person into a Deaf person (which is seen as undesirable). But perhaps the Strict Oralists' view of the personhood of the deaf child is not as inconsistent as it seems at first sight. Strict Oralists seem to think that the deaf child can make an autonomous choice for a community, but *only if* she is not is transformed beforehand into a Deaf person because of her coming into contact with signing deaf children or with adult members of the Deaf community. Their concept of the person seems to be 'restrictedly thin', just like that of the Free Choice Oralists. The two groups differ in that Free Choice Oralists leave the choice for a community with the deaf child (upon reaching adulthood), whereas Strict Oralists make the choice *for* the deaf child. Also, in the view of Strict Oralists, the autonomy of the person is even more restricted than in the view of Free Choice Oralists: the former name more elements which can have a determining influence on the deaf person than the latter.

In conclusion we can say that both Free Choice Oralists and Free Choice Manualists see the deaf person as being relatively autonomous and uninfluenced by the community she lives in, but Free Choice Oralists see this autonomy as potentially restricted, namely, in cases where the deaf child is raised with signs alongside speech. Strict Manualists see the community as a constitutive ingredient of the deaf person. The view of Strict Oralists is not entirely clear but there are good reasons to assume that they have a 'restrictedly thin' view of the deaf person.

In their more extreme form, now, the concept of the person as an *entirely* autonomous being and the concept of the person as being shaped *entirely* by her community are incompatible. However, neither of the parties in the methods controversy seems to advocate such an extreme view. Still, there seem to be important differences in foundations, especially between Strict Manualists on the one hand, and the three other parties on the other hand. One could of course advise them to try to get agreement on a middle position and say that the deaf person is partly autonomous and partly shaped by the community she lives in. This, however, is not much of a help when one doesn't specify to what extent, and in what aspects the deaf person is autonomous or influenced by the community, respectively. The proposals of Mason (1992) and Callan (1994) to look into how far commitments or attachments are revocable are very useful for developing a more nuanced view of the person and of the influence of the community on the person. In the next section I will analyse what the views of the different parties are with respect to revocability of constitutive elements of the person.

10 '...that a really free choice (!) is possible only in a pure as possible oral education and that one cannot speak of

free choice any more if one deviates from this pure oral road; for then just one, single track is left, namely, mainly contact with fellow-deaf people' [the exclamation mark is added by Van Hagen]

7.5 Conclusion: revocability of constitutive elements of the D(d)eaf person

Before getting into the views of Oralists and Manualists with respect to revocability of constitutive elements, it is necessary to introduce a second, more pedagogical concept next to the concept of revocability. The word 'revocable' refers to something which exists and is thereupon canceled. In the framework of concepts of the person and of the role the community plays in shaping the person, 'revocability' refers to something like 'when I have been raised Catholic, can I reflect on Catholicism, criticize it, and autonomously decide to become a non-Catholic?'. With respect to deafness it refers to questions like 'If I have been raised as a Deaf person, can I then autonomously decide to become a non-Deaf person?'. However, parties in the methods controversy not only disagree about revocablity of constitutive elements, they also disagree about whether or not it is possible, so to say, to *prevent* constitutive elements from performing their constitutive task, for instance, whether or not it possible to prevent a 'deaf' child from becoming a 'Deaf' child.

According to Strict Manualists, there are three things which are typical of deaf children and which are constitutive for the deaf person, namely, her (physical) deafness, sign language, and the Deaf community. These three elements are very closely related. They think that physical deafness (necessarily) predisposes the deaf child to have sign language as a mother tongue and to become a member of the Deaf community, and they value this positively. Thus they see deafness, and with that sign language and the Deaf community, as (relatively) irrevocable constitutive elements of the deaf person. It is possible, to a certain degree, to prevent the deaf child from using signs, by forbidding it and by keeping away from the deaf child signing deaf children and adults, but when she is unnoticed, whenever she can get away with it, she will use signs in her contact with other children. Preventing the deaf child from using signs is preventing her from developing what is her true nature: being Deaf. No matter how 'oral' the deaf person might become, and how much she will repress her Deafness because her oral environment forces her to do so, deep inside she will always be a Deaf person (Lane 1993a, 88-99).

Strict Oralists, by contrast, (and to a somewhat lesser degree Free Choice Oralists as well) think that deafness *can* constitute the deaf person to have signs as her primary means of communication and to live in the signing community, but this is not necessary; it is possible to educate the deaf person so that she becomes a speaking member of hearing society. Strict Oralists value the former negatively and the latter positively. They do not tie physical deafness and cultural deafness together, quite the opposite: they separate it. Physical deafness, sign language, and the Deaf community are potential but preventable constitutive elements of the deaf person. The deaf child will become a Deaf person 'wenn ein grobes motorisches Zeichensystem als träger von Bedeutungen die sehr subtilen Wirksamkeiten bei der Sprachwahrnehmung überdeckt' (Von

Unkelbach 1986, 133). And 'Ein sprachliches Weltbild wird nur gesichert durch einen ständigen Sprachumsatz' (Von Unkelbach 1986, 137). It is possible to educate the deaf child so that she is not constituted (mainly or exclusively) by her deafness. However, once the deaf child has become a Deaf person, this is relatively (ir)revocable. As Van Hagen (1984, 10) says in the quote already given above '...dan staat nog enkel één spoor open, voornamelijk het kontakt met mede-doven'[11].

In conclusion: whereas Strict Manualists see deafness, sign language, and the Deaf community as (relatively) irrevocable and (relatively) not preventable, Strict Oralists, and to a lesser degree Free Choice Oralists as well, see deafness, sign language, and the Deaf community as (relatively) irrevocable but preventable. Free Choice Manualists seem to see neither of these elements as constitutive for the deaf person. What is left for discussion between parties in the methods controversy, is to what degree physical deafness, sign language, and the Deaf community are preventable and revocable constitutive elements. These questions are basically philosophical in nature, but they have also empirical aspects. For instance, with respect to the revocability and preventability of physical deafness (in itself, and as a constitutive element of the person), empirical evidence regarding the results of Cochlear Implantation will be relevant as will empirical evidence into the quality of oral and manual communication of deaf children (see chapter 6, section 6.1 and 6.5).

However, the claim that sign language is the natural language of the deaf child, or the claim that the deaf child is a member of the Deaf community, or the claim that deaf children are members of hearing, speaking society, are normative questions in the end, which cannot be decided by empirical means, at least, not by empirical means alone. But such claims cannot be simply put forward. They require extensive and careful justification, in view of their implications some of which were explained in the foregoing.

If parties in the methods controversy take the trouble to discuss these questions in an honest and open debate, it could become clear on what points their views are fundamentally different, and on what points they perhaps are closer to each other than they have thought thus far. It could become clear then in how far they share common ground. Thus, perhaps, a more nuanced view of deafness and the deaf child could come into reach.

11...then just one, single track is left, namely, mainly contact with fellow-deaf people'
12 'A linguistic worldview is garantueed only by means of a permanent use of speech'

Chapter 8 ABSTRACT THINKING AND READING IN DEAF CHILDREN: SCIENTIFIC EXPLANATIONS AND PHILOSOPHICAL PRESUPPOSITIONS

Introduction

In the methods controversy many discussions have centered around two areas which, more or less directly, regard the relation between language and thought, namely, abstract thinking and reading comprehension.

Since the first intelligence tests with deaf children about sixty years ago, different results

have been found with respect to deaf children's abstract thinking abilities. On some tests deaf children achieved results comparable to hearing children (e.g., Rosenstein 1960), while on other tests deaf children did less well (e.g., Pettifor 1968). Different explanations have been given for these conflicting results, based on different views on the deaf child and her psychology. In the course of these sixty years, abstract thinking tests for deaf children have improved. Special care has been taken to ensure that the language ability of subjects cannot influence the ability being tested. Nevertheless, in a recent, carefully organized investigation in which the intelligence of nearly the entire Dutch population of deaf children between 6 years 2 months and 14 years 10 months was tested (N=768), it was found that deaf children scored lower than hearing children on subtests in which abstract reasoning was measured. In another recent investigation (Zwiebel 1991) it was found that deaf and hearing adolescents showed similar intellectual structures. However, in the period before adolescence, deaf children turn out to depend on perceptual intellectual structures instead of verbal intellectual structures for a much longer time than hearing children.

With regard to the reading comprehension abilities of deaf children, research results have been less ambiguous. Fairly consistently it has been found that deaf children's reading comprehension abilities are far behind those of hearing children. How little progression has been made in improving reading comprehension of deaf children is illustrated, for instance, by an investigation by Allen (1986) who compared results of a reading comprehension test given to eighteen-year-old deaf students in 1974 to one given to a similar group of deaf students in 1983. In 1974 the reading level averaged at grade 2.80, in 1983 it averaged at grade 2.90. In a recent study by the Center for Assessment and Demographic Studies (CADS 1991) it was found that the great majority of deaf children and adolescents do not get beyond a third grade level with respect to reading comprehension. Various explanations have been given for the disappointing reading achievements of deaf children, none of which seems to be conclusive (Hanson 1989, Kelly 1993).

Another phenomenon is even more puzzling. Over the years once and again it has been found that a subgroup in the deaf population, namely, deaf children of deaf parents ('deaf-deaf children'), achieve significantly better than deaf children of hearing parents ('deaf-hearing children') with regard to almost all aspects of development including reading and abstract thinking (e.g., Sisco & Anderson 1980). It even has been found that deaf-deaf children score higher on the Performance part of IQ-tests than deaf-hearing children and hearing children (Kusche, Greenberg & Garfield 1983, Ray 1982). Also for this phenomenon different, sometimes conflicting explanations have been given (e.g. Conrad & Weiskrantz 1981, Paul & Quigley 1994). Thus far, none of them has proved to be conclusive.

In this chapter discussions and research with respect to these issues will be described and analyzed. I will argue that an explanation for the above described phenomena might be within reach if the parties in the method controversy would go 'back to basics'. In my opinion, a thorough analysis of what intellectual abilities are required for abstract thinking and reading is necessary first. Such an analysis is based on particular philosophical presuppositions with regard to the

relation between language and thinking, and these presuppositions, in their turn, are based on conceptualizations of fundamental terms like 'thought', 'mental language', 'mental content', etc. A substantiated reflection on these philosophical presuppositions and conceptualizations is required.

I will try to commence such an analysis and reflection, starting from a basic philosophical question which will serve as a heuristic instrument. This question is: 'what do thoughts consist of?', or, 'what is the medium of thought?'. With the help of a reasoned answer to this question I will infer tentative explanations for the abstract thinking problem and the reading problem of deaf children, including the better achievements of deaf-deaf children. These explanations are partly new, and they in part are similar to explanations given by one of the parties in the methods controversy. In either case, however, I hope to be able to provide some philosophical foundations to these explanations.

In section 8.1 I will undertake a philosophical excursion into the relation between thought and language. Different views will be described relating to the question of what thought is made of. A terminological clarification will be given and new theoretical constructs will be developed which provide categories for analyzing the views of the parties in the methods controversy. In section 8.2 I will describe and analyze a discussion which figured prominently in deaf education until some fifteen years ago, and which serves as an example of how inconsistent foundations can lead a discussion astray. In section 8.3 the achievements of deaf-deaf children are discussed as well as the explanations given for the better achievements of deaf-deaf children. Sections 8.4 and 8.5 are devoted to abstract thinking and reading of deaf children, respectively. In each section, subsequently, the achievements of deaf children are described and the explanations given for these achievements are discussed. Thereupon, an alternative explanation is given based on a view regarding this problem of determining what thought is made of which I have defended in section 8.1.2. In the final section, section 8.6, I will put forward some proposals for empirical research based upon the alternative explanations given in sections 8.4 and 8.5.

8.1 A philosophical excursion into thought and language

The basic question which will be discussed in section 8.1 is: what our thoughts are made of? This question can be alternatively phrased: in what mental code does thought take place? The relevance of this question for reading and abstract thinking of deaf children may not be clear immediately, but it will be by the end of this chapter.

To start off, it is important to notice that the problem of determining what the medium of thought is is a problem relating to the *mind*, rather than the *brain* . The brain is the physiological substratum of thought. The mind is the place where what in daily language we call 'thought' takes place.

The question "what is the medium of human thought?" is discussed mainly within

philosophy of language, psycholinguistics, and cognitive psychology. To begin with, three different views can be distinguished with regard to this question, namely, an image view, a language view, and an image-plus-language view.

8.1.1 What is the medium of thought? Three views

8.1.1.1 The image view

Philosophers of the seventeenth and eighteenth century like Berkeley and Hume, but especially Locke, in their ideational theory of meaning had an implicit view on what thought is made of (see e.g. Locke's *Essay Concerning Human Understanding* , section 1, chapter 2, book III). For them, words and sentences were marks of ideas, and these ideas were the contents of our minds. An *idea* was a representation in the mind, that is, an *image* of an object existing in the empirical world. For instance, the word 'tree' was supposed to evoke in my mind an image of a tree, it was supposed that before my mental eye I see a tree whenever somebody talks to me about trees, or whenever I myself think of a tree. Language (i.e., words) and thought (i.e., images) thus were supposed to exist and function independently from each other.

This view was a logical consequence of the empiristic epistemology of these philosophers, in which all knowledge has its origin in sense experience. In the nineteenth century psychologists like von Helmholtz and physicists like Mach also assumed that thought consists primarily of images. The word 'image' usually was taken by these philosophers in the literal sense of a visual image, a picture. But this view may be taken to extend to sensorial 'images' in general: when I think of the third symphony of Beethoven, I hear that music with my mental ear, when I think of strawberries I not only see them before my mental eye but I also smell them with my 'mental nose', etc.

The image-view has insurmountable inherent difficulties (Alston 1964, Hacking 1980). For instance, if thought is supposed to be completely sensorial in character, does thinking of a tree, in general, mean having in mind the picture of a specific tree (e.g., an oak in the back yard of the thinker), or does it mean having in mind the picture of a tree in general? If the former is the case, then how can one specific tree (and why *that* particular tree?) be representative for trees-in-general? If the latter is the case, what would such a 'general' tree look like?

Another problem of the image-view is, what I have in my mind when I think about things like 'freedom' or 'multiplication' which are non-pictorial. There is not such thing as a picture of 'freedom' or 'multiplication'. So it is difficult to see how on an image-view general concepts and abstract concepts can be part of thought.

Further, an image-view cannot explain what happens with purely linguistic information like, for instance, 'Paris is the capital-city of France'. What does that sentence evoke in my mind?

These difficulties of the view that thought consists exclusively of images have proven to be so pervasive that nowadays no philosopher advocates this view any longer. However, we will see

in section 8.2 that in deaf education this view has played a part in the background for a long time, and sometimes it still seems to be in force.

8.1.1.2 Language views

In the 19th century, the view that thoughts consist of images was attacked by scientists, for instance Binet, Bühler, and later De Saussure, who maintained that, next to thinking in images, there must be image-less thinking. Empirical evidence showed that there is thinking which does not take place by means of images but in a language-like code. However, they were not very clear about the question in exactly*what* medium this image-less thinking was supposed to take place. This nineteenth-century debate about the medium of thought remained unresolved. Introspection proved to be unreliable: each investigator by means of introspection found exactly the results he had expected to find, that is, those confirming his position in the debate. While the discussion went on, at the beginning of this century behaviorism came up, and a few decades later logical positivism. It soon dominated psychology and during the first six decades of this century the discussion about the medium of thought only simmered (Van Hezewijk & De Vries 1989).

The introduction of the computer revived the idea that thought takes place in a language-like code. The image view was thrown overboard, and was replaced by a language view: thoughts do not consist of images, but of language. Two versions of such a language view were in force. The first assumed that thoughts consist of *public language*, that is, a Frenchman thinks in French, an Englishman thinks in English, and, we might add, a native sign language speaker thinks in sign language. The second version assumed that thoughts consist of 'Mentalese', a special, universal, mental language. The latter view was defended, initially, by Fodor in his *The language of thought* (1975). Later his view was adopted and refined by the so-called 'computationalists', for instance, Anderson (1978), Pinker (1994), and Pylyshyn (1981, 1984). Pinker (1994, 478) defines 'Mentalese' as 'The hypothetical "language of thought", or representation of concepts and propositions in the brain in which ideas, including the meanings of words and sentences, are couched.' According to Pinker, this Mentalese probably looks somewhat like public languages, but it must be richer than public languages in some respects, and simpler than public languages in other respects.

This idea of thoughts consisting exclusively of language, either of a universal language-of-thought or of public language, seems to be the solution for the problems of the image view. Thinking about trees-in-general just means having the word 'tree' (and its definition) in mind, either in a public language, or in Mentalese. And thinking of a specific tree means having expressions like 'the tree in my back yard that has dentate leaves, and is 10 feet high' etc. in mind. Thinking about non-pictorial concepts like multiplication or freedom, means having the word 'multiplication' or the word 'freedom' in mind.

The idea that thinking takes place in a special, universal mental language is the standard

theory among cognitive psychologists and psycholinguists. However, this view also has its problems. Most of these problems stem from the fact that language views are often either unclear or incoherent with respect to how different types of information function in our mind. I will return to this in section 8.1.3.

8.1.1.3 Image-plus-language views

As a reaction to the computationalist view that thoughts consist of a special mental language, and *exclusively* so, some cognitive psychologists like Kosslyn (1982, 1983, 1984), and Shepard (1984), claimed that, next to thinking in mental language, there must be thinking in mental images. Confusingly, advocates of this view are sometimes called 'imagists' (e.g., Faas 1993, van Hezewijk & de Vries 1989), and the debate between them and the computationalists is called 'the imagery-debate'. The reason is not that advocates of such a view attach an extraordinary value to image-thinking and neglect thinking in language. All involved in the discussion about what is the medium of thought agree that there is thinking in language. The disagreement is about whether or not there is thinking in images in addition to thinking in language. Computationalists acknowledge our experience of what they call 'mental images' but they say that these are just an epiphenomenon. They maintain that these mental images are coded in the same, propositional language of thought in which also our other (i.e., linguistic) thoughts are coded, and they deny that these 'mental images' have any special causal effect on our normal linguistic thoughts. The so-called 'Imagists', by contrast, think that mental images are coded in a separate, spatial code and that they can operate separately from, as well as in contact with linguistic thoughts.

We have now distinguished three views on what is the medium of thought: thought consists exclusively of images, or thought consists exclusively of language (either public language or Mentalese), or thought consists of both images and language. These views seem to be rather clear. However, one major obscurity remains, namely, what precisely is involved with the word 'language' here, and, in line with this, what precisely words like 'thought' or 'thinking' and 'Mentalese' mean. In the next section I will try to elucidate this point, introducing a few terminological refinements.

8.1.2 Terminological intermezzo

Most people wouldn't say that prelingual children 'think', because they tend to define 'thinking' as something like 'inner language' or 'silent speech'. However, in trying to define 'thought' or 'thinking', it should be remembered that even very young, prelingual children have the ability to handle information. For instance, the one-year-old who can put a square block in a square hole and a triangular block in a triangular hole, must engage in some kind of information processing,

however simple and of whatever kind, with regard to square forms and triangular forms. Apart from that, precisely this implicit idea that 'thinking' means 'thinking in language' will be under discussion in this section. Therefore, I shall not start from a definition which limits thinking to 'thinking in language'. Very broadly, I would prefer to define 'thought' or 'thinking' as the forming and/or manipulation of contents of the mind.

In daily language the word 'language' refers to the spoken or signed, and by extension to the written or fingerspelled communication systems people use. With respect to reading and abstract thinking, parties in the method controversy do not disagree about definitions of language. However, one aspect of these 'communication systems' should be emphasized, namely, that they consist of certain *forms* , and connected with these forms are certain *meanings*. In chapter 2, section 2.3.1, following Evans & Hicks (1985, 572-573), I have used the word 'language-form', referring to sounds, signs, written letters, or fingerspelled letters. Now, it is confusing that in using the word 'language' we may either refer to these forms only, or to these forms with their meanings. When, for instance, I say 'The English word "hæpi" is written as "happy" ', I am merely referring to the *form* aspect of the English language.

This distinction between the forms of a language and their meanings is important in the framework of the debate about the medium of thought. For if it is claimed that language is the medium of thought, the word 'language' can be taken to mean either the language-forms only, or the language-forms with their meanings. That is, in saying that we think in language, two things can be meant. Either it can be meant that thought consists of these language-forms we use to express meanings. Or it can be meant that thought consists of these language-forms *inclusive of* their meanings. And if the latter is the case, again there are two possible interpretations of the statement that we think in language, depending on what is meant by the word 'meanings'. It can be meant, either, that this thought-language involves only *linguistic* meanings, or that it involves both linguistic and *non-linguistic* meanings. Because of these ambiguities, the whole imagery-debate may turn out to be a pseudo-debate. Therefore, I propose to make a clear terminological distinction between two *forms* of thought namely L-forms and I-forms. In the next section, then, I will paraphrase the three views described above in terms of this distinction. But let me first clarify what I mean here.

On the one hand, our thinking could consist completely of language-forms. That is, the forms of language (spoken, written, signed, fingerspelled) as we perceive them with our eyes and ears would be the single medium of thought. I will call such forms as media of thought '*L-forms* '. On the other hand, our thinking could consist completely of images in the broad sense explained in section 8.1.1.1 (representations of pictures, fragrances, sounds, etcetera). I will call these forms '*I-forms* '.

L-forms and I-forms are two different types of thought-forms, derived from two different types of information (Van Haaften 1979, 86-99). Thus, my knowledge[1] of eggs in so far as it is derived from linguistic descriptions of eggs like 'an egg is oval-shaped, has a shell made of chalk,

within which is a yellow yolk and egg white', is different from my knowledge of eggs which is derived from non-linguistic information like feeling the sticky egg-white, hearing the egg-shell break, or smelling the smell of a fried egg. I can in words render my non-linguistic knowledge of eggs, for instance, to someone who, for one reason or the other, has never seen an egg or heard it break or smelled it when being fried, etcetera. And I can do this fairly accurately, for instance, by saying 'The egg-yolk is round, about the size of a Dutch guilder, is opaque, is dark yellow or sometimes yellow-orange...' etcetera. But all these words 'round', 'the size of a guilder', 'opaque', are only understandable to the person I am talking to when she has I-forms in her mind to connect these words with. Such a linguistic description will always be a reduced representation of my non-linguistic knowledge of eggs. Reduced, because I will never be able to express *exactly* in words or in signs (in whatever spoken or signed language) what an egg looks like, how a breaking egg sounds, or how a fried egg smells, although I am perfectly able to distinguish, without words, the differences between the smell of a fried egg and fried bacon, or between hearing an egg break and hearing a piece of glass break, etcetera.

It is conceivable that someone has a concept[2] 'egg' based on linguistic knowledge only, or that she has a concept 'egg' based on non-linguistic knowledge only, but that wouldn't be the usual type of concepts people have. Most of our concepts are complex minglings of L-forms and I-forms. For instance, most people will have I-forms of dogs (they have seen dogs, have heard them bark, etcetera) but they also have L-forms of dogs (e.g. they have been told in school that dogs are mammals). Surely, there are concepts which consist mainly of L-forms, but even they will always, ultimately, be connected with I-forms[3]. For instance, my concept 'animal' is mainly linguistic, that is, I cannot form a mental picture 'animal', I can only form a mental picture of *particular* animals, for instance particular dogs or birds. But in order to be able to understand what the term 'animal' means, I have to go, so to resort, *via* , for instance, my L-forms 'dog' and 'bird', to my I-forms of dogs and birds. Similarly, there are concepts which consist mainly of I-forms, but they often will be connected with at least one L-form, namely, with the word related to that I-form. For instance, a concept like 'tenderness' for most people will be mainly of the I-form type, as it will be built up mainly out of personal experiences with tenderness or of seeing other people behave tenderly towards each other. However, these I-form type experiences for most people will be connected with an L-form, namely, with the word 'tenderness'.

This distinction between L-forms and I-forms — apart from the terminology being new — is a rather unusual one. In daily life, when speaking about our thoughts, we do not distinguish between what I have called L-forms and I-forms. Nevertheless, as I have argued above, the information leading to, as well as the knowledge contained in L-forms and I-forms, respectively, are quite different, and in sections 8.4 and 8.5 we will see how the distinction may throw a new light on the abstract thinking problem and the reading problem in deaf education. However, before turning to these problems, let me paraphrase the three views described in section 8.1.1 in terms of

the distinction between I-forms and L-forms.

1 Also the word 'knowledge' should not beforehand be defined as being restricted to 'linguistic' knowledge, that is, knowledge derived from purely linguistic information!
2 Again, the word 'concept' should not beforehand be restricted to having linguistic contents. See for an extensive elaboration of this problem Van Haaften 1995.
3 For the moment I set aside the possibility of there being innate concepts.

8.1.3 L-forms and I-forms in the three views

In the image view described in section 8.1.1.1, I-forms are supposed to be the only medium of thought: my knowledge of eggs is non-linguistic. The seventeenth century philosophers who maintained an image view were of the opinion that language is but a poor vehicle for expressing the richness of the mind. In view of the many arguments against it, the image-view is untenable.

What about the view of the computationalists, who maintain that thinking occurs exclusively by means of Mentalese and that our mental images are merely epiphenomena of our thinking-in-Mentalese? Do computationalists assume the existence of both I-forms and L-forms, or do they assume the existence of L-forms only? And what about the view of those who maintain that the medium of thought is public language? Do they assume the existence of only L-forms, or of I-forms as well? It will be clear by now that the answer to these questions is entirely dependent on how they use the word 'language' when saying that the medium of thought is (mental or public) language. If, (I), they use 'language' in the sense of language*forms*, then clearly they assume that there are only L-forms. If, however, (II), they define language as 'language forms plus their meanings', then there are two possibilities. Either, (IIa) they assume that these meanings consist of both L-information and I-information, and thus, they tacitly assume the existence of both L-forms and I-forms as media of the mind, or, (IIb), they assume that these meanings consist of L-information exclusively. Which of the two interpretations is intended, is not clear. For instance, it cannot be inferred from Pinker's definition of Mentalese quoted above ('The hypothetical "language of thought", or representation of concepts and propositions in the brain in which ideas, including the meanings of words and sentences, are couched.'). Moreover, it is possible that different advocates of a language view have different views in this respect. However, if interpretation IIa is meant, then it seems that this position tacitly is a kind of 'imagist' view, that is, it discerns both I-forms and L-forms. This position then needs clarification. For it is difficult to conceive how in *one* code (i.e., Mentalese or public language, respectively), which, furthermore, is propositional in character, both I-information and L-information can be coded while at the same time maintaining the essential characteristics of both types of information. As I have argued above, there is an essential difference between I- information and L-information, and trying to describe, for instance, how a fried egg smells means trying to press this I-form in the mold of a linguistic description, which inevitably means a reduction.

If interpretation IIb of both language views is meant, then these are untenable views, as my

examples of the concepts 'egg' and 'animal' have shown. Thus conceived, language views neglect the valuable part non-linguistic information plays in our thought. As a consequence, such language views cannot account for the first-language-learning of the child unless they assume the existence of a fairly complete innate Mentalese or innate public language. For in order to understand the meaning of, for instance, the word 'ball', the child must attach it to some mental content which must be an I-form acquired in the prelingual stage. On a IIb language view, the prelingual mental content 'ball' would have to be made out of L-forms like 'is round', 'can bounce', 'can get leak', etc. But where could the ability to form such L-forms come from? It could only be innate. Such an innateness-hypothesis, however, is hardly defensible.

To take this objection even further, if the mind contains only L-forms it is difficult to see how human beings are able to understand language *at all*. For if the spoken, written, or signed word 'dog' evokes in my mind the L-form 'dog' in universal mind language or in public language, how can I know what this L-form 'dog' *means* if I do not have any I-forms derived from experiences with dogs to connect this mental word 'dog' to? If this concept of a dog is an L-form, as consistent advocates of a language view would have to maintain, then endless regression is unavoidable: this L-form in its turn must be connected to something in order for me to understand it, and on a language view this again can only be an L-form, etc., etc. So my mind *must* contain I-forms. Of course, not all my knowledge of dogs has to be of the I-form type. Even if I have never seen a dog in real life or on a picture, I can understand more or less what a dog must be. But I can never come to understand a language if I have no I-forms at all.

Let me end this section with two last remarks.

First, imagists, as we have seen in section 8.1.1.3, maintain that thinking occurs both in Mentalese and in images. Apparently, they acknowledge the existence of both I-forms and L-forms.

Secondly, having now concluded that the mind contains both I-forms and L-forms, concepts being complex minglings of I-forms and L-forms, it could be asked whether L-forms consist of public language or of Mentalese. This question has been debated in philosophy of mind during the last decades (see e.g.Sterelny 1983), but since the discussion in the nineteenth century it has always had a language view as its framework, that is, the debate always concerned thinking *exclusively* in public language versus thinking *exclusively* in Mentalese, interpreted as a (perhaps more encompassing) *language*. The view that, next to L-forms, the mind contains I-forms, puts the arguments pro and con in a different light[4]. This discussion, however, can be left aside here, as it does not make much of a difference for the abstract thinking problem and the reading problem in deaf education.

In the next section I will discuss a debate, pursued most fiercely some twenty-five years ago, which illustrates how presuppostions with respect to the medium of thought have led parties in the

method controversy astray.

4 Van Haaften & Tellings, in preparation.

8.2 The linguistic status of sign language and the influence of sign language on cognitive development: presuppositions of an outdated debate

8.2.1 The discussion between Oralists and Manualists

For the greater part of the history of education of the deaf, educators, and also deaf people themselves (Charrow & Wilbur 1989, 109) have considered sign languages to be primitive and/or defective languages. Although in the past sign languages have been used in educating the deaf, which has lead to fierce discussions between advocates and adversaries, even the advocates often considered them a necessary evil (Reagan 1989). Sign codes were somewhat less contested because they follow the order of spoken language. However, real scientific discussion about the linguistic status of sign languages started only at the end of the 1960s, when an American linguist named William Stokoe began to investigate American Sign Language (ASL, Stokoe 1960, 1972). A basic question was whether sign languages of deaf people are 'genuine' languages. This question was debated heavily in the field of deaf education because of the supposed close relationship between language and thought.

Oralists, before as well as after Stokoe's investigations, asserted that a defective and limited language (as sign languages were assumed to be) leads to defective and limited thinking. They had three main objections against sign languages, which largely also applied to sign systems (Breiner 1986a, 95-101, Breiner 1986b, Diller 1987, Gipper 1981, 1987, Hogger 1992, Oléron 1987, Van Uden 1990). First, signs in sign languages were thought to be simply pictures of their referents. For instance, in ASL the sign for 'eat' is performed by bringing one hand to the mouth with the thumb touching the stretched fingers, as if holding something and eating it. By contrast, the sounds of the *spoken* word 'eat' are unrelated to the activity of eating. Consequently, signs were supposed to be overly tied to concrete objects, and, for this reason, the child was said to acquire a concrete rather than an abstract way of thinking. Secondly, the global, pictorial character of signs allegedly did not, like words do, admit of analysis into a limited number of parts which generate a great number of combinations according to a fixed set of grammatical rules. In other words, sign languages were supposed to lack any real linguistic morphology and syntax. This global, holistic character of signs was again supposed to keep deaf childrens' thinking limited to the concrete. Thirdly, Oralists maintained that the vocabulary of sign languages is poor and incomplete, and that it contains very few synonyms, homonyms, metaphors, and other forms that make spoken languages so rich. Therefore, children's language usage and children's thinking was supposed to

remain rigid and poor.

Manualists usually did not contest the underlying views of the Oralists' position with regard to the close relationship between language and thought. Before Stokoe's investigations Manualists, at the worst, saw the use of sign language or a sign system as a necessary evil, at the best they thought that the addition of spoken language to a sign system (remember that in most cases a sign *system* was used in combination with speech) could compensate for possible weaknesses of the sign system. Later, supported by the research on sign languages of Stokoe and his colleagues, they disagreed with the aforementioned Oralists' factual assertions about sign languages (e.g., Evans 1982, Klima & Bellugi 1979, Kyle & Woll 1985, Stokoe 1987, Tervoort 1986).

Stokoe showed that sign languages do have genuine linguistic phonemes[5], morphemes, and a syntax. These are, however, of a different kind than in spoken languages. A sign in a sign language can be characterized by three main parameters: the hand configuration, the place of articulation, and the movement. In addition, there are some more meaning-giving parameters, for instance, the orientation of the sign, the quality of the movement, and face expression. Many signs do have an origin based on a globalizing nomination, but with the development of the language they have transformed into entities with a real linguistic morphology and with a sub-morphological phonology, and in the mind of the sign language user they function as such. The latter has been shown by sophisticated experiments, for instance, experiments eliciting signers to make 'slips of the hand' and then analyzing what *kind* of slips of the hand they make (e.g., Klima & Bellugi 1979). Meaning is built up by sign-morphemes, just as much as words are. By the same token, although signs often find their origin in a pictorial representation, research has shown that this pictorial origin plays virtually no part in thinking. Studies fail to show that the pictorial representation of signs does have a negative influence on acquisition, production, perception, or recollection of signs in deaf testees. Sign language, according to Manualists, can be as rich as spoken language in all respects. If particular sign languages are relatively poor now, this is because they have been suppressed for so long, and they will develop when they are allowed to be used. Sign language does not seem to have negative effects whatsoever upon the cognitive development of the child.

Nowadays, after thirty years of sign language research, the acceptance of sign languages as real languages seems to be almost complete in the USA (but see Woodford, 1987). In Europe, most Oralists admit that sign languages are real languages, but a small number of Oralists still are hesitant about this (e.g., Diller 1987, Gipper 1981, 1987, Gschwind 1989, Hogger 1992, Oléron 1983, 1987, Van Uden 1986c, 1990). In the next sections I will argue that the Oralists' view on the influence of sign language on thinking described here is unwarranted because some of the philosophical presuppositions it rests on are untenable.

5 It may seem to be somewhat strange to use the words 'phonology' and 'phoneme' in connection with visual-spatial languages, since they have a clear connotation of having to something to do with sounds. However, in sign language research these terms are preferred because of the theoretical and structural parallells between spoken languages and sign languages in this respect (Loncke, 1986, see also Hanson 1989, 86).

8.2.2 Views of what mental contents consist of underlying the Oralists' position

It will be clear that in the above described position of Oralists with respect to sign languge and its influence on cognitive development, which is now held only by a handful of Oralists, a very close connection between language and thinking is implied. Some Oralists have been quite clear about this. Van Uden (1986b, 106), for instance, advocates a language view when he says 'Das Grundprinzip ist das folgende: Jeder *denkt* in der Sprache, in der es der Umwelt gelingt, mit ihm ins Gespräch zu kommen.' [6] (emphasis by Van Uden). And Northcott (1981, 170), emphatically asks parents to ask themselves, 'Do I want my child to think in *words* or in *signs* ?'. This thinking exclusively in language was not only conceived of as an empirical fact, it also was the ideal Oralists strived for. Sign languages were supposed to create thinking in pictures, and this thinking in pictures was viewed as undesirable (see, e.g., Breiner 1986b, 81, Hogger 1992, Van Uden, 1986, 105, 113).

The line of thought with regard to the thought-development of the (deaf) child, implied in the Oralist argument described in section 8.2.1, can be reconstructed as follows. Every child, hearing and deaf, thinks in pictures in the prelingual stage. This is a very primitive kind of thinking which is replaced by the more sophisticated thinking in language as soon as the child acquires her first language. If, however, this first language is a sign language, the primitive pictorial thinking of the child goes on and is reinforced.

In the light of the view on what thought consists of defended in section 8.1, we can now see that this conception of the development of thinking in the child is too simplistic, and is inconsistent.

On the one hand it seems that the anti-sign language argument of these Oralists was based on an image view, that is, with regard to the prelingual child and the thinking of the native sign language user. The thinking of both was conceived of in somewhat the same manner as the philosophers of the eighteenth century conceived it: the 'pictorial mind' is like a slide-projector in which pictures appear in a non-language-like order. However, in contrast to the eighteenth century philosophers, in the Oralists' argument this pictorial thinking is conceived of as an inferior kind of thinking which should be abandoned as soon as possible and be replaced by thinking in language. In the previous sections I have argued that pictorial, that is, non-linguistic thinking, is a necessary basis without which language learning is not possible at all. Oralists seem either to not have thought about the possibility of the child manipulating these 'pictures' with the help of innate structures, or they have underestimated this possibility. On the other hand, with regard to the post-lingual child, Oralists held a language view: the post-lingual child thinks exclusively[7] in public language. We have seen that both an image view and a language view have very serious difficulties and that they reduce thinking considerably. Setting aside the question of whether these Oralists had a correct view of the potentialities of sign languages as *languages* , it can be said that they made a double reduction: on the one hand they underestimated the active role of the prelingual

child with respect to her thinking, on the other hand they reduced mental contents to linguistic mental contents and they neglected the important part non-linguistic mental contents play in acquiring and understanding language.

6 The basic principle is the following: Everyone *thinks* in that language in which her environment succeeds in communicating with her.'
7 It is theoretically possible that Oralists held an image-plus-language view. However, nothing in the literature indicates this, and if they did advocate some sort of image-plus-language view, they seriously underestimated the function of non-linguistic mental contents.

8.3 The achievements of deaf-deaf children

There is one group of deaf children who in almost all aspects of development achieve better than the average deaf child, and these are deaf children of deaf parents ('deaf-deaf children'). This fact is especially striking since deaf-deaf children come in general from families with lower socio-economic status than deaf-hearing children. Time and again this has been shown since the first studies comparing deaf-deaf with deaf-hearing children, in the early 1960s. Better results of deaf-deaf children as compared to deaf-hearing children were found by Quigley & Frisina (1961) with respect to vocabulary, by Stevenson (1964) with respect to general educational achievement, by Serwatka & Fetsko (1983) with respect to spelling, by Stuckless & Birch (1966) with respect to reading comprehension and written language, by Weisel (1988) with respect to emotional adjustment and reading comprehension, by Meadow (1967, 1968), Vernon & Koh (1970), Brasel & Quigley (1975), Jensema & Trybus (1978), Dolman (1983), Kampfe & Turecheck (1987) with respect to reading comprehension. By contrast, Parasnis (1983) compared deaf-deaf college students with deaf-hearing college students and found no significant differences with respect to reading skills. Kampfe (1989) suggests that this may be due to the subjects forming a very homogeneous group with respect to level of education. Zwiebel (1987) found that deaf-deaf children scored better than deaf-hearing children on two intelligence tests and a teacher rating of their intellectual potential. With regard to the abstract thinking problem which will be discussed in the next section, it is noteworthy that in the latter investigation it was found that deaf-deaf children performed significantly better than other deaf groups on the analogies subtest of the SON (a widely used, non-verbal intelligence test).

Different explanations have been given for the better results of deaf-deaf children. The most obvious explanation, put forward especially by Manualists, seemed to be the alleged fact that deaf parents use sign language or a sign system with their deaf children from birth onwards, whereas hearing parents either use only oral communication throughout the entire education or combine oral communication with a sign system, starting the use of signs with their deaf child relatively late. Oralists, by contrast, maintained that it wasn't early sign communication that was the

explanatory variable, but rather the fact that deaf-deaf children are born in an environment where deafness is normal and the birth of a deaf child is not seen as a disaster — that is, the better social-emotional environment causes deaf-deaf children to achieve better (Broesterhuizen, Van Dijk & IJsseldijk 1981, Lynas, Huntington & Tucker 1988, 11). The latter explanation never has been investigated, probably because this is hardly possible. However, there have been several attempts to verify or disprove the former explanation.

Jensema & Trybus (1978) explicitly asked deaf parents of deaf children which type of communication they used; they found that families with two hearing-impaired parents primarily used signs with little speech as a means of communication, whereas families with one hearing-impaired and one hearing parent primarily used speech with little sign communication. Jensema and Trybus conclude that type of communication (i.e., speech and signs in different degrees) have little relationship with reading achievement and vocabulary in deaf children.

Dolman (1983) found that deaf children with an ASL-background were better in syntactic comprehension of spoken English than deaf children with a manual English[8]-background. Dolman thinks, however, that it is not the sign language background that is responsible for this difference but rather the fact that the ASL-children had parents who signed *consistently* with them, whereas the parents of the manual English children signed less consistently.

Weisel (1988) compared deaf-deaf children and deaf-hearing children who all had a genetic cause of deafness. He found that the deaf-deaf children do better on reading comprehension, emotional adjustment, self-image, and motivation for communication, and concluded that it was not the genetic cause but the manual environment that was the explaining variable.

Kampfe (1989) analyzed the relationship between reading comprehension achievements of prelingually deaf adolescents from *hearing* parents (some of whom used manual communication means with their deaf child) and various aspects of maternal communication, in order to find out whether the better achievements of deaf-deaf children can indeed be accounted for by the fact that their parents use manual communication with their deaf children. Hearing mothers were asked what kind of communication (oral, manual, or a combination) they used with their deaf child and, if they did use some form of manual communication, at what age (before or after five years old) they began manual communication use. No relation was found between reading comprehension skills and means of communication of these hearing parents, nor between reading comprehension skills and age of the child when the mother began to sign. A relation was found between signing skill levels of the mothers and reading comprehension skills of their deaf children. Other studies (Corson 1974, Morrison 1982) found similar results.

Zwiebel (1987), in the investigation mentioned above, tryed to single out heredity as a determining factor. He compared three groups of deaf children and a group of hearing children (ages 6-14) with each other. The three deaf groups consisted of a group of children with deaf parents and deaf siblings, a group of children with hearing parents and deaf siblings, and a group of children with hearing parents and hearing siblings. Zwiebel reports that deafness of the first two

not caused by heredity. Zwiebel also reports that children in the first group had a manual communication environment, that children in the second group had a manual-plus-oral environment, and that children in the third group had an oral environment. Whether or not these are mere assumptions or verified facts is not entirely clear. He found the first group (deaf parents-deaf siblings) to achieve as good as the hearing control-group on two formal intelligence tests and on teachers' ratings of their intelligence; the second group (hearing parents, deaf siblings) and the third group (hearing parents, hearing siblings) achieved equally well in comparison to each other, but less well than the first group. However, since the children in the second group were of a significantly lower socio-economic level than the children in the third group, Zwiebel concludes that the little manual communication that the children of the second group were exposed to helped them to achieve better. Also, he draws the overall conclusion that not heredity but manual communication causes deaf-deaf children to achieve better than deaf-hearing children.

Even more surprising is the finding that deaf-deaf children score higher on the Performance part of IQ-tests than both deaf-hearing children and hearing children (Kusche, Greenberg & Garfield 1983, Ray 1982). However, Conrad & Weiskrantz found that deaf-deaf children did as well as deaf-hearing children on an IQ-test, with both groups having a genetic cause of deafness, implicating that manual communication is not decisive. They also found that hearing children did not do better than deaf children of hearing parents, suggesting that the better 'nurture' that hearing children get is not decisive either.

8 i.e., a sign system.

8.4 The abstract thinking problem

8.4.1 Abstract thinking in deaf children. Four stages[9] of thinking about intelligence and deafness

The expression 'abstract thinking' means thinking that is more or less independent of the direct perceptible reality around us. The expression can refer to the ability to use abstract concepts concerning either things that do not exist (e.g., dwarfs), or things that can not be pictured (e.g., a thousand-angle) or things that are non-spatial (e.g., concepts like 'freedom' or 'syntax'). 'Abstract thinking' can also mean the ability to perform thinking which requires the complex manipulation of abstract concepts. For instance, to be able to extract the root of nine (in mathematics), a child has to know the concept of multiplication, which is an abstract concept, and it has to be able to reason back from the answer on a multiplication-task to the task of square root extracting itself. In this chapter I refer to the latter meaning of the expression 'abstract thinking'.

this chapter I refer to the latter meaning of the expression 'abstract thinking'.

Research on intelligence, especially on abstract thinking, in deaf children has been executed since the first decades of this century. Moores (1987a) and Quigley & Kretschmer (1982) distinguish three stages in this research, each stage characterised by a different conceptualization of the relation between intelligence and deafness.

Until about the middle of this century deafness was supposed to cause inferior intelligence in all respects because of the alleged lack of an internal language, which was seen as a necessary requirement for the development of (abstract) thinking. Investigations seemed to confirm that the deaf were intellectually inferior to the hearing. The most well-known representatives of this view were Pintner and his collegues (see Pintner, Eisenson & Stanton 1941).

Then there came a shift in views on deafness and intelligence. Intelligence of the deaf was no longer seen as inferior in *all* respects. Where relatively 'concrete' tasks were concerned intelligence of the deaf was seen as equivalent to that of the hearing, but with regard to more 'abstract' tasks intelligence of the deaf was seen as inferior to that of the hearing. Canabal (1970), for instance, compared a group of 40 hearing-impaired children between 9 and 12 years old with a similar group of hearing children on four different tests of analogy items. He found the 9 years old hearing-impaired sub-group to be behind the 9 years old hearing sub-group on three tests, whereas the 10-to-12 years old hearing-impaired sub-group was behind the 10-to-12 years old hearing group on one test. However, the hearing-impaired group did not consist of deaf children only, also hard-of-hearing children were included (hearing-loss was 65 dB or more). This intellectual inferiority was thought to be caused by a combination of, again, the lack of internal language, plus a different organization of experiences caused by deprivation of the hearing sense. Myklebust (1964) was the most influential exponent of this view. Both the first and the second stage in thinking about intelligence and deafness start, as Paul & Quigley (1994) formulate it, from the paradigm 'language dominates thinking'.

Today, in deaf education views on deafness and intelligence are determined by the paradigm 'thinking dominates language', as Paul & Quigley (1994, 70) call it, and this started with Furth (1973). He maintains that intelligence of the deaf should be seen as essentially normal, that is, as equivalent to that of the hearing. If there are found differences in intelligence between the deaf and the hearing, these are accounted for by linguistic, cultural, environmental, and task differences. Many of the earlier investigations are thought to be contaminated by a language bias, that is, language skills and abstract thinking skills of deaf children have been insufficiently distinguished. Furth & Youniss (1971) conclude that there are no differences in abstract thinking skills between the deaf and the hearing from the fact that, in an investigation they executed, the deaf handled abstract thinking tasks in way similar to that of the hearing, although the hearing performed better.

Paul & Quigley (1994) distinguish yet a fourth stage in thinking about deafness and intelligence, defended especially by Lane (1993a), in which the whole idea of a separate psychology of deafness is seen as the result of a colonialist view of the hearing with regard to the

deaf. They conclude that the question of whether or not there is something like a special psychology of the deaf is still open to discussion.

Recent investigations still show differences in cognitive abilities of the deaf, even when biases have been accounted for as far as possible. One recent and most important investigation has been done by Laros & Tellegen in 1984/1985 (Laros & Tellegen, 1991). They tested almost all (N=768) deaf children in the Netherlands between 6 years 2 months and 14 years 10 months with the newest, revised edition of the SON, a famous and widely used non-verbal intelligence test. They compared the results with the results of hearing children of the same age, tested in the same period with the same test. After having excluded children with additional handicaps and non-native Dutch children[10], there remained an over-all IQ-difference of 4 points between deaf and hearing children, a difference that was related mainly to the two abstract reasoning subtests 'Categories' and 'Analogies'. Deaf children scored 5,8 IQ-points less than hearing children on the Categories-subtest, and 8,5 IQ-points on the Analogies-subtest. Also, there turned out to be a relatively high correlation between achievements on these two subtests and achievements on a (separately administered) written language-test.

Enlightening research has been executed by Zwiebel (1991). By means of factor analysis he investigated the development of the intellectual structure in deaf children between 6 and 18 years old and compared it with that of hearing children of the same age. Seven subtests of the SON (in an older version than the one used by Laros & Tellegen) were administered to them. He found that initially (between the ages of 6 and 9) there is a significant structural difference between the deaf and the hearing. Hearing children show a more organized structure and they seem to rely more on abstract thinking and on linguistic processing of the visual stimuli of the SON, whereas deaf children show a weak abstract thinking component accompanied by a strong perceptual factor. However, the older the children got, the more the deaf children handled the tasks in a way similar to the way hearing children did. Zwiebel concludes that the structure that emerges in hearing children from an early age onwards, emerges in the deaf only at an age of 13 to 15. A relatively strong perceptual component exists in hearing children only at a young age, in the deaf it persists until about the age of 13. At the end of development, at age 18, the deaf and the hearing show a similar intellectual structure. Zwiebel says nothing about the actual performance of both groups at the end of development, he only speaks of qualitative differences between the intellectual structures of both groups.

So recent investigations have yielded two important findings. First, even when language biases and other biases are excluded as much as possible, deaf children still seem to show a lag in the development of categorizing and analogical reasoning. Although the difference between hearing children and deaf children is not very large, it seems to exist and it demands explanation. Second, intellectual development of deaf children seems to follow a path that is different from that of hearing children, although at the end of development these paths draw near again. Deaf children seem to depend for a much longer time on perceptual processing of abstract thinking tasks whereas

hearing children depend from an early age more on linguistic processing of such tasks.

9 The use of the word 'stage' here is not quite correct, to my opinion. It suggests a hierarchical and logical order which does not exist in this case, or at least it is dubitable whetehr it exists. However, I follow the terminology of Moores, Quigley 7 Kretschmer, and Paul & Quigley here.
10 Deaf children whose parents speak a language other than the language of the school have extra difficulties so they can bias the results.

8.4.2 The four stages of thinking about abstract thinking of the deaf reviewed

In the foregoing section I have described four stages of looking at the intelligence of the deaf.

The view of the *first* stage ('intelligence of the deaf is inferior all along because they lack an inner language,which is a necessary requirement for the development of thinking') has been refuted by the facts: along with the improvement of the tests, especially with removing language biases from them, intelligence of the deaf as measured in the tests proved to approach that of the hearing more and more. This shows, either, that the deaf do have an inner language comparable to that of the hearing, or, that such an inner language is not necessary for the development of thinking, or at least not as necessary as representatives of the first stage have thought. However, the opposite view, that of the *third* stage ('intelligence of the deaf is completely similar to that of the hearing, differences can be attributed entirely to linguistic, cultural, environmental, and task differences'), seems to be refuted by empirical evidence as well. The research of Laros & Tellegen, which has been carried out fairly recently,with a fairly great N (N=865), and with several potential biases removed, shows that deaf children perform less well than hearing children on two abstract thinking tasks, categories and analogies. But Zwiebel's investigation is especially important; it has shown that intelligence of the deaf develops along lines different from that of the hearing. The view of the *fourth* stage, that all psychological differences between the deaf and the hearing are a result of the colonialist view the hearing have towards the deaf seems to be refuted by Zwiebel's investigation as well, at least as far as the development of abstract thinking in deaf children is concerned.

Zwiebel concludes that his results partly lend support to the view of the *second* stage, that is, Myklebust's view that deprivation of the auditory sense and concentration on the visual channel can explain the slower development of a linguistic component and the strong existence of a perceptual component in deaf children's thinking. However, Zwiebel maintains that his findings only partly support Myklebust's view, because at the end of development deaf children and hearing children have a similar intellectual structure. Myklebust's view, as we have seen, seems to be based on the 'language dominates thinking' paradigm. However, he emphasizes the role of sensorial input and says 'When one type of sensation is lacking, it alters the integration and function of all of the others. Experience is now constituted differently, the world of perception, conception, imagination, and thought has an altered foundation, a new configuration.' (Myklebust 1960, 1).

So we can conclude that from the four described views, three seem to be refuted by recent empirical investigation, whereas one, the view of the second stage, seems to have gained some ground. In the next section I intend to argue that Myklebust's hypothesis — although it emphasized the role of language too much and understimated the role other senses can play in compensating for the hearing loss — comes closest to giving a plausible explanation for abstract thinking achievements of deaf children, not only because of the just mentioned empirical evidence but also because of theoretical considerations based on an I+L view, which seem to be supported by the empirical research results described in this section.

8.4.3 A plausible explanation for the abstract thinking achievements of deaf children based on an I+L view

In section 8.1 I have, on strictly theoretical grounds, refuted an image view and a language view and I have argued for an I+L view. In this section I intend to show that both categorizing and analogical reasoning in itself, *and* the different development deaf children show with regard to these types of reasoning, can be understood only when starting from an I+L view. I will first give an analysis based on an I+L view, and then make some remarks with regard to the explanatory shortcomings of the image view and the language view.

Let's first look at what sort of cognitive abilities are required for a deaf child to perform categorizing tasks and analogical reasoning tasks. I take as a point of departure the way these tasks are offered to the deaf child in intelligence tests, that is, such that the child can understand and perform the task without linguistic instruction from the adult and without the necessity to speak herself.

Categorizing can be done on a fairly simple or on a more complex level. Friedman (1984) distinguishes between categorizing on the perceptual level (e.g., sorting blocks by color, by shape), on the basic level (e.g., sorting out the toy dogs from a pile of different toy animals), and on the superordinate level (e.g., sorting out toy chairs, toy tables and other pieces of furniture from a pile of toy objects). To be able to divide a pile of colored blocks into three smaller heaps containing red, blue, and yellow blocks, respectively, a child must know[11] the colors red, blue, and yellow and she also must be able to grasp the idea of 'sameness', but she doesn't necessarily need to be able to *label* a red block as 'red' and a blue block as 'blue', that is, she does not necessarily need to have L-forms.

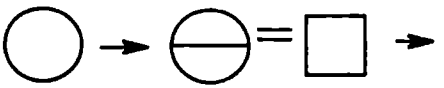
Somewhat more difficult is a task at the basic level in which dogs must be sorted out from other animals. The child then must be able to refrain from differences in color, shape, size, etc., and to grasp what are the relevant similarities, in this case, that they all bark. This will be much easier for the child when she knows the appellative or the sign for 'dog', that is, when she has an L-form 'dog'[12]. The child's cognition of a block or a dog initially will be based on I-forms entirely but as soon as language develops, it will be based on a mixture of I-forms and L-forms.

It is even more difficult to sort out chairs, tables, and cupboards as 'furniture' at the superordinate level. Again, the child must know what a chair, a table, and a cupboard are, and she must see that these have something in common. However, the common property now is not a visual characteristic like color, or a property like 'bark', but a characteristic, not directly perceptible, that has to do with what these objects are used for: they are aids for the things we do in the house or in the office, but they are not aids in the sense of 'tools' or 'equipment'. When thinking about 'furniture' there is no common I-form the child can evoke, she can only think of concrete *pieces* of furniture (i.e. a chair, or a table, or a cupboard). The child can only have an L-form 'furniture'. But she can *understand* the word 'furniture' only *via* her L+I forms of concrete objects like chairs, tables, and cupboards. We could say that words like 'furniture' are a kind of language-about-language, the latter 'language' being about things in the world. Or, to rephrase it in terms of I-forms and L-forms: words like 'furniture' correspond to L about L+I forms.

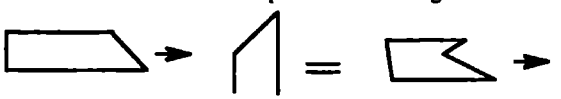
Based on the above analysis we can re-name what Friedman calls 'perceptual', 'basic' and 'superordinate' categorizing with names emphasizing the sort of mental forms that are required for the different levels of categorizing. At the lowest level there is *I-form categorizing*, that is, categorizing for which only I-forms, for instance of color or shape, are needed. At the intermediate level there is *I+L form categorizing*. In this type of categorizing I-forms are required for recognizing specific characteristics that differentiate one item (e.g., a dog) from another item (e.g., a goose, a bird, a horse), but, moreover, *L-forms* are required for disregarding irrelevant properties and for formulating general concepts like 'dog'. At the highest level we find *L about L+I form categorizing*. Just like in I+L form categorizing, I-forms and L-forms are needed to differentiate, for instance, chairs and tables from bicycles and cars, and to formulate general concepts like 'chair' and 'table'. But besides that, an L about L+I form, in this example 'furniture', is required. It will be clear that it requires an adequate command of language to be able to formulate such L about L+I forms.

In analogical reasoning tasks, a pair of two different pictures is usually shown to the child, plus the first picture of a second pair. The child then has to complete the second pair by choosing a picture out of a row of four or more pictures. The child is supposed to see that the first two pictures stand in a certain relation to each other (the second picture is a transformed version of the first picture), and the second pair then must be completed in such a way that its pictures represent a similar relation. This is something the child must see at any level of analogical reasoning, simple or complex (see note 12). However, as I will argue below, apart from this, different abilities are required at different levels of analogical reasoning.

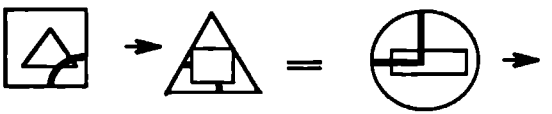
In the Laros & Tellegen research analogies with geometric pictures were used. They distinguish eleven difficulty-levels of analogical reasoning. Here, I will give an example of the easiest level, and intermediate level, and of the most difficult level. At level 1 the child must complete the following row:



At level 7 the child must complete the following row:



At level 11 the child must complete the following row:



(Laros & Tellegen 1991, 141, the third item in each example is not given by L&T but has been put in by me)

Laros & Tellegen list the following factors as influencing the difficulty of analogy test items: the complexity of the transformation, the number of transformations performed on the first picture, the number of basic elements out of which the first picture is constructed, the amount of difference between the first and the second picture, and the plausibility of incorrect alternatives.

Let us take a closer look at what is involved in analogy reasoning in the three examples given here, with respect to mental forms. The first example, that of an empty circle, a circle with a stripe, and an empty square, requires that the child can generate an I-form of a circle, a stripe, and a square. This could be performed without having the disposition of L-forms. If the child recognizes that the first figure is a circle without a stripe, and the second is a circle with a stripe, and the third figure is a square without a stripe, she can infer that the fourth picture must be a square with a stripe (provided that she grasps the idea of an analogy which, as I have said, is required for all types of analogy).

In the second example, the child must see that in the second figure the first figure has been turned 90 degrees to the left and is cut in half, after which the upper half of the figure is displayed. Performing all these mental operations probably will be much easier when the child has labels for these transformations. But apart from that, for all of these transformations the disposition of 'L about L+I' forms like 'left-right' and 'half' makes the task easier .

In the third example even more, and also more complex[13] performations are required. The child has to take in account the characteristics shape (three different shapes within one picture),

place with respect to each other (in the second picture the rearmost shape of the first picture is brought to the front), left-right placement (with respect to the dark coloured bow), *and* she must see that she must disregard the size of the shapes. Again having L-forms for labeling all these different aspects will be a great help. But moreover, 'L about L+I' forms are required here. For in order to be able to disregard the size of shapes, the child must have a general ('L about L+I'-form-type) concept of (in this case) 'square', 'triangle', 'circle' and 'square'.

If we start now from the assumption that the spoken language most deaf children acquire, for several years is highly denotative in character, that is, that deaf children mainly acquire words that refer to concrete perceptible objects, then the lag deaf children have with regard to abstract thinking tasks is comprehensible on the basis of the analysis given above. Not just the slowness of their spoken language development, but much more the quality of the spoken language they acquire during a period of several years may cause deaf children to form mainly I-forms and relatively simple I+L forms. It is highly probable that deaf children form relatively few 'L about L+I' forms. But, more importantly, these I+L forms and 'L about L+I' forms are not so richly and deeply embedded in an abundant language base as they are in hearing children and in deaf-deaf children who are native sign language users. In hearing children and in deaf-deaf children, from about six months of age I-forms are connected with a rich variety of L-forms because their parents are using language in their contact with them. This is entirely in contrast to the situation of deaf children of hearing parents who for several years (i.e. until deafness is detected, until hearing aids are fitted, until parents have overcome the first shock and grief, until parents have found a right way to communicate with their child) only see their parents move their lips without having the faintest idea of what this means.

The above described investigation of Zwiebel confirms that deaf children's mental contents are mainly sensorial for a much longer time than those of hearing children. Without these L about L+I contents it is very difficult to categorize at what Friedman has called the 'superordinate' level and what I have analyzed as the 'L about L+I form' level. Similarly, complex analogical reasoning tasks, for which high-level categorizing is a condition, are very difficult to perform when L about L+I forms are lacking.

From the analysis given above it is now also quite understandable why deaf-deaf children who have a sign language as their mother tongue perform much better on these tasks. Investigations show that they have a command of sign language which is about as good as the command of spoken language hearing children of the same age have. In contrast to the deaf children of hearing parents, they clearly have been able to form a rich inventory of linguistic contents of the 'L about L+I' form type, the only difference being that these 'L about L+I' contents do not consist of spoken language but of sign language.

11 'Know' in this respect and in the rest of this paragraph means 'know how', not 'know that' (Hospers 1989, 143).
12 One may wonder whether it would not suffice if the child has a pure sensorial cognition 'dog', just like a pure sensorial cognition of 'red' and 'blue' is enough to separate the red blocks and the blue blocks from a pile of blocks.

This is the idea of the eighteenth century philosophers I mentioned in footnote 3. If we try to imagine what such a general sensorial cognition 'dog' would look like, that is, independent of all irrelevant properties as color, size, curled or straight hair, etcetera, we see that this is impossible.
13 More complex because bringing the rearmost shape to the front is a kind of three-dimensional transformation whereas the rotating to be performed in the second example is two-dimensional.

8.4.4 Conclusion

I will end this section about abstract thinking in deaf children with two comments. First, I discuss why, in my opinion, abstract thinking of deaf children never has been viewed from the above described perspective. Second, I will return once more to the above mentioned investigations of Friedman and Zwiebel.

Investigations into the spoken language acquisiton of deaf children have mostly been of a quantitative nature. Few investigations have looked at qualitative aspects of deaf children's language development, that is, at the *sort* of words deaf children acquire[14]. In my opinion this is caused by the fact that investigators, and educators of the deaf, have failed to consider the foundations of their efforts. If they had done this, they probably would have seen that an image view and a language view each has serious shortcomings both in itself, *and* with regard to abstract thinking tasks. On an image view or a language view abstract thinking is not comprehensible. Similarly, without an analysis of abstract thinking in the framework of an I+L view, the idea of inquiring the qualitative language development of deaf children will not come up so easily. Perhaps the analysis give above opens some windows on new hypotheses for empirical research.

Friedman compared a group of hearing children with a group of oral deaf children with regard to their performance on the three types of categorizing described above. The deaf children performed below-average on a receptive vocabulary test administered beforehand. She found that the deaf group in a first trial performed less well than the hearing group with regard to the highest level of categorizing. However, she also found that the deaf performed as well as the hearing children did in a third trial. In the first and the third trials the subjects were encouraged to sort the objects as they thought it to be appropriate, while in the second trial the test leader placed one example of each category in a separate basket and the children then started to sort the remaining objects. Each time the child sorted an object incorrectly, the test-leader corrected the child by placing the object in the right basket. Friedman concludes that deaf children, with adequate help, can learn and can compensate for their lack of spoken language. She also concludes that categorizing can be performed on a poor language basis, although language makes categorizing much easier. Although Zwiebel found that deaf children and hearing children pursue different paths in their intellectual development, he also found that in the end both groups show a similar intellectual structure. Such findings have led educators of the deaf to trivialize the lag deaf children have with regard to abstract thinking tasks (in section 8.4.1 I mentioned Furth & Youniss, 1971, who did this). But such a trivialization is unjustified. Even when the deaf at the end of development achieve similarly to the hearing on abstract thinking tasks, it still can be the case that

their initial lag which, as the Laros & Tellegen investigation has shown, persists at least till they are almost fifteen years old, has its influence on other, more important areas of development, for instance, reading. Reading achievements of deaf children are the subject of the next section. We will see that a similar explanation to that which I have given with regard to abstract thinking of deaf children can be given for the reading problems of deaf children.

14 With respect to reading achievements of deaf children there has been some qualitative research done. However, one specific type of qualitative research-question in this area has also been neglected. I will return to this in the next section.

8.5 The reading problem

8.5.1 Reading comprehension achievements of deaf children. Explanations and solutions

Perhaps the most discussed problem in deaf education nowadays is the reading problem. Despite decades of scientific research and improvements in didactics and technology, the majority of deaf children and deaf adults do not read adequately. Clements & Prickett (1986) state that one-third of the deaf population is functionally illiterate, and that the majority of deaf children cannot read past the third or fourth grade level. Reynolds & Booher (1980) describe research done in the early seventies showing that deaf eighteen-year-old non-college students have a reading comprehension level averaging at grade level four. Allen (1986) compared results of a reading comprehension test done with norming samples of deaf American students in 1974 to one done in 1983. In 1974 the average reading level of eighteen-year-olds was at the equivalent to grade 2.80 in normal hearing students; in 1983 it averaged at a level equivalent to grade 2.90 in normal hearing students. The 1983 results showed a clear plateau in performance at the age of 15 at the third grade level, continuing through the age of 17, after which results lowered to somewhat beneath third grade level. The 1974 results showed that deaf students reached a level somewhat beneath third grade at the age of 18. After that age results were not measured any longer. According to more recent data published by the Center for Assessment and Demographic studies (1991), the average American deaf adolescent reads with the comprehension of a hearing child in the early months of third grade, and only 3% of deaf adolescents read at a level that equals or exceeds the level of the *average* hearing eighteen-year-old. Schaper (1991, 5) puts the results of five different investigations into the reading achievements of deaf children in a diagram. At the age of seventeen-and-a-half, achievements ranged from a level similar to the level of hearing nearly-eight-and-a-half-year-olds to hearing nine-year-olds (thus probably corresponding to about third grade level). Schaper concludes that there is no clear plateau-effect in these five investigations 'in tegenstelling tot hetgeen nogal eens over de leesvorderingen van doven is gezegd'[in contrast to what is sometimes said about

reading achievements of deaf children]. However, since the subjects in these investigations did reach this third grade level only at the age of seventeen-and-a-half, and since their performances at an older age were not investigated, from these investigations no judgement can be made about a plateau at third grade.

In some investigations more positive results have been found. Hanson (1989, 72) points to the fact that scores given in the studies are *averages*, and she maintains that students at Gallaudet College (the university for deaf students in Washington DC) read at levels that average between seventh and tenth grade, with some students reading at grade twelve or above. Geers & Moog (1989) propose that the results of demographic studies may be less representative for the deaf population because more successful deaf students often are mainstreamed at a young age, and thus may be underrepresented in demographic studies which usually recruit students from deaf schools. They investigated the reading comprehension performance of one hundred 15-18 year old orally educated deaf high school students from different parts of the USA and Canada, 85% of whom were mainstreamed. They found a main reading level equivalent to grade 8 in hearing students, 30% read at a level at or above grade 10, 15 % read at a level below grade 3. However, these students all came from above-average socio-economic backgrounds, had well-educated, highly supportive parents, and had an above-average mean nonverbal intelligence quotient of 111. Musselman, Keeton Wilson & Lindsay (1989) found that children in oral schools often belong to a highly selected group: they tend to have relatively lower hearing losses, fewer additional handicaps, and higher socio-economic backgrounds. Geers & Moog (1989, 84-85) themselves, although concluding that these data indicate a much higher reading-potential for deaf children than is usually expected, maintain that, nevertheless, a main reading level of grade 8 at the end of high school is too low as compared to the reading level of hearing high school leavers (averaging at grade 10 for children of all social classes).

Different explanations have been given for the disappointing reading-results of deaf children in general. Parties in the methods controversy keep having faith in their respective methods, blaming external factors for disappointing results.

Oralists think that a deaf child can learn to read properly — perhaps not as well as her hearing peers, but at seventh- to eighth-grade level provided that she is educated by a good oral method and that she has strong support, preferably from a well-educated middle-class family background (e.g., Geers & Moog 1989, 84). Failures they ascribe to inadequate teachers, uninterested or poorly educated parents, hidden additional handicaps of the child, or to other aspects related to the parents, the child, or the school (e.g., Geers & Moog 1989, 84, Löwe 1991, 74). Further, they point to cohort-effects: they maintain that new developments with regard to hearing equipment, Cochlear Implants, etc., will make oral education more successful, and thus improve reading abilities of oral deaf children (e.g., Lynas, Huntington & Tucker 1988, 22, 32; Schulte 1986, 56).

Advocates of Total Communication think that by communicating simultaneously with the

deaf child in a manual *and* an oral code, the required measure of redundancy will be reached, which will enable the child to acquire adequate spoken language and adequate reading. Because the signs as well as the words are put into a spoken language-like order, the child will thus acquire the structures of spoken language. They ascribe failures to deafness itself as a hampering factor or to aspects of the child, the educators, or the teaching situation (e.g., Gustason 1990b).

Bilingualism/biculturalism is a relatively new method in deaf education. As yet there are hardly any figures about reading results of bilingually educated deaf children. The rationale of bilingualism, however, is that if the deaf child is first taught a language (i.e., a sign language) that she can acquire as easily as the hearing child acquires spoken language, this will offer the child a basis for learning spoken language as a second language, and subsequently adequate reading (R.E. Johnson, Liddell & Erting 1989).

So we see that both Oralists, advocates of Total Communication, and advocates of Bilingualism/Biculturalism try to solve the reading problem of the deaf child by increasing the input and offering the deaf child as much language as possible. However, they do this in different, sometimes conflicting ways, stressing different aspects of the reading process. Oralists think that it is important to approach the deaf child from the beginning with the same language she later has to read, that is, spoken language. The child then acquires both the vocabulary and the grammatical structures of the language to-be-read. That this vocabulary, at least initially, will be smaller than the vocabulary the deaf child would be able to acquire if signs were offered to her is apparently considered of minor importance by Oralists. They think that if the child acquires sign language as a first language, this poses huge problems when the child starts learning to read, because sign language is a spatial language and is structured very differently from spoken language, which is a sequential language[15]. Advocates of Total Communication think with their method they can kill two birds with one stone: deaf children acquire a relatively large vocabulary because words are offered both in speech and in signs, and they acquire the structures of spoken language because speech and signs are offered following the grammar of the spoken language. Advocates of Bilingualism/Biculturalism, by contrast, think that teaching the deaf child a mother tongue which is structured entirely differently from the language that has to be read poses no big problem to the deaf child. They assume that having a complete language at one's disposal is more important for learning to read, and that the deaf child can make the transition from the sign language which is her mother tongue to the differently structured spoken language reading material without too much difficulty.

Apart from these explanations by proponents of the different methods, other explanations have been given for the reading difficulties of deaf children. Kelly (1989, 1993), as well as, for instance, Carpenter & Just (1981) and Paul (1990) distinguishes two types of explanations, dependent on which cognitive processes are viewed to be decisive for deaf children's reading ability. In reading both 'bottom-up' and 'top-down' processes play a part. 'Bottom-up' refers to processes in which comprehending the meaning of a written text is built up from letters to words to

sentences, etc. 'Top-down' refers to processes in which meaning is inferred from the context, thus not going from letters to sentences but the other way around, from sentences to letters. Those who consider reading to be primarily a top-down process think that the deaf child is lacking sufficient knowledge of the vocabulary and the knowledge of the world, and thus of the context, necessary to comprehend texts that are relatively difficult in structure (Ewoldt 1981, Gormley 1981, King & Quigley 1985). On the other hand, those who view reading as principally a bottom-up process think that the deaf — because they can not hear speech — already have so many difficulties in *deciphering* the written message, that it is asking too much of their working memory to also *comprehend* it properly (Hanson 1982, Kelly 1993). The latter approach, also called 'the analytical view' (Kelly 1989, 210) seems to be most in favor nowadays, in view of the many investigations with respect to coding processes in reading.

Hanson (1982, 1989), Hanson, Goodell & Perfetti (1991), and Kelly (1993) showed that *skilled* (adolescent) deaf readers use phonological coding in reading, just like skilled hearing readers do. This will be astonishing to those who assume that deafness hinders access to phonology to a major degree, and it is even more astonishing that among those skilled deaf readers are many deaf children of deaf, ASL-using parents (i.e., they come from families where speech, sound-perception, and the wearing of hearing aids probably have very low priority). One would expect these native ASL-using children did not use phonological coding but sign coding instead, but that is not the case. Hanson (1989, 72-73) tries to diminish the oddness of this fact by emphasizing that 'phonology' and 'phonological' should be taken in a broad sense, referring not only to acoustic/auditory processes, and that a *sensory* deficit should not be confused with a *cognitive* one. She maintains that 'the deaf individual could learn about the phonology of the language from the motor events involved in speech production, through experience in lipreading, or from experience with orthography' (ibidem). Hence, the deaf-deaf child who comes from a home where little value is attached to speech sounds, could derive phonological knowledge from the spelling of words she reads. This assumption is corroborated by the fact that no relationship was found between intelligibility of speech and phonological coding: Conrad (1979a) found that among skilled, phonologically coding deaf readers there were children with very unintelligible speech.

15 Of course,sign languages are also sequential in that signs are made one after the other. But sign languages are less sequential than spoken languages because often a sign language requires one sign to express a sentence or a part of a sentence for which a spoken language needs several words (Kyle & Woll 1985).

8.5.2 The explanations and solutions reviewed

As yet none of these explanations has proved adequate. Blaming bad teaching, uninterested parents, etc., does not suffice. Also, it seems unlikely that deafness *alone* can be blamed for such a big lag in reading achievement. For there are deaf children who become excellent readers, although they are few in number.

As far as the 'bottom-up' explanations and the 'top-down' explanations are concerned, neither of them has proved to be sufficiently justified, and discussion about these explanations is still going on (see e.g. Kelly 1989, King & Quigley 1985). Hanson's findings of phonological coding in skilled deaf readers, especially in skilled deaf readers with deaf parents, are intriguing. One would expect to find a relation between oral skills and phonological coding; this, however, turned out not to be the case. Hanson explains phonological coding found in deaf-deaf adolescents by pointing to the possibility of acquiring knowledge of phonology from how words are spelled or from visual-auditory speech perception. Hanson does not seem to consider the possibility that phonological coding can be a *result* of skilled reading, or that there could be a mutual exchange between reading and phonological coding (i.e., the more experienced the deaf child becomes in reading, the more she will be able to code phonologically, which in its turn contributes to improving reading ability).

Another intriguing question with regard to reading problems of deaf children is why there is a plateau precisely at third grade level. What is the barrier lying at third grade they cannot pass, and why are they not able to pass it? An answer to this question cannot be found in the solutions the different parties in the methods controversy have proposed for the reading problems of deaf children so far. In these solutions reading development is seen as a continuous process in which reading ability of deaf children might be expected to progress steadily.

In the next section I intend to argue that only when reading problems of deaf children are approached from a I+L view can the breach at third grade level be made intelligible. We will see that such an approach would support the solution of the Bilingualists/Biculturalists for reading problems of deaf children.

8.5.3 Reading of deaf children approached from an I+L view

Written language is a derivation from spoken language, with the difference that written language often is more formal and more complex than the spoken language we use for daily conversation. So if we take a look at how the child, and especially the deaf child, can understand and learns to understand spoken language, this perhaps can at least partly explain the reading difficulties of the deaf child.

In psycholinguistics, using language, that is, speech production, usually is described as involving three types of mental processes (Roelofs 1992, Levelt 1989), namely conceptualization, formulation, and articulation. Correspondingly, three mental devices play a part, namely, the 'conceptualizer', the 'formulator', and the 'articulator'. Understanding language goes the other way around, it involves audition, speech comprehension, and connecting the parsed speech to mental contents. These processes go as follows. When I want to *speak*, I first select what I want to say from my mental contents. The part of those contents expressible in language is semantically represented in the form of prelinguistic messages. These prelinguistic messages are grammatically

and phonologically encoded by the formulator, and then by the articulator they are coded to be expressed as overt speech. When I have to *understand* language, I hear speech, and the heard sounds are sent to the speech comprehension system for phonological and grammatical decoding. Thereupon, this parsed speech is sent to the conceptualizer where mental contents are connected with the parsed speech. In the case of sign language, similar processes occur, with 'overt signing' taking the place of 'overt speech', and 'vision' taking the place of 'audition'.

If we now apply this process of understanding language to young children who are still in the process of language learning, and we start from an I+L view, then initially the child will tie the words or signs she receives to her I-forms, and thus these I-forms get mixed up with L-forms and so I+L concepts will develop. The more language develops, the more the child will form in her mind such mixed concepts, and the more she will be able to handle these concepts in a grammatically correct way. On this basis she will also form 'L about I+L' forms.

As I have suggested in the section about abstract thinking, it is plausible to assume that deaf children in general develop such 'L about I+L' forms much later than hearing children. Also, they are not anchored in such a rich, abundant conceptual network as they are in hearing children and in deaf-deaf children. Therefore, the deaf child will be able to understand written texts only when they consist mainly of denotative language, that is, of language that corresponds to I-forms and I+L forms. As soon as the written texts contain many concepts and sentences that correspond to 'L about I+L' forms, the deaf child will have difficulties in understanding the text. It seems plausible to assume that around third grade level, reading texts tend to contain relatively less denotative language and increasingly more of the 'L about L+I' type language.

8.5.4 Conclusion

The conclusion of the analysis given above is that, in order to be able to comprehend texts which contain fewer denotative concepts and more concepts which correspond to 'L about I+L' forms, the young deaf child needs to be in a situation in which she can form an abundant amount of I-forms and I+L forms. Only with such I-forms and I+L-forms as a base, can the deaf child sufficiently develop contents which are of the 'L about I+L' form type. The most ideal situation for the deaf child to acquire such a large amount of I-forms and I+L forms, at this moment is for her to have deaf parents who from birth onwards communicate to her and with her in a language type or a language code which she can understand as readily as a hearing child understands spoken words. Theoretically, at least, the second best seems to be the approach of the Bilingualists/Biculturalists. Theoretically, because also in the Bilingualist/Biculturalist approach the ideal situation of the deaf-deaf child cannot be imitated, perhaps not even to a major degree. After all, 95% of deaf children have hearing parents, most of whom do not expect to give birth to a deaf child. Thus, much time in the important first years of the child is used by the parents for diagnosing the childs' deafness, dealing with the shock, and learning how to communicate in signs with the child, instead of

providing the child with a large amount of sensorial plus linguistic content.

Another conclusion is, that educators and investigators should look more closely to the type of language they use in communicating with deaf children, and to the type of reading texts they offer deaf children. Strangely, the possibility that differences exist between reading texts beneath a third grade level and reading texts above a third grade level does not seem to have ever been analyzed by educators and scientists who are involved in the reading difficulties of deaf children. Perhaps it is time that they start to do so.

8.6 Some proposals for empirical investigation

What type of empirical investigation could follow from the explanations for the abstract thinking problem and the reading problem of deaf children as they are defended in sections 8.4.3-8.4.4 and 8.5.3-8.5.4? I will mention a few of them.

First, it would be interesting to analyze once more the material of the Laros & Tellegen investigation into the intelligence of deaf children, with respect now to the achievements of the deaf-deaf subgroup as compared to those of the deaf-hearing subgroup (if, of course, the data provide information with respect to parental hearing status).

Second, reading materials used in deaf schools should be investigated with respect to the kind of language that is used in these materials before, at, and after third grade, and they should be analyzed according to the distinction I have made between the different types of mental forms.

Third, tests should be developed to inquire into the sort of mental forms the different subgroups in the deaf population have (i.e., deaf-deaf children versus deaf-hearing children; good readers versus bad readers; good abstract thinkers versus bad abstract thinkers). This could be done, for instance, by carefully analyzing test items in already existing reading vocabulary tests, reading comprehension tests, and abstract thinking tests with respect to the *kind* of mental forms (i.e., I-forms, I+L-forms, or 'L about I+L' forms) that are required for understanding or solving such a test item, just like I have done in section 8.4.3. with respect to three items in an analogy test. Thereupon, the scores on these test items among the different subgroups in the deaf population should be investigated.

Finally, the language vocabulary of deaf-deaf children (both their sign vocabulary and their spoken language vocabulary) should also be investigated according to the distinction between different types of mental forms.

This is only a short and incomplete listing of empirical research that could be conducted on the basis of the explanations for problems in deaf education that are offered here. Apart from being a source of inspiration for empirical investigators, I hope the foundational analysis performed in this chapter will stimulate parties in the methods controversy to reflect on the foundations of their explanations for the abstract thinking problem and the reading problem in deaf education.

Chapter 9 CONCLUSION

When discussing the methods controversy with educators of the deaf, I have often heard the argument that talking about which method is better or which method should be preferred is misleading because there is no method good for *all* deaf children. Since deaf children differ widely in their amount of hearing loss, their intelligence, their socio-economic background, etc., discussion about methods in general is held to be meaningless. Certainly, there is some truth in this. A method should be chosen and whenever possible adjusted according to the individual needs of each deaf child. That is why I have included 'personal considerations' in the scheme at the end of chapter 6. However, this does not mean that no *general* statements can be made about the different methods used. The characteristics of the various methods play a part in the decision of parents to choose one or the other method as well. Oralism, Bilingualism/Biculturalism, or Total Communication imply three essentially different methods. They not only differ in the communication means used but also in their views on deafness and the deaf child, their aims, and their prerequisites. Perhaps it is especially these prerequisites that make them not just different methods but different ways of life.

Let me recall an example mentioned earlier in this book. At the oral institute for the deaf in St.Michielsgestel, the Netherlands, deaf children are differentiated to a high degree. For instance, multi-handicapped children and non-multi-handicapped children are educated separately. This is done because it is thought that each child can thus be treated according to its special, individual needs, and because mingling oral children with children who need fingerspelling or signs next to speech will induce the oral children to use signs or fingerspelling as well. At the institute for the deaf in Groningen, the Netherlands, on the other hand, multi-handicapped deaf children and non-multi-handicapped deaf children are not separated. Educators in the institute in Groningen are of the opinion that deaf children belong to a Deaf cultural-linguistic minority, and since most deaf children have hearing parents, the school is the primary place for transmitting Deaf culture to deaf children. Therefore, it is thought that separating deaf children from each other means separating them from their culture. These are two entirely different views on educating the deaf child, and parents choosing the one or the other institute not only choose a school that suits the individual needs of their deaf child, they choose for a view on deafness and the deaf child as well.

At present, methods coexist more or less peacefully, but it is an armed peace. Because of the far-reaching consequences of choosing one or the other method for the future of the deaf child, this situation should not continue. After more than two hundred years of methods controversy, after numerous discussions and empirical investigations, none of them being conclusive or convincing (i.e., conclusive and convincing to the *opposing* party as well), in this book I have argued the necessity of a new approach, namely, an inquiry into the foundations of the different methods, and in this book I have initiated such an inquiry. This hasn't been an easy task, and a great deal

remains to be done. However, I have managed to accomplish at least three things. I have cleared up terminological confusions by proposing a vocabulary in terms of which the different viewpoints could possibly be made more comparable. I have analyzed the discussion and pointed to some inconsistencies, some areas lacking clarity, and some problematic implications of the arguments of the different parties. And I have explicated and analyzed some of the foundations of the different viewpoints which, at a deeper level, direct and confuse the discussion without the parties being aware of it, and I have put forward some proposals for alternative, and to my opinion more adequate foundations. Summarizing, the following general conclusions can be drawn.

After having introduced the subject in chapter 1, and after having said something about the type of inquiry executed in this book, in chapter 2 I have discussed rather lengthily the central terms used in deaf education. I have discussed terms and the disputes about them and I have suggested the development of a terminology which makes it possible to convey the different viewpoints unambiguously and to ensure that no arguments will be excluded in advance. Unequivocal definitions are needed in order to make the different viewpoints comparable. Most importantly, terms like 'sign language' 'sign system' 'bilingual' (etc.) should be clear, and different meanings of terms like 'deaf', 'hard-of-hearing' (etc.) should be distinguished.

In chapters 3 to 5 I have described aims, prerequisites, methods, arguments, and some of the empirical underpinnings of the three major approaches in deaf education, viz., Oralism, Total Communication, and Bilingualism/Biculturalism. It will have become clear that the three methods are based on arguments which are multidisciplinary in character, and that the controversy is far from being just a controversy about *methods*, but rather, it concerns almost everything related to the education of deaf children.

Based on this as objective as possible description of the major approaches, in chapter 6 a start could be made with an analysis of the internal interdepency of the arguments of the three parties in the methods controversy. A first important conclusion is that parties seem to start from fundamentally different conceptions of what is the central issue of the methods controversy. Based on different, complicated mingling of empirical, normative, and conceptual viewpoints, each of the three groups defines the 'real' subject of the methods controversy differently. Oralists think the central choice to be made is between 'either speech, or signs'. Advocates of Total Communication think the choice is between 'either bad speech alone, or good manual communication plus speech-as-good-as-it-can-be'. Advocates of Bilingualism/Biculturalism define the choice as 'either no adequate language, or sign language as a first language and spoken language as a second language, mainly in the written form'. Thereupon, in sections 6.2 to 6.6 I have given a material analysis of several different discussions within the methods controversy, namely, about the choice for a community for the deaf child, about the identity of the deaf person, about the 'natural' language of the deaf child, about criteria for quality of communication, and about the socio-cultural status of the deaf person.

The core ambiguity or inconsistency of most of these discussions is related to the

disagreement about what the real issue of the methads controversy is. Chapter 6 ends with a table in which most of the relevant conceptual, normative, and empirical questions with regard to the methods controversy are listed, proposing an order for dealing with these diverse questions.

With respect to what I consider to be the two most fundamental issues underlying the debate, namely, the issue of the identity of the deaf person and the issue of (sign) language and cognitive development, as a next step I have executed a *foundational* analysis. This means (cf. chapter 1) that I have explicated and analyzed the presuppositions underlying the different views, arguments, explanations, and solutions the different parties put forward with respect to these two issues. In chapter 7 I have concentrated on basic perspectives on deafness, the deaf child, and the community to which the deaf child belongs. I have pointed to some strange implications of the view that deafness should be seen as a cultural variation, and I have put forward a line of argument explaining why these implications strike most people as odd. In the foundational analysis, as a tool I have used concepts of the person and views with respect to the influence of the community on the person, borrowed from a discussion going on in social and political philosophy, namely, the discussion between Liberals and Communitarians. I have concluded that the notion of 'revocability' can be useful here, that is, Oralists and Manualists should start discussing which elements in the situation of the deaf child and to what degree, are *preventable* and *revocable* as constitutive elements of the person. More central in such a discussion should be the concepts of 'physical deafness', 'cultural deafness', 'sign language', 'the Deaf community' and 'hearing society', because the revocability of these elements in constituting the deaf person lies at the heart of the debate about the deaf child and its community.

Subsequently, in chapter 8, I have engaged in questions with respect to the relation between language and thinking, which at present are reflected especially in discussions about abstract thinking of deaf children and reading achievements of deaf children. I have argued that here also a foundational analysis as well as rescription of fundamental terms can be useful. On strict theoretical grounds, some views are evidently untenable and tentative explanations can be given, for instance, for the reading problem. Of course, empirical investigations are needed in order to prove or disprove the tenability of these alternative explanations. However, I have shown that only *after* and *based on* foundational analysis can it become be seen that, thus far, particular questions couldn't be raised and particular answers could not be found in empirical research because underlying foundations have guided and directed possible questions and possible answers. Based on a fairly unfamiliar, but in my opinion plausible view on what thoughts consist of, and with the help of two newly developed theoretical constructs ('L-forms' and 'I-forms'), I have put forward a tentative explanation of the difficulties deaf children have with reading and abstract thinking. Additionally, this view renders, at least in part, an explanation for a thus far unaccounted for phenomenon: the fact that deaf children of deaf parents consistently achieve better in school than deaf children of hearing parents. Overall, the following conclusions can be drawn.

First, the fundamentally different views parties in the methods controversy have with respect

to the education of the deaf child, are based, a) on different conceptions of what the three methods actually can achieve with respect to teaching deaf children 'adequate speech'; b) on different conceptions of deafness and the aim of deaf education, that is, whether deafness should be seen as a handicap to be repaired, or as a cultural variation with its own values, and whether the aim of education is primarily to integrate the deaf child into hearing society, primarily to integrate the child into the Deaf community, or rather to postpone a choice of one or the other community until the child has become adult and can make a choice for herself. An important issue is determining whether or not it is indeed possible to postpone a choice until the child has become an adult. The issues a) and b) are connected in that views on b) follow, in part, from views on a), and probably also vice versa. The view that the deaf child belongs to a cultural-linguistic Deaf minority partly follows from the alleged fact that the great majority of deaf children cannot learn adequate speech; on the other hand, the view that the deaf child belongs to the Deaf community perhaps leads educators to underestimate and neglect the degree to which the child can acquire adequate speech.

A second conclusion is that many aspects of the views of the different parties are not (or not entirely) clear yet, and this is especially true of the foundations of their views. It is, therefore, rather difficult to determine how far apart parties in the methods controversy in fact are. For instance, it is unclear what is viewed as 'qualitatively good oral communication'. As long as this lack of clarity exists, parties cannot come to an agreement with respect to results of empirical investigations on speech and visual-auditive speechperception of deaf children as acquired by the various methods.

A third general conclusion is that there seems to be enough common ground remaining for discussion between the parties of the methods controversy. It is definitely not the case that the different views have crystallized and have turned out to be completely divergent. First, agreements could be reached with respect to unambiguous definitions of terms which can be shared by all parties involved. Chapter 2 in this book can serve as a starting point for reaching such agreements. Such definitions rest partly on normative views (for instance, what qualitatively 'good' communication is), the relevant questions for which I have discussed in chapter 6 (and listed in the scheme at the end of chapter 6). Based on these shared definitions, thorough empirical research can be designed and executed which could provide an answer to the question what quality of (oral) communication deaf childrencan achieve with the different methods. Thus, at least in part, disagreement about the different perceptions of the 'real' issue of the methods controversy could be resolved. Further, if parties would start to explicate and discuss their foundations with respect to the more important issues in the methods controversy, more nuanced views on these issues could be developed. I have made a start with such explication and discussion of foundations and my work in chapters 7 and 8 can serve as a fruitful base from which Oralists, advocates of Total Communication, and Bilingualists/Biculturalists can continue.

Beyond these general conclusions, I would now like to make two final remarks.

While I was working on this book, many people asked me how I myself view deafness, the

deaf child, and the education of the deaf child, or what I myself would do if I had a deaf child. I have always answered, and this still is my opinion, that I *should* not and *need* not take a standpoint in writing this book. I should not, because it is my task as a foundational inquirer to remain as 'objective' and unbiased as possible, especially with respect to this methods controversy where almost any *word* uttered causes someone to be categorized as belonging to one or the other party. I need not, because it is not my task to develop a standpoint. What I have done is try to faciliate the discussion by taking away the obstacles that hinder the discussion: unclear terminology, implicit and confusing or inconsistent assumptions in arguments, implicit foundations which keep in the dark particular empirical questions and answers, etcetera.

I have submitted the descriptive parts of this book to educators and scientists and also to deaf people while I was still working on the book. Now I am submitting the entire book, including the analytical parts, to all readers, but especially to all those who are in one way or another involved in the education of deaf children. I hope it will lead them to further explicate and discuss the foundations of their views on deafness, the deaf child, and on the education of deaf children.

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DE TWEEHONDERDJARIGE OORLOG IN DE DOVENOPVOEDING
Een reconstructie van de methodenstrijd.

SAMENVATTING

Op het terrein van de dovenopvoeding wordt al ruim 200 jaar een debat gevoerd over middelen en methoden om het dove kind een moedertaal te leren en, meer recent, ook over wélke moedertaal aan het dove kind geleerd moet worden. Het debat strekt zich tevens uit tot andere aspecten van de kinderlijke ontwikkeling welke gerelateerd zijn aan de taalontwikkeling, bijvoorbeeld, de cognitieve ontwikkeling en de sociaal-emotionele ontwikkeling. Betrokken in het debat zijn vooral beroepsopvoeders en wetenschappers, maar ook dove volwassenen en (horende of dove) ouders van dove kinderen.

Tot ongeveer tien jaar geleden waren er twee hoofdposities te onderscheiden, namelijk, de Oralistische positie en de Manualistische positie. Recent is binnen de groep van Manualisten een tweedeling ontstaan tussen, enerzijds, aanhangers van Total Communication en, anderzijds, aanhangers van Bilingualisme/Biculturalisme. Oralisten zijn van mening dat het normale (dat wil zeggen: verder niet gehandicapte) dove kind opgevoed kan en moet worden met als communicatiemiddelen uitsluitend spreken, visueel-auditieve spraakwaarneming ('liplezen'), de normale met het spreken gepaard gaande mimiek, lezen, en schrijven. Manualisten daarentegen zijn van mening dat, naast deze communicatiemiddelen, ook manuele communicatiemiddelen gebruikt dienen te worden, met name een gebarensysteem en/of een gebarentaal en/of een manueel alfabet. Aanhangers van Total Communication willen als additioneel communicatiemiddel een *gebarensysteem* gebruiken (simultaan met spreken). Aanhangers van Bilingualisme/Biculturalisme willen het dove kind een *gebarentaal* als moedertaal leren, en de gesproken taal als een tweede, vreemde taal aanbieden, hoofdzakelijk of uitsluitend in de geschreven vorm.

Een *gebarensysteem* is een door beroepsopvoeders ontwikkelde vertaling van de gesproken taal in gebaren, waarbij de grammatica en de syntaxis van de gesproken taal in meerdere of mindere mate gevolgd worden. Hoewel een dergelijke gebarensysteem in principe geheel zelfstandig gebruikt kan worden, wordt ze in de praktijk altijd simultaan gebruikt in combinatie met spreken. Een *gebarentaal* is ontstaan binnen een groep dove mensen en heeft een geheel eigen grammatica en syntaxis. Een *manueel alfabet* is een door beroepsopvoeders ontwikkeld alfabet waarbij met de vingers van één hand de letters als het ware in de lucht gespeld worden (het zogenaamde 'vingerspellen'). Een manueel alfabet kan gebruikt worden simultaan met spreken, of als aanvulling bij een gebarensysteem voor woorden waar geen gebaar voor bestaat.

Dit debat in de dovenopvoeding dat, hoewel het in de eerste plaats over *middelen* en slechts in de tweede plaats over *methoden* gaat, in het Engels gewoonlijk als 'the methods controversy' betiteld wordt, legt een zware druk op ouders die voor hun jonge dove kind een middel/methode moeten kiezen. De twee hoofdstromingen hebben elk hun eigen scholen, onderzoeksinstituten en

populaire zowel als wetenschappelijke tijdschriften. Gedurende de ruim twee eeuwen dat het debat gevoerd wordt zijn er perioden van betrekkelijke rust geweest waarin de verschillende posities vreedzaam coëxisteerden. In andere tijden vlamde het debat heftig op, hetgeen er, bijvoorbeeld, toe leidde dat vertegenwoordigers van de verschillende standpunten elkaar op congressen over dovenopvoeding volledig negeerden of weigerden te applaudisseren na afloop van een lezing door de tegenpartij. Ook kent de geschiedenis van het methodendebat in de dovenopvoeding verhalen over bedrog teneinde de resultaten van de diverse methoden mooier voor te stellen dan ze in feite waren en, recentelijk, zelfs van moord (in de U.S.A., op een arts die cochleaire implants plaatst, een soort prothese die dove mensen weer enig gehoor kan geven).

Men kan zich afvragen waarom dit debat reeds zo lang duurt en tot nog toe niet met empirische middelen opgelost kon worden. De drie belangrijkste redenen daarvoor, welke onderling gerelateerd zijn, lijken de volgende. Ten eerste, partijen zijn het oneens over hoe de resultaten van het empirisch onderzoek geïnterpreteerd dienen te worden. Dit is een gevolg van, ten tweede, het feit dat partijen het oneens zijn of onvoldoende expliciet zijn over criteria en operationalisaties met betrekking tot het empirisch onderzoek. Dit laatste is weer een gevolg, ten derde, van het feit dat partijen het oneens zijn of onvoldoende expliciet zijn met betrekking tot normen, waarden, en conceptualiseringen die ten grondslag liggen aan zowel het empirisch onderzoek als de opvoedingspraktijk. Een *reconstructie* van het debat en, daaraan gekoppeld, een *grondslagenanalyse* kan hier helpen. In een grondslagenanalyse worden opvattingen en conceptualiseringen die ten grondslag liggen aan theorieëen en praktijken (in dit geval: het empirisch onderzoek met betrekking tot dovenopvoeding, en de praktijk van de dovenopvoeding zelf) en die meestal impliciet blijven, expliciet gemaakt, verhelderd en geanalyseerd, en soms ook bekritiseerd en herzien. Een en ander vindt plaats op basis van een reconstructie, dat wil zeggen, een zorgvuldige beschrijving van de betreffende theorieën en praktijken. Reconstructie en grondslagenonderzoek omvatten samen een vijftal stappen. In de reconstructie wordt eerst de terminologie die in het debat gebruikt wordt (en de discussies die daarover gevoerd worden) beschreven, geanalyseerd, en zonodig herzien. Dan volgt een descriptie van de betreffende theorieën en praktijken en een materiële analyse, dat wil zeggen, het blootleggen van redeneerpatronen en het onderzoeken van hun interne en externe samenhang; de onderlinge afhankelijkheid van de diverse argumenten binnen een positie worden in kaart gebracht en mogelijke inconsistenties en redeneerfouten worden geëxpliciteerd en verhelderd. Daarop volgt de grondslagenanalyse, waarin grondslagen geëxpliciteerd worden en onderzocht worden op hun interne samenhang. In een laatste stap kan kritiek , en op basis daarvan revisie van grondslagen plaatsvinden.

In dit boek wordt in een eerste, inleidend hoofdstuk de problematiek ingeleid en de noodzaak van een reconstructie van het debat en van een grondslagenanalyse duidelijk gemaakt. De verschillende

stappen van een reconstructie en een grondslagenanalyse worden uiteengezet, en een verantwoording wordt gegeven van het bronnenmateriaal op basis waarvan het onderzoek verricht is.

In hoofdstuk twee wordt de terminologie die binnen de dovenopvoeding gebruikt wordt besproken en geanalyseerd. De meningsverschillen en ambiguïteiten met betrekking tot deze termen worden besproken, en in sommige gevallen worden termen herschreven. Dit dient een drieledig doel. Ten eerste, de niet met dovenopvoeding bekende lezer wordt zo op redelijk snelle manier ingeleid in dit tamelijk complexe vakgebied binnen de orthopedagogiek. Ten tweede, het wordt zo duidelijk hoeveel voetangels en klemmen men tegenkomt bij een onderneming als deze, aangezien zo ongeveer elk *woord* dat men uit de mond laat vallen aangegrepen kan worden (en vaak ook wordt) om iemand te categoriseren als 'Oralist' of 'Manualist'. Ten derde, verheldering van de in de dovenopvoeding gebruikte termen en rescriptie van termen vormt reeds een deel van het grondslagenonderzoek.

De volgende drie hoofdstukken zijn gewijd aan een beschrijving van de opvattingen van de drie partijen in het methodendebat. In hoofdstuk drie, vier en vijf komen, respectievelijk, de opvattingen van Oralisten, van aanhangers van Total Communication, en van aanhangers van Bilingualisme/Biculturalisme aan het woord. Achtereenvolgens worden de doelen, de voorwaarden, de methoden zelf, de argumenten, en (gedeeltelijk) de empirische onderbouwing van de verschillende methoden beschreven. Een en ander resulteert in een verdere onderverdeling in twee groepen Oralisten, namelijk 'Stricte Oralisten' en 'Vrije Keuze Oralisten', en in twee groepen Manualisten, namelijk, 'Stricte Manualisten' en 'Vrije Keuze Manualisten'.

In hoofdstuk zes vindt de materiële analyse plaats. De argumenten van Oralisten, van aanhangers van Total Communication, en van aanhangers van Bilingualisme/Biculturalisme worden in een schema geplaatst op grond van hun interne afhankelijkheid. Deze schema's maken duidelijk dat de drie partijen in het debat van mening verschillen over de definitie van het werkelijke onderwerp van de methodenstrijd. Dit verschil van mening- dat op haar beurt berust op een mengeling van empirische en conceptueel-normatieve onduidelijkheden en meningsverschillen- is een belangrijk obstakel in de methodenstrijd en vormt het hart van een aantal discussies over verschillende onderwerpen die gerelateerd zijn aan de methodenstrijd. In vijf daaropvolgende paragrafen worden vervolgens een aantal discussies binnen het methodendebat geanalyseerd die te maken hebben met communicatie, taal, en identiteit en gemeenschap van het dove kind. In de slotparagraaf van hoofdstuk zes worden de conceptuele, normatieve, en empirische vragen die in het methodendebat relevant zijn in een schema geplaatst met hun interdependenties. Dit schema vormt een voorstel voor een volgorde waarin vragen besproken en zo mogelijk beantwoord kunnen worden, het biedt een leidraad om tot een weloverwogen standpunt te komen en daarmee een uitweg uit het complexe web van slogans, ideologieën, en argumenten dat het methodendebat in de loop van die ruim tweehonderd jaar geworden is.

In de hoofdstukken zeven en acht wordt een grondslagenanalyse van de twee belangrijkste

kwesties binnen het methodendebat uitgevoerd. Hoofdstuk zeven is gewijd aan visies op doofheid en de dove persoon. Als illustratie van de heftigheid waarmee discussies over visies op doofheid en de dove persoon gepaard gaan, wordt in de inleidende paragraaf het debat over cochleaire implants beschreven. Sinds enige jaren worden cochleaire implants ook bij (zeer jonge) dove kinderen geplaatst. Veel dove volwassenen zijn tegenstanders van het plaatsen van cochleaire implants bij dove kinderen. In de argumenten die zij gebruiken, en in het weerwoord van vóórstanders van cochleaire implants voor dove kinderen, komen de verschillende visies op doofheid en de dove persoon die in de kern van de methodenstrijd liggen pregnant tot uitdrukking. Kort samengevat komen deze visies erop neer dat doofheid ofwel gezien wordt als een handicap, en het dove kind primair als lid van de horende maatschappij, ofwel doofheid wordt gezien als een culturele variant, en het dove kind primair als lid van de Dovengemeenschap. In een volgende paragraaf worden deze visies -die ook al in de hoofdstukken drie tot en met vijf aan de orde zijn geweest- nog eens kort beschreven, en vervolgens worden enige fricties binnen en tussen deze visies duidelijk gemaakt. Ook worden de implicaties getoond van het standpunt van de Stricte Manualisten (namelijk, dat doofheid niet een handicap is maar een culturele variant), implicaties die velen, doven en horenden, tegen de borst zullen stuiten. Er wordt geargumenteerd dat dit veroorzaakt wordt doordat Stricte Manualisten een incorrecte vergelijking maken tussen de dovengemeenschap en andere culturele groepen, hetgeen weer voortvloeit uit een inadequate conceptualisatie van 'doofheid' en 'cultuur'. In de laatste twee paragrafen van hoofdstuk zeven wordt de discussie over doofheid en de dove persoon geplaatst in het kader van een debat dat momenteel gevoerd wordt in de sociale en politieke filosofie, namelijk, het debat over opvattingen van de persoon, opvattingen van de gemeenschap, en over de relatie tussen persoon en gemeenschap. In de slotparagraaf van hoofdstuk zeven worden enige lijnen ontwikkeld waarlangs Oralisten en Manualisten een meer genuanceerd concept van het dove kind en haar gemeenschap kunnen ontwikkelen.

Hoofdstuk acht behandelt twee kwesties die te maken hebben met de relatie tussen taal en denken, namelijk het abstract denken en het lezen van dove kinderen. Gedurende de laatste zestig tot zeventig jaar is er veel discussie geweest over de vraag of dove kinderen al dan niet een zelfde intelligentie -kwantitatief en kwalitatief- hebben als horende kinderen. De discussie spitste zich met name toe op de vaardigheden van dove kinderen wat betreft abstract denken. Verschillende opvattingen met betrekking tot deze kwestie hebben elkaar in de loop van deze zes decennia afgewisseld. Op dit moment staat het onderwerp niet in het brandpunt van de belangstelling bij dovenopvoeders hoewel een recent, grootschalig Nederlands onderzoek heeft aangetoond dat dove kinderen significant lager scoren dan horende kinderen op de abstract denken-onderdelen van een zeer algemeen gebruikte, non-verbale intelligentietest. Wél in het brandpunt van de belangstelling staat het lezen van dove kinderen. Al decennia lang wordt steeds opnieuw in onderzoek aangetoond dat dove kinderen achterblijven in leesprestaties. Vooral in Amerika is veel onderzoek gedaan naar het lezen van dove kinderen, en in de meeste onderzoeken wordt gevonden dat dove adolescenten

gewoonlijk niet boven een leesniveau op 'third grade level' (overeenkomend met ongeveer groep vijf in de Nederlandse basisschool) uitkomen. Onderzoeken in andere landen komen tot vergelijkbare resultaten. Merkwaardig bij dit alles is dat een subgroep in de dovenpopulatie, namelijk de groep van dove kinderen die een of twee dove ouders hebben (de zogenaamde 'doof-dove' kinderen), het zowel wat betreft het abstract denken als wat betreft het lezen, als ook wat betreft vrijwel alle andere schoolse prestaties, beter doen dan dove kinderen die horende ouders hebben (de 'doof-horende' kinderen). Dit feit wordt keer op keer, ook alweer decennia lang, gevonden, en verschillende verklaringen zijn in de loop der jaren voor dit fenomeen gegeven zonder dat men het hierover eens kon worden. Een bemoeilijkende factor daarbij is, dat de subgroep van doof-dove kinderen zeer klein is, slechts ongeveer 5% van de populatie. In hoofdstuk acht worden deze data, en de verklaringen die ervoor gegeven zijn, beschreven en geanalyseerd en wordt betoogd dat deze data in een ander licht komen te staan wanneer eerst de grondslagen van abstract denken en lezen onderzocht worden. De meest relevante filosofische vraag daarbij betreft de relatie tussen taal en denken, namelijk: 'Waar zijn onze gedachten van gemaakt?', of, 'Wat is het medium waarin wij denken?'. De vigerende visies op deze vraag worden beschreven met hun pro's en contra's. Betoogd wordt dat een aantal van deze visies onhelder zijn omdat hun basale concepten onhelder zijn. Met behulp van de theoretische constructen 'L-forms' en 'I-forms' worden de verschillende visies verhelderd en wordt geargumenteerd voor een specifieke visie op de vraag 'Wat is het medium van ons denken?'. Met behulp van deze visie, en met behulp van de constructen 'L-forms' en 'I-forms' kunnen dan vervolgens abstract denken en lezen in het algemeen, en abstract denken en lezen bij dove kinderen in het bizonder, verhelderd worden. Hoofdstuk acht eindigt met een aantal suggesties voor empirisch onderzoek.

In een afsluitend, negende hoofdstuk worden de belangrijkste conclusies van dit boek nog eens samengevat.

CURRICULUM VITAE

Agnes Tellings was born april 9th 1954 in Roosendaal, the Netherlands. She went to primary school in Den Bosch and Maastricht, and to the Gymnasium in Maastricht and Eindhoven where she graduated in 1972 from the department 'Gymnasium Alpha'. In 1977 she graduated from the 'Sociale Akademie', section 'Kultureel Werk'. Between 1977 and 1979 she worked for a institution for Child Welfare in the Hague, for the 'Nederlandse Bond van Plattelandsvrouwen' in the Hague, and for different employment agencies in Eindhoven. From 1979 to 1986 she worked as an educator in a department for deaf children with learning problems and behavioral problems at the Instituut voor Doven in St.Michielsgestel. In this period she started to study Pedagogy in Nijmegen. Consecutively, she got her 'MO-A certificate' (specialisation Orthopedagogy, 1986), her 'MO-B certificate' (specialisation Orthopedagogiek, 1988), and her Masters' degree (specialisation Philosophy of Education, 1990). In 1991 she was appointed to be a 'Onderzoeker in Opleiding' at the Netherlands Organization for Scientific Reserach NWO, for a five year/four days a week job. She has a son and a daughter who at this moment are nine years old and one year old, respectively.