

The development of education for blind people

Legacy of the Past

The book *Legacy of the Past* (Some aspects of the history of blind education, deaf education, and deaf-blind education with emphasis on the time before 1900) contains three chapters:

Chapter 1: The development of education for blind people

Chapter 2: The development of education for deaf people

Chapter 3: The development of education for deaf-blind people

In all 399 pp.

An internet edition of the whole book in one single document would be very unhandy. Therefore, I have divided the book into three documents (three internetbooks). In all, the three documents contain the whole book. *Legacy of the Past*.

This Internetbook is

Chapter 1: The development of education for blind people.

Foreword

In his Introduction the author expresses very clearly that this book is not The history of blind education, deaf education and deaf-blind education but *some aspects of their history of education* with emphasis on the time before 1900.

Nevertheless - having had the privilege of reading it - my opinion is that this volume must be one of the most extensive on the market today regarding this part of the history of special education.

For several years now I have had the great pleasure of working with the author, and I am not surprised by the fact that he really has gone to the basic sources trying to find the right answers and perspectives. Who are they - and in what ways have societies during the centuries faced the problems?

By going back to ancient sources like the Bible, the Holy Koran and to Nordic Myths the author gives the reader an exciting perspective; expressed, among other things, by a discussion of terms used through our history.

As I am trying to say, Dr. Enerstvedt not only presents a historical survey, rather he discusses the situation of the blind, the deaf and the deaf-blind in the context of the actual time they were living in.

Dr. Enerstvedt is not only a theoretical researcher - he also has a practical experience from the field, which he reveals in his discussion on methods.

The book has the character of having been written by a professional in sociology and by a person with a deep understanding and knowledge in special education. As said earlier, this volume is not a bare historical outline, but is also a

story of individuals and their helpers from the Antiquity and beyond - to our time.

This book should be of great interest to all of us working with sensory-deprived people, to parents and to students in the area of education, psychology, sociology and other related areas.

Oslo 28th of May 1996

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Introduction

The present book is not The history of blind education, deaf education, and deaf-blind education. It is not A history of ..., it is precisely what is stated in the title: Some aspects of the history of blind education, deaf education, and deaf-blind education with emphasis on the time before 1900.

My own qualifications for trying to make a contribution to the field of deafness, blindness, and deaf-blindness:

My main profession is that of a professor of sociology, Department of Sociology, University of Oslo. I am Senior Research Officer at Skådalen Resource Centre for Special Education of the Hearing Impaired and the Deaf-Blind (previously: Skådalen School).

I worked as care-worker at a residential school for deaf and deaf-blind children in Oslo - Skådalen school - from January 1990 to July 1991. Previous to that I worked for more than a year as a relief worker at the same institution/school (from October 1988 to December 1989).

During the autumn of 1991 I studied deaf-blindness with Sense - The National Deafblind and Rubella Association in the UK, at Sense in the Midlands, i.e. a regional centre for Sense in Birmingham.

The first half of the year 1993 I studied deaf-blindness at Perkins School for the Blind, Watertown, USA.

Although my interest in working with deaf-blind people primarily was a theoretical and general one - that of the essence of communication and language - my actual work with deaf-blind persons altered my perspectives. I am still interested in the general theoretical questions of communication and language and plan to write something on that subject. However, I have gradually become more and more interested in the lives and fates of deaf-blind people. In the beginning I merely wanted to give a very brief historical overview before I came to my main interest, that of the communication of (and with) deaf-blind people. However, my studies led to an interest in the history of both deaf and blind education. I recognized the necessity of studying blindness and deafness as prerequisite to understanding deaf-blindness, although the latter is not merely the sum of deafness and blindness. The result is this book - the first part of my main project: the communication of (and with) deaf-blind people. It is the result of the practical experience and theoretical studies of several years.

It is impossible to mention all the people who have been important and helpful in my work. However, some persons without whom this and the next book never could have been published, deserve being named. To exemplify this help would require the space of a great book in itself! (Perhaps such a book should be written so that the reader might understand that every book is a collective product.) In alphabetic order :

Yerker Andersson, Abdel Magid Al-Araki, Thomas E. Allen, Eldbjørg Arnesen, Knut Arnesen, Jim Banta, Cafer Barkus, Anne-Grete Barlaug, Mike Bello, Carol Benoit, Barbara Birge, Lynne F. Bernstein, Peter Blackwell, Delma Boyce, Martin Jon Bray, John Bridge, Silje Brosvik, Norman Brown, Wendy Buckley, Tony Bugge, Eddie Calhoun, Linda Callahan, Cristina Castro, Rodney Clark, Gini Cloke, Carol Crook, Steve Davis, Lorraine Delhorne, Susan DeCaluwe, Jennifer R. Douglas, Nat Durlach, Steinar Dybvad, Kimberly Emrick, Åse Enerstvedt, Bård Engen, Elizabeth Engen, Trygg Engen, Paul Ennals, Lyn Faulkener, Marte Feiring, Arvid Fennefoss, Peter Fitzgibbons, Janice C.Gatty, Dennis Gjerdingen, Debbie Gleason, Unni Gran, Mary Grannell, William Green, Sharon Grey, Torill Grønhaug, Terje Haraldsen, Virginia Harris, John Hatton, Rosie Hayes, Margareta Henriksson, Karen Hern, Mary Hill-Peters, Angunn Hirth, Gunnar Høgden, Robert J. Hoffmeister, Grete Høie, Lisa Holden-Pitt, Alvina Holyoake, Deborah Hughes, Yvonne Hurley, Bitten Haavik Ikdahl, Carolyn Jones, Steve Kiekopf, Tony Kirk, Mari Klashaugen, Christine Lebert, Christopher Leek, Fridtjof Lehne, Dot Leslie, Lauren Lieberman, Bård A. Lindgaard, Marjorie Magner, Martha Majors, David S.Martin, Barbara Mason, Donna Mehan, Beth Miller, Astrid Moe, Donald F. Moores, Marsha Morales, David Morrison, William A.Moses, Mogol Musa, Anne Nafstad, Hilde Nes, Maurin Nichols, Kathy Norris, Trine Noven, Debra Nussbaum, Cyndi O'Brian, Christine Peatman, Geoff Plant, Susan Powers, Julie Pratt, Charlotte Reed, Sally Revoile, Bjørg Rike, Nan Robbins, Harold Robertson, Joan Robertson, Arthur A.Roehrig, Liv Rolandsen, Lynda Samourian, Janet Sauerwein, Odd-Inge Schrøder, Gretha Seeland, Philip Franz D.Seitz; Eva Seljestad, Lynne Silverstone, Anita Simonsen, Eva Simonsen, Anne Skhakeshaft, Trygve Skomedal, Christin Sletten, Julie Smith, Robert J. Smithdas, Bob Snow, Astrid Sund, Tonje Sørensen, Sharon Stelzer, Kathleen E. Stock, Erling Storhaug, Bob Storm, Kenneth Stuckey, Jan Svendsen, Else Marie Svingen, Jeri Traub, Kurt Vinterhøj, Arnfinn Vonen, Bettie Waddy-Smith, Claire Wade, Julie Waters, David Williams, Bernadette Wynne, Mary Zatta.

My thoughts also go to all the tutors (house/residential workers; "program aids") I have worked with. Except for two or three cases; this was a successful cooperation in which I learned very much.

Last but not least; the deaf-blind students and their parents have been decisive to my learning in this very difficult subject.

The following institutions also were of major importance for my work:

The University of Oslo - Department of Sociology; Skådalen Resource Centre for Special Education of the Hearing Impaired and the Deaf-blind, Oslo; Sosialdepartementet (Royal Norwegian Ministry of Social Welfare), Oslo ; Statens Sentralteam for Døvblinde (Norwegian Central Team for the Deaf-Blind), Oslo; Faglitterær forfatterforening (The Norwegian Non-fiction Writers and Translators Association), Oslo; Borlaugs legat (Borlaug's legacy); The National Deafblind and Rubella Association (Sense) - Sense in the Midlands, Birmingham, Great Britain;

Perkins School for the Blind, Watertown, Massachusetts; Clarke School for the Deaf, Northampton, Massachusetts; Rhode Island School for the Deaf, Providence, Rhode Island; Helen Keller National Center for Deafblind Youths and Adults (HKNC), New York; Gallaudet University, Washington, D.C.; The Learning Center for Deaf Children, Framingham, Massachusetts; Research Laboratory of Electronics, Massachusetts Institute of Technology.¹

The development of education for blind people

They were white, black, brown, yellow, red. They were of every race and every faith, of every class and every station, in every land under every sky.

Some were born to their fate; others came to it through caprice of accident, or in the heat of battle, or by dint of a ruler's cruel decree.

They were the blind - uncounted generations of them over the centuries, 15 million or more alive in the world today (Koestler, F.A. 1976, p. 1)

Shooting stars on the horizon of deep darkness?

Monbeck points out that although the number of blind people has never been large, blindness was somewhat more common in the ancient world than it is today, at least as in the United States and Western Europe. In the Near East, the center of the ancient world, blindness is thought to have been the major type of disability from the earliest times to well into the modern era (Monbeck 1996, p. 23).

The great majority of blind² people probably lived a very difficult life up to the last centuries and still do in many countries of the world. In some countries, blindness is still regarded as a curse of the almighty. The blind³ had and have no occupation, no source of income and were and are often rejected by family and society. Even for those blinded later in life, there would seem to be an almost universal reaction of fear, avoidance and rejection, an immediate emotional reaction that has taken a variety of forms in its expression. In some cultures, people who are blind have been merely shunned, while in others they have been actively persecuted. They have sometimes been worshipped, but in Monbeck's opinion, this is really only the other side of the same coin. "One who is thought to have

¹ Thanks to Norman Brown, Grete Høie, Susan Powers, Arnfinn Vonen for language improvements.

²A closer study of the problems of deaf-blind, blind, and deaf people demonstrates that there are two central problems which will be peripherally dealt with in this book: The degree of impairment and its onset.

There are many degrees of impairments. Relatively many deaf-blind, blind and deaf have some residual vision and/or hearing. Multisensory impairments, visual impairment, hearing impairment are more general concepts (and also controversial terms!). In the historical cases, especially the distant ones, we very often know neither the degree of impairment nor the time of onset - e.g. if it was congenital or not. These are crucial questions, and the reader should bear them in mind when reading about "deaf-blind", "blind" and "deaf" people. We will turn to more exact descriptions and discussions of this in later presentations. In this book, however, we will merely touch upon such problems when discussing some persons in detail.

³Blind -ON *blindr*, Got. *blinds*, Ags. *blind* (Eng. *blind*, ME *blind*, OE), OHG. *blint* (LG *blind*). As lat. *caecus* the word also signified "invisible, hidden". From German the meaning "wrong, make similar" origins, as *blind window*, allegedly "opaque, dark" (as lat. *caecus*). Gmc **blindaz*. Ieu. **bhlendh* probably for **mlendh* and is a development from **mel* () "dark". Few languages have the same word for "invisible" and "who do not see". English "blind" was known before year 1000 A.D.

been 'touched by God', possessed by evil spirits, or marked by stigma of sin or disease is psychologically or socially set apart from normal human beings." (Monbeck 1996, p. 53).

Still we know of some outstanding blind people throughout history. Michael Anagnos, the second director of the Perkins Institution, pointed out as early as 1882 that these people were "shooting stars on the horizon of deep darkness, ignorance, and neglect." (Anagnos in Farrell 1956a, p. 13).

Expressions such as "they live in a world of darkness" about blind people and "they live in a world of silence" about deaf people are very common in history. They can, however, be misleading. For congenitally blind and deaf people they are simply false. For a sighted/hearing person becoming blind/deaf, however, the "darkening"/"silencing" is a reality that might lead to great mental problems. Such terms could be sensible if "the world of darkness and silence" meant that sighted and hearing people closed their eyes and ears to blind and deaf people. "The great mass of this afflicted class were everywhere mere objects of charity which, however wisely it may be administered, wounds the spirit while it soothes the flesh." (Anagnos in Farrell 1956a, p. 13). According to Monbeck, we can note that the general treatment (to be distinguished from portrayal) of blind people in the Western world falls into three historical phases: treatment as liabilities, as wards, and as members of society. On the other hand, present-day attitudes certainly point to the fact that blind people are cast in all three roles today and that the third phase is an ideal toward which only a small shift has been effected in very recent times (Monbeck 1996, p. 23).

"By the same token, most students of the depiction of blindness and blind people in the past agree that there were no historical periods in which blind people were uniformly portrayed as either liabilities, wards, or members of society, but that all of these, plus many other social roles, do emerge. The point is that while the treatment of blind people has historically changed somewhat, beliefs about blindness and blind people have shown very little significant alteration over the last several thousand years." (Monbeck 1996, pp. 23- 24) .

Monbeck refers to the following attitudes and beliefs towards blind people:

1. Deserving of pity and sympathy. 2. Miserable. 3. In a world of darkness. 4. Helpless. 5. Fools. 6. Useless. 7. Beggars. 8. Able to function. 9. Compensated for their lack of sight. 10. Being punished for some past sin. 11. To be feared, avoided, and rejected. 12. Maladjusted. 13. Immoral and evil. 14. Better than sighted people (idealized). 15. Mysterious.

"The idea that blind people are not helpless and useless has been included to show that the negative beliefs regarding the abilities of blind people were not universal in the past and that the modern attempt to integrate blind people into sighted society is not without some historical precedence." (Monbeck 1996, p. 25).

It is difficult to state which attitudes are most dominant at specific times in history, and in particular countries.

However, one belief came into existence very early in history. It is a belief which also represents what might be the most typical attitude in large parts of the world at the present time. This is the belief that *blindness* is the main characteristic and the basic status which defines people who are blind - the belief that it is a characteristic which is in itself the *cause* of other characteristics such as helplessness, uselessness, extraordinary sensory capabilities, etc. People who are blind are thus referred to as *the blind* , *they* . People who are blind are labelled in the same way as people who are deaf, lame, lepers, or mad.

Ancient times: Destruction of imperfect children

All civilizations have been forced to take note of their blind. Monbeck is mainly right about historical tendencies. On the other hand, history is never a linear process from "lower" to "higher", as often believed. However, from the earliest days of recorded history to the nineteenth century scarcely any record exists of persons who were congenitally blind. Such few records as exist of congenitally deaf people most often tell about painters, the blind are often musicians or poets (which should not lead to the wrong inference that most congenitally deaf people were painters, whilst most blind people musicians or poets).

Egypt: The country of the blind

Ross (1951, pp. 10-11) states that the early Pharaohs had no compunction about disposing of blind children, but their humane laws in time put a curb on this practice. In fact, the first historic glimmerings on the subject of blindness come from the Valley of the Nile. Hesiod, Greek poet of the eighth century before Christ, whose *Theogony* tells of the beginnings of the world and the birth of the gods, called Egypt the country of the blind. As far back as 2650 B.C., Ptah-hotep, sage and vizier of the Fifth (Memphite) dynasty, author of *The Instruction of Ptah-hotep* - the earliest Egyptian document extant - was credited with healing powers associated with the blind and deaf. The Egyptians also studied medicine, paid considerable attention to diseases of the eyes and treated several eye diseases. There was also some degree of instruction given to the blind. Thus, the beginnings of both eye medicine and instruction of the visually impaired can be said to have their emergence in Egypt more than 3000 years ago. According to Moores, the ancient Egyptians were the first people to document an interest not only in handicapping conditions but also in handicapped individuals. In addition to the study of causes and cures of disabilities, they directed attention to the personal and social well-being of handicapped persons, especially the sightless:

"The priests of Karnak trained the blind in music, arts, and massage. Blind people participated in religious ceremonies and during some periods represented a large proportion of the poets and musicians of ancient Egypt." (Moores 1987, p. 33).

Herodotus (b. 484 B.C.-d. 430-420), the Greek author of the first great narrative history produced in the ancient world, was a wide traveler. He also went to Egypt. Herodotus tells of Anysis, a blind Egyptian king who, though driven off his throne by invaders, returned after their departure and resumed governing (Monbeck 1996, p. 42). This indicates that blind people were very early portrayed as able to function and to be useful.

There are numerous allusions to blindness in early Greek, Roman and Hebrew literature. Since it was one of the great ills of these civilizations, the subject commanded attention. That blindness was probably widespread in the old Israel can be assumed from the relatively high numbers of words denoting blindness (Scholler 1990, p. 182).⁴

According to Winzer,

"Early humans deeply believed that the power to cause physical and mental derangement was carried by the gods, who inflicted disability as a punishment upon those who incurred their anger. If the gods were not to blame, then a malignant being who disliked humanity was seen as responsible for evil and unhappiness." (Winzer, M.A. 1993, p. 16).

⁴Heinrich Scholler (1929-) was born in Munich. At 16 years of age he became blind due to a chemical accident. From 1971 he was tenure professor at Munich University. Among numerous other publications he was author of the *Enzyklopädie des Blinden- und Sehbehindertenwesens*.

The Old Testament and blindness

What about Christianity?

Can the Bible, also called the Holy Bible, the sacred book or Scriptures of Judaism and of Christianity, tell us something about the time before the alleged birth of Jesus?⁵

About the attitudes towards blind and deaf people 2000-3000 years ago? The answer to these questions is yes.

The various parts of the Old Testament were written at different times in history. It seems, however, to be a widely-held view that large parts of it were written before 200 B.C. (between 200 B.C. and 587 B.C.) It is known in Greek translation from 200 B.C. The Bible of Judaism and the Bible of Christianity are different, however, in some important ways. The Jewish Bible is the Hebrew Scriptures, 39 books originally written in Hebrew, except for a few sections in Aramaic. The Christian Bible consists of two parts, the Old Testament and the 27 books of the New Testament. We have studied the Christian Bible King James Version.⁶

The Old Testament tends to regard blindness as a result of God's power, as a curse, as a punishment, as a result of sin. Typical passages are:

Le 21:18 For whatsoever man [he be] that hath a blemish, he shall not approach: a blind man, or a lame, or he that hath a flat nose, or any thing superfluous,

Le 22:22 Blind, or broken, or maimed, or having a wen, or scurvy, or scabbed, ye shall not offer these unto the LORD, nor make an offering by fire of them upon the altar unto the LORD.

De 15:21 And if there be [any] blemish therein, [as if it be] lame, or blind, [or have] any ill blemish, thou shalt not sacrifice it unto the LORD thy God.

De 28:28 The LORD shall smite thee with madness, and blindness, and astonishment of heart:

In ancient Hebrew culture, as represented in the Old Testament and in extra-Biblical legends, blindness was decidedly associated with the power of God. *However, blindness is very seldom directly related to sin.* This makes an interpretation rather difficult. Is Monbeck right (?), when saying that whether a story "involves a clear-cut case of punishment for sins or not, divine intervention was usually assumed and the possibility of unrealized sins thus sustained. For example, in Genesis (19: 9-11)⁷, the Sodomites who come to arrest Lot are blinded by two

⁵The term Bible is derived through Latin from the Greek *biblia*, or "books", the diminutive form of *byblos*, the word for "papyrus" or "paper", which was exported from the ancient Phoenician port city of Biblos.

⁶The Old Testament and the New Testament; King James Version. Online Bible. Online Bible Foundation (UK), 15 Newburgh Drive, Bridge of Don, Aberdeen, Scotland.

The New Testament; King James Version. In HyperStack v. 1.01.

Online Bible from Online Bible Foundation, Aberdeen, Scotland.

The Oxford Illustrated Old Testament. Oxford University Press, London. The text used in this edition is that of the Authorized (King James) Version of 1611. The Old Testament is translated from Hebrew, the New Testament from Greek.

All occurrences in which the terms "blind", "see", "look", "eye", and "sight" are included in both the Old Testament and the New Testament have been investigated. The occurrences in both Testaments are of two main types: Metaphoric terms and phrases - i.e. terms and phrases used, or regarded as being used, to represent something else - and terms and phrases representing objects in the ordinary way.

There is a transition in flux between the two types (e.g.: Ex 21:24 Eye for eye, tooth for tooth, hand for hand, foot for foot,...). Sometimes, in the Bible as well as in the Koran (see later on the latter), there can be uncertainty as to whether or not a term or phrase is exclusively metaphoric.

⁷R.Th.E.: Genesis 19: 9-11: 9 And they said, Stand back. And they said [again], This one [fellow] came

angels and Lot escapes. It is difficult to say whether they were blinded because they were Sodomites, and therefore evil, or because they were an obstruction to Lot's escape from the city. In Exodus (4:12)⁸, God makes this point very clear when he says to Moses, '...What makes [man] clear-sighted or blind? Is it not I, the Lord?' " (Monbeck 1996, p. 50). However, read in context, this author (Enerstvedt) does not interpret this statement as unequivocal. Is blindness punishment because God creates it? And is punishment always due to sin?

Leviticus 26: 14-16 can be regarded as punishment due to sin,

14 But if ye will not hearken unto me, and will not do all these commandments;

15 And if ye shall despise my statutes, or if your soul abhor my judgments, so that ye will not do all my commandments, [but] that ye break my covenant:

16 I also will do this unto you; I will even appoint over you terror, consumption, and the burning ague, that shall consume the eyes, and cause sorrow of heart: and ye shall sow your seed in vain, for your enemies shall eat it.

as can also Deuteronomy 28: 65

65 And among these nations shalt thou find no ease, neither shall the sole of thy foot have rest: but the LORD shall give thee there a trembling heart, and failing of eyes, and sorrow of mind:

Blindness as a punishment for sin is mentioned at least twice in the Book of Job, once by Zohar, one of Job's comforters (11: 20)⁹ and by Job himself (17: 5)¹⁰. Other moral injunctions backed by a threat of blindness are found in Psalm 69:23¹¹, Proverb 30:17¹², and Zephaniah 1: 17¹³ (Monbeck 1996, p. 50). Leviticus 21: 18 (above), however, does express God's will, but it is not a punishment caused by sins or not caused by sins, neither is Leviticus 22: 22 (above), nor Deuteronomy 15: 21 (above). Deuteronomy 28: 28 is a curse - a threat "...if thou wilt not hearken unto the voice of the LORD thy God... " (De 28: 15) then... "The LORD shall smite thee with madness, and blindness, and astonishment of heart:.. ". In the last passage we could speak of a punishment for possible future, rather than past sins.

In the Old Testament, Genesis 27 the narrative is presented where the old and blind Isaac is deceived, believing he is blessing his oldest son Esau, but really is blessing Jacob his younger son.

in to sojourn, and he will needs be a judge: now will we deal worse with thee, than with them. And they pressed sore upon the man, [even] Lot, and came near to break the door. 10 But the men put forth their hand, and pulled Lot into the house to them, and shut to the door. 11 And they smote the men that [were] at the door of the house with blindness, both small and great: so that they wearied themselves to find the door.

⁸R.Th.E.: In KJV, Exodus 4:11: And the LORD said unto him, Who hath made man's mouth? or who maketh the dumb, or deaf, or the seeing, or the blind? have not I the LORD?

⁹R.Th.E.: Job 11: 20 But the eyes of the wicked shall fail, and they shall not escape, and their hope [shall be as] the giving up of the ghost.

¹⁰R.Th.E.: Job 17: 5 He that speaketh flattery to [his] friends, even the eyes of his children shall fail.

¹¹R.Th.E.: Psalm 69: 23 23 Let their eyes be darkened, that they see not; and make their loins continually to shake.

¹²R.Th.E.: Proverb 30: 17 17 The eye [that] mocketh at [his] father, and despiseth to obey [his] mother, the ravens of the valley shall pick it out, and the young eagles shall eat it.

¹³R.Th.E.: Zephaniah 1: 17 17 And I will bring distress upon men, that they shall walk like blind men, because they have sinned against the LORD: and their blood shall be poured out as dust, and their flesh as the dung.

However, already in the Old Testament there is a humanist view, ideas of the blind as helpless¹⁴ people and in need of pity and sympathy, examples of a new moral:

Le 19:14 Thou shalt not curse the deaf, nor put a stumbling block before the blind, but shalt fear thy God: I [am] the LORD.¹⁵

De 27:18 Cursed [be] he that maketh the blind to wander out of the way. And all the people shall say, Amen.

Job 29:15 I was eyes to the blind, and feet [was] I to the lame.

Typical metaphors are, e.g.:

Isa 29:18 And in that day shall the deaf hear the words of the book, and the eyes of the blind shall see out of obscurity, and out of darkness.

Isa 35:5 Then the eyes of the blind shall be opened, and the ears of the deaf shall be unstopped.

Isa 43:8 Bring forth the blind people that have eyes, and the deaf that have ears.

Ps 115:5 They have mouths, but they speak not: eyes have they, but they see not:

Isa 35:5 Then the eyes of the blind shall be opened, and the ears of the deaf shall be unstopped.

The expression "evil eye" (e.g.: Pr 28:22 He that hasteth to be rich [hath] an evil eye, and considereth not that poverty shall come upon him.) has probably nothing to do with blindness. According to Monbeck, the idea that blind people are particularly deserving of pity and sympathy is, in its earliest manifestations, always connected with religious feelings and beliefs. Showing pity towards blind people was one of the marks of being religiously devout (Monbeck 1996, p. 26). On the other hand, in the Old Testament, blind people are among those disqualified from the priesthood.¹⁶ Monbeck interprets that as not merely a supposed

¹⁴According to Monbeck, the idea that blind people are helpless has often been equated with the idea that they are fools, that they can easily be tricked, manipulated, or exploited by others in ways usually detrimental to themselves. For example, in Jewish mythology Cain was slain by a blind archer, Lamech, whose aim was directed by his son who mistook Cain for a wild animal. The same motif is also encountered in Norse mythology, cf. Loki and Balder (Monbeck, pp. 35-36).

"...when Isaac was old, and his eyes were dim, so that he could not see, he called Esau his eldest son...And Jacob went near unto Isaac his father; and he felt him, and said, 'The voice is Jacob's voice, but the hands are the hands of Esau.' And he discerned him not, because his hands were hairy, as his brother Esau's hands: so he blessed him." (Bible, 1, pp. 63, 64).

Another Jewish legend recounts the story of Moses being pursued by the Pharaoh's troops after he has escaped from the executioner's block. The soldiers are struck blind and Moses easily eludes them (Monbeck 1996, p. 36).

According to Monbeck, the deception of blind people in folk tradition is quite common:

"There is a North American Indian tale of a blind hunter whose aim is guided by his mother or wife who then deceives him into thinking that he has missed the target and eats the game herself. Another motif (found in Europe, Africa, and among the North American Indians) involves a group of blind men being duped into fighting with each other. In the South Pacific, there are tales involving thefts from blind people and the deception of blind guards. In Indonesia, there is a fable of a dwarf-deer pasting the other animals' eyes shut and then causing a panic when it pretends that hunters are coming. And there is a European story about a physician who bandages his patient's eyes and then proceeds to steal her belongings." (Monbeck 1996, pp. 38-39).

¹⁵R.Th.E.: The Hebrew term translated to "blind" is: *iwwer*. The Hebrew term signifies blind, but also can have the signification "one-eyed". The author has not investigated if there are other Hebrew terms translated to "blind" (KJV) in the Old Testament.

¹⁶ Cf. Leviticus 21: 16 And the LORD spake unto Moses, saying, 17 Speak unto Aaron, saying, Whosoever [he be] of thy seed in their generations that hath [any] blemish, let him not approach to offer the bread of his God. 18 For whatsoever man [he be] that hath a blemish, he shall not approach: a blind man, or a lame, or he that hath a flat nose, or any thing superfluous, 19 Or a man that is brokenfooted, or brokenhanded, 20 Or crookbackt, or a dwarf, or that hath a blemish in his eye, or be scurvy, or scabbed, or hath his stones broken; 21

helplessness (lack of the personal quality of self-sufficiency) of blind people, but also as a supposed social uselessness, a lack of usefulness to others (Monbeck 1996, p. 39).

In conclusion, there is a variety of attitudes on blindness in the Old testament.

Blindness is always the will of God - because everything is. On the other hand, blindness can be

- a) The will of God - but not a punishment
- b) The will of God - a punishment but not due to sin
- c) The will of God - a punishment due to past sin.
- d) The will of God - a punishment due to future sin (e.g. curse).

Samson - a Hebrew hero

In the Old Testament we find the oldest story of blinding, that of Samson.¹⁷

Samson was a Hebrew hero and for 20 years twelfth judge of ancient Israel. It is stated that he was the son of Manoah of Zorah, of the tribe of Dan. Manoah's wife was barren, but an angel appeared to her and promised a son and said the boy should be a Nazarite, that is, a consecrated person. No razor was to touch the boy's head, and it was through the supernatural strength with which his hair endowed him that Samson performed his great feats, including the strangling of a lion and the slaying of a thousand Philistines with the jawbone of an ass. Finally he was betrayed by a Philistine woman, Delilah, who had his head shaved and then handed him over to the Philistines. His eyes were put out, and he was forced to perform servile labor.¹⁸ Later, at a festival in honor of Dagon, the Philistine deity, Samson was exhibited as a public spectacle. By this time, however, his hair had grown back; he exerted his great strength and pulled down the pillars of the house in which 3000 Philistines had assembled, burying the multitude and himself in the ruins (Encarta 1994).

The story, set in the eleventh century B.C., apparently underwent editorial revision. Its legendary or even mythical character seems obvious to many scholars. The meaning of Samson's name, "the sunny one", and the nature of some of his exploits suggest that Samson was originally a hero of the sun cult.

No man that hath a blemish of the seed of Aaron the priest shall come nigh to offer the offerings of the LORD made by fire: he hath a blemish; he shall not come nigh to offer the bread of his God. 22 He shall eat the bread of his God, [both] of the most holy, and of the holy. 23 Only he shall not go in unto the vail, nor come nigh unto the altar, because he hath a blemish; that he profane not my sanctuaries: for I the LORD do sanctify them.

¹⁷ In Jewish legend, according to Monbeck, Balaam is blinded for an impure thought, and when Moses and the Israelites are doing battle with the giants Sihon and Og and the army of Amorites, God sends hornets to blind all the Amorites to insure the victory of the Israelites (Monbeck 1996, p. 50).

¹⁸ Cf. the Old Testament, e.g.:

Jud 16:18 And when Delilah saw that he had told her all his heart, she sent and called for the lords of the Philistines, saying, Come up this once, for he hath shewed me all his heart. Then the lords of the Philistines came up unto her, and brought money in their hand.

Jud 16:19 And she made him sleep upon her knees; and she called for a man, and she caused him to shave off the seven locks of his head; and she began to afflict him, and his strength went from him.

Jud 16:20 And she said, The Philistines [be] upon thee, Samson. And he awoke out of his sleep, and said, I will go out as at other times before, and shake myself. And he wist not that the LORD was departed from him.

Jud 16:21 But the Philistines took him, and put out his eyes, and brought him down to Gaza, and bound him with fetters of brass; and he did grind in the prison house.

Samson is recalled in the New Testament for his faith (see Hebrews 11:32-34).

He is the subject of the tragic poem *Samson Agonistes* (1671) by the English poet John Milton and of the oratorio *Samson* (1743) by the German-born composer George Frideric Handel (Encarta 1994).

The blinding of Zedekiah

One of the oldest records we have found is that regarding Zedekiah.

Originally name Mattaniah (died after 586 B.C.), he was the last king of Judah (597-586 B.C.), and final ruler of the line of David. A son of King Josiah (circa 640-609 B.C.), he was placed on the throne by the Chaldean king Nebuchadnezzar II of Babylonia after the latter had defeated and deposed King Jehoiachin (615?-560? B.C.) of Judah, Zedekiah's nephew. As the puppet king of an enslaved people, Zedekiah's position was weak; he vacillated between the policy of the prophet Jeremiah, who urged continued submission to the Babylonians, and that of the Jewish patriots, who urged rebellion. He yielded finally to the patriots and formed an alliance with Egypt against the Babylonians. In 588 B.C. he broke his oath of allegiance to Nebuchadnezzar and took up arms against him. Jerusalem was soon besieged by the Babylonian army. The Egyptian king Apries (588-569 B.C.) made a halfhearted effort to come to Zedekiah's aid, but to no avail. Jerusalem fell in 586 B.C., after withstanding a siege for some 16 months. Zedekiah was captured, brought before Nebuchadnezzar, forced to witness the execution of his sons, and then blinded. Carried in chains to Babylon, he was imprisoned there for the rest of his life. His story is told in the Old Testament books of Kings, Chronicles, and Jeremiah (Encarta 1994). Cf. the Old Testament, e.g.:

2Ki 25:7 And they slew the sons of Zedekiah before his eyes, and put out the eyes of Zedekiah, and bound him with fetters of brass, and carried him to Babylon.

The narrative of Tobit

The narrative of Tobit is one of the first records of a blind person.

Tobit is a book of the Old Testament in those versions of the Bible following the Greek Septuagint (generally Roman Catholic and Orthodox versions). It does not appear in the Hebrew Bible and is placed with the Apocrypha in Protestant versions of the Bible (Encarta 1994).

The narrative is set in the ancient Assyrian capital of Nineveh sometime between the latter part of the eighth century B.C., after the defeat of the kingdom of Israel by Assyria, and the destruction of Nineveh in 612 B.C.¹⁹

The narrative begins with Tobit, a pious Israelite of the tribe of Naphtali, who has become blind in Nineveh despite his good works and uprightness. Sorely afflicted, he asks God to let him die. On the very day of Tobit's prayer, Sarah, a young relative of Tobit living in the Median capital, Ecbatana, also prays for death. She has been married seven times, and every one of her husbands has been killed on their wedding night by the jealous demon Asmodeus.²⁰ The prayers of both are heard, and the archangel Raphael is sent to help them. At this point, Tobit decides to send his son Tobias to the Median city of Rages (now Rai, near Tehran, Iran) to recover money left there in trust with a friend. Raphael (dis-

¹⁹Modern scholars generally agree, however, that Tobit reflects little that can be considered genuine history, except perhaps the names of some of the characters. A type of wisdom literature, the book was probably written as late as the second or even the first century B.C. in Palestine. The author is unknown. The language of the original was either Aramaic or Hebrew; the oldest surviving complete text is, however, in Greek. In 1955 fragments of the book in Aramaic and in Hebrew were recovered at Qumran.

²⁰R.Th.E.: Jewish demonology, Asmodeus - "an evil spirit".

guised as Azarias, another of Tobit's relatives) appears, to accompany and guide Tobias.

En route, Tobias catches a large fish in the Tigris River and is advised by his heavenly guide to keep its heart, liver, and gall because of their magical healing properties. When they reach Ecbatana, the archangel persuades Tobias to marry Sarah. On the wedding night, Tobias, using the heart and liver of the fish as instructed by the archangel, routs Asmodeus. The next four chapters relate Raphael's journey to Rages, to recover the money held in trust.

Tobias, Sarah, and Raphael return to Nineveh, where Tobias uses the gall of the fish to restore his father's sight. Raphael then reveals his identity and departs. Immediately afterward, inspired by the archangel's final exhortation, Tobit composes and recites a hymn of praise to God. In chapter 14, the last, Tobit lives 100 years more in great happiness and, before dying, predicts the destruction of Nineveh (Encarta 1994).

The ancient Greeks, Romans, and Germans: Infanticide, treatment, education, legends and myths regarding blindness

Historians debate whether Homer was blind when he wrote the *Iliad* and *Odyssey*, or indeed if he wrote them at all. He is believed to have become blind early in life, before completing the *Iliad* or starting the *Odyssey*. The facts of his birth, origin and history, however, are shadowy. Herodotus called him an Asiatic Greek who lived around 850 B.C. Other historians have placed him as early as 1200 B.C. (Ross, I. 1951, pp. 4, 16-17). In Homer's *Odyssey*, the Cyclopes²¹ were shepherds living in Sicily. They were a lawless, savage, and cannibalistic race fearing neither gods nor humans. The Greek hero Odysseus was trapped with his men in the cave of the Cyclops Polyphemus, a son of Poseidon, god of the sea. In order to escape from the cave after the giant devoured several men, Odysseus bored out Polyphemus' one eye with a burning stake, i.e. blinded him (Encarta 1994).

The ancients both before and after Homer had one opinion and practice towards congenital blindness, and another towards adventitious blindness.

Aristotle: The blind are more intelligent than the dumb and deaf

In Greece the destruction of imperfect children was approved theoretically by Plato (427-347 B.C.) and Aristotle (384-322 B.C.)²². The theories are realized in Lykurgos' legislation in Sparta and Solon's in Athen. The Spartans examined newborn children carefully to appraise their fitness for future citizenship. Those who failed to pass muster were left to die in mountain gorges or in the wilderness. In Athens they were squeezed into clay vessels and deposited by the wayside.

²¹Cyclops, in Greek mythology, giants with one enormous eye in the middle of the forehead. In Hesiod, the three sons - Argos, Brontes, and Steropes - of Uranus and Gaea, the personifications of heaven and earth, were Cyclopes. They were thrown into the lower world by their brother Cronus, one of the Titans, after he dethroned Uranus. But Cronus's son, the god Zeus, released the Cyclopes from the underworld, and they, in gratitude, gave him the gifts of thunder and lightning with which he defeated Cronus and the Titans and thus became lord of the universe.

²²Aristotle, Greek philosopher and scientist, who shares with Plato the distinction of being the most famous of ancient philosophers.

Aristotle was born at Stagira, in Macedonia, the son of a physician to the royal court. At the age of 17, he went to Athens to study at Plato's Academy. He remained there for about 20 years, as a student and then as a teacher.

Aristotle's influence upon attitudes towards debility and disease is up to the present time decisive in Europe and the United States. This does not refer to his approval of destruction of imperfect children; this already was disputed by the victory of christianity. However, his classifying of health as positive and "good" and disease and debility as negative and "bad" has been the foundation also in the humanistic movement for improving health in the developed countries.

Aristotle was in favour of "positive" definitions, i.e. by characterizing things by what they are and not by what they are not. However, privations, e.g. privation of sensation could only be defined negatively:

"For the opposition of sensation to absence of sensation is an opposition of the presence to the privation of a state: for the one of them is a state, and the other the privation of it." (In *Topica*, Aristotle 1955, 114a,10-15).

Consequently, in *Topica* he defined "blind" and "blindness" negatively. This was permissible because it was necessary, inevitable:

"It may be that in some cases the definer is obliged to employ a negation as well, e.g. in defining privations. For 'blind' means a thing which cannot see when its nature is to see." (Aristotle 1955, 143b,34-35).

"...'blindness' is the 'privation of sight in an eye'." (Aristotle 1955, 147b,34-35).

"...inasmuch as 'to see' is a property of 'sight', inasmuch as we have sight, 'failure to see' would be a property of 'blindness', inasmuch as we have not got the sight we should naturally have." (Aristotle 1955, p. 136a,1-5).

In *On Sense and the Sensible* Aristotle has an important statement on vision and hearing:

"The senses which operate through external media, viz. smelling, hearing, seeing, are found in all animals which possess the faculty of locomotion. To all that possess them they are a means of preservation; their final cause being that such creatures may, guided by antecedent perception, both pursue their food, and shun things that are bad or destructive. But in animals which have also intelligence they serve for the attainment of a higher perfection. They bring in tidings of many distinctive qualities of things, from which the knowledge of truth, speculative and practical, is generated in the soul.

Of the two last mentioned, seeing, regarded as a supply for the primary wants of life, and in its direct effects, is the superior sense; but for developing intelligence, and in its indirect consequences, hearing takes the precedence. The faculty of seeing, thanks to the fact that all bodies are coloured, brings tidings of multitudes of distinctive qualities of all sorts; whence it is through this sense especially that we perceive the common sensibles, viz. figure, magnitude, motion, number: while hearing announces only the distinctive qualities of sound, and, to some few animals, those also of voice. Indirectly, however, it is hearing that contributes most to the growth of intelligence. For rational discourse is a cause of instruction in virtue of its being audible, which it is, not directly, but indirectly; since it is composed of words, and each word is a thought-symbol. Accordingly, of persons destitute from birth of either sense, the blind are more intelligent than the deaf and dumb." (Aristotle, p.1, OnLine)

"Deaf and dumb" is an archaic term. Translation of Aristotle has ascribed the phrase "deaf and dumb" to him. This is uncorrect. In *On Sense and the Sensible* (cf. above), he used the phrase "dumb and deaf". The English translation above is "deaf and dumb", but the Greek phrase - what Aristotle really said - is comparable to "dumb²³ and deaf²⁴". The meaning of the phrase "deaf and dumb" is that a "deaf and dumb" person can neither hear nor speak.²⁵

²³Translation of Greek ἀνοήτως.

²⁴Translation of Greek ἀκούω. Notice that this word also can denote "dumb", however with ἀνοήτως as above it signifies "deaf", which is the main denotation.

²⁵ The phrase "the dumb and deaf" is plural, however, the meaning is most likely not "the deaf and the

The practices of infanticide

The custom in Lacedaemonia was to throw all the blind and other weaklings into a gulf. Rome adopted the Greek tradition and imperfect children were tossed into the Tiber in baskets sold for this purpose on the markets. Blind boys who survived became beggars or rowed in the Roman galleys. Blind girls usually became prostitutes. The Theban could sell his sightless child as a slave. The Jews forbade exposure, since the child was a gift from God, but the Talmud²⁶ and other Hebrew commentaries spoke of the blind as if already dead, and referred to the blind as the living dead (Ross, I. 1951, pp. 10-11; Koestler, F.A. 1976, p. 3). Tacitus reports that it was a crime to curtail the number of children among the Germans. However, leaving defective children to die was allowed and was practiced also after the introduction of Christianity; then it had to be done before the child's christening (Kretschmer 1937, p. 14).

The custom of leaving children to die had reference to many defective children in ancient times. Blind children were especially at risk since opinion ruled they could not support themselves. According to Monbeck, French, in his study, points out that the supposed social uselessness of blind people was the determining factor in their being destroyed as infants (Monbeck 1996, p. 39).

Although infanticide was practiced in ancient time many blind and also deaf children survived. The reason why was probably primarily that it was not at once discovered - diagnosing both blindness and deafness was (and is) difficult. There are also many levels of visual and hearing impairment, from total to moderate. Disabled children who survived - according to Winzer there appear to have been many, possibly as the result of parental solicitude, undetected congenital conditions, or postnatal handicaps -, were tolerated if they were of economic or social value (Winzer, M.A. 1993, p.15).

Despite the practices of infanticide, "there are indications of a reluctance to resort to infanticide in ancient times." (Winzer, M.A. 1993, p.14).

Early sources contain references to sickly or deformed children and illegitimate sons - the ones who could have been exposed and were not (Bell and Harper 1977, in Winzer, M.A. 1993, p. 14). Greece and Rome began to place restrictions on infanticide; some cities began to limit the right of the parents to kill their newborns; some required the approval of five neighbours be obtained before infants could be killed; and other halted the infanticide of firstborn males. Thebes outlawed infanticide altogether (de Mause 1981, in Winzer, M.A. 1993, p. 14). Thus, it might be true what is said about the Greek writer Xenocritus from the Italian Locri (Greek: Lokroi) in Bruttium (the Italian "toe", at present Calabria, previously colonized by the Greek), namely that he was blind throughout his whole life. According to Scholler, Xenocritus and Xenodnus were the most influential reformers of the music in Sparta. (Scholler 1990, p. 513).

dumb", although the Greek expression is not totally unequivocal. The translation by W.S. Hett, however, is "...the blind are more intelligent than the deaf and the dumb. " (Aristotle 1935, p. 213). The Greek words are "...hoi typhloi tôn eneôn kai kōphôn. " ("the blind...the deaf and dumb.)

²⁶ Talmud: (Hebrew: Study, or Learning), in Judaism, scholarly interpretations and annotations on the Mishna--the first authoritative codification of Jewish oral laws, which was given its final form early in the third century by Judah ha-Nasi--and on other collections of oral laws, including the Tosefta (Encyclopaedia Britannica 1996, Online).

There is no doubt that in all known times the dealing with adventitiously blind people was not the same as the dealing with congenitally blind children. As a rule all people let the adventitiously blind live. On the other hand old, diseased and disabled people were a burden for the community, not useful in practical life or in war. Praetorius tells about the pagan Prussia:

"The son killed old and diseased parents with the sword. The father killed blind, squint-eyed and undeveloped children with the sword, water or fire. The master hanged lame and blind servants in a tree that he violently bent to the ground and then pushed back." (In Kretschmer 1937, p. 15).²⁷

Greece contributed amply to the history of the blind - in letters, in medical lore and in scholars. Both Greece and Rome profited by the Egyptian practice in healing eyes. Both took note of the blind musician.

Treatment and education in ancient times

Medical investigation typically preceded attempts at education. Winzer states that "...no formal training facilities for disabled people were available until the mid-eighteenth century, though attempts to treat medically were widespread long before that." (Winzer, M.A. 1993, p. 15). This is the rule. However, we will document some exceptions, usually connected with religious institutions in medieval time.

The Greek physician Hippocrates (about 400 B.C.) alludes to thirty types of eye disease. He attempted to treat visual impairments.²⁸

The second-century Greek physician Galen (about 130-200 A.D.) knew of more eye diseases. However, his famous work on eye curing was lost.²⁹

The chief medical writers of the first and second centuries A.D., apart from Galen, were the Roman Aulus Cornelius Celsus; the Greek physician Pedanius Dioscorides; the Greek physician Artaeus of Cappadocia (second cent.); the Greek anatomist Rufus of Ephesus (early second cent.); and Soranus of Ephesus (98-138 A.D.), another Greek physician. Rufus of Ephesus was renowned for his investigations of the heart and eye.

Ancient legends and myths regarding blindness

Tiresias - the Theban seer

In Greek mythology, Tiresias was a Theban seer. He was said to have been struck blind by the goddess Athena because he had seen her bathing but to have

²⁷ According to Monbeck, with greater prosperity, most societies stop the practice of infanticide, but continue to consider blind people as liabilities; the choice is merely made to tolerate the liability (Monbeck 1996, p. 24). The assumption about the relation 'lack of prosperity-infanticide' seems to be a very widespread opinion, but the relation might be a more complex one. Monbeck seems to view Sparta and Athen as primitive societies and indicates himself a more multiple explanation by saying that aged blind people in such primitive societies are often treated well. An argument for that is the treatment of aged blind people for example, in the Five Tribes of the Upper Mississippi and Missouri rivers and the Wogeo of New Guinea. They are considered liabilities, but, in recognition of their having made their contribution before losing their sight, an effort is made to care for them. In other societies, aged blind people are treated with scorn and are neglected (the Ainu of Japan, in the Marquesas, and the Crow Indians of the Platte and Yellowstone rivers) (Monbeck 1996, p. 24).

²⁸Hippocrates is called the father of medicine. He was born in Cos and studied medicine there. Hippocrates was an acknowledged master in his lifetime, and his oath of service and the Hippocratic ethic established a standard of professional ideals still accepted (Hammerton, vol 8, p. 4242).

²⁹Galen or Claudius Galenus was born at Pergamum, Asia Minor. He studied at the chief seminaries of Greece and Egypt, and about 164 A.D. went to Rome, where he became famous. Galen was the author of some 500 treatises on medical and philosophical subjects. Most of these were burnt in the Temple of Peace in Rome, where they had been deposited, but 83 authentic works are extant (Hammerton vol 7, pp. 3627-8).

been recompensed by her with the gift of prophecy. According to another version, he was for a time transformed into a woman. Later, having become a man again, he was asked by Zeus and Hera, king and queen of the gods, to tell which sex had more pleasure in love. When he replied that woman had nine times as much pleasure as man, Hera, in anger, blinded him, but Zeus granted him long life. Tiresias played a prominent part in Theban legends, delivering prophecies to Oedipus, king of Thebes. He died while fleeing the wrath of the Epigoni, bellicose descendants of the Argive heroes who were killed in the war of the Seven Against Thebes (Encarta 1994).

Daphnis - who broke a vow of fidelity

In Greek mythology, Daphnis was the Sicilian shepherd who invented pastoral poetry, born of the union of the god Hermes with a nymph. According to one legend, Daphnis was blinded after breaking a vow of fidelity to a nymph who loved him. In another account, he loved the nymph Piplea, and to rescue her from Lityerses, king of Phrygia, Daphnis entered a reaping contest with the king. Daphnis lost the contest and was about to be beheaded by the king when the hero Hercules appeared and killed Lityerses. In one Greek pastoral poem, Daphnis is the lover of the shepherdess Chloë (Encarta 1994).

Orion - giant and mighty hunter

In Greek mythology, Orion was a handsome giant and mighty hunter, the son of Poseidon, the god of the sea, and Euryale, the Gorgon. Orion fell in love with Metropo, the daughter of Oenopion, king of Chios, and sought her in marriage. Oenopion, however, constantly deferred his consent to the marriage, and Orion attempted to gain possession of the maiden by violence. Incensed at his behaviour, her father, with the aid of the god Dionysus, threw him into a deep sleep and blinded him. Orion then consulted an oracle, who told him he could regain his sight by going to the east and letting the rays of the rising sun fall on his eyes. His sight restored, he lived on Crete as the huntsman of the goddess Artemis. The goddess eventually killed him, however, because she was jealous of his affection for Aurora, goddess of the dawn. After Orion's death, Artemis placed him in the heavens as a constellation (Encarta 1994).

According to Ross (p. 14), the Greeks were inclined to worship the enlightened blind as soothsayers or prophets but, paradoxically, Greek literature struck the note of despair on their state. Euripides (circa 480-406 BC)³⁰ saw no hope but suicide for the sightless. Blindness was regarded as the ultimate punishment, symbolized by the legend of Oedipus, of whom Sophocles, Euripides and Seneca all wrote. Later we know that Freud used it as a metaphor in his theory. Among later dramatists, Corneille, Dryden, Voltaire, and Jean Cocteau have treated the subject.

Euripides took his plots from the same general source as the other Greek dramatists. The native Greek myths and legends held a strong attraction for him. Of the many plays ascribed to Euripides, 17 tragedies and 1 satyr play³¹, Cyclops, survive (Encarta 1994). The myth of Cyclops we know from Homer's *Odyssey*.

³⁰ Euripides, Greek dramatist, the third, with Aeschylus and Sophocles, of the great Attic tragic poets (Encarta 1994).

³¹Satyr play - a burlesque or ribald drama having a chorus of satyrs, usually written by a poet to follow the poet's trilogy of tragedies presented at the Dionysian festival in ancient Greece (Flexner 1987, p. 1706).

In the great cave of the Cyclops at the foot of Mount Aetna the Cyclops is blinded by Odysseus. In Euripides' play we quote:

ODYSSEUS

Yes, Odysseus, the name my father gave me. But thou were doomed to pay for thy unholy feast; for I should have seen Troy burned to but sorry purpose, unless I had avenged on thee the slaughter of my comrades.

CYCLOPS

Woe is me! 'tis an old oracle coming true; yes, it said I should have my eye put out by thee on thy way home from Troy; but it likewise foretold that thou wouldst surely pay for this, tossing on the sea for many day (Euripides 420 BC).

Oedipus - who put out his own eyes

Sophocles (495-405 B.C.) wrote about 130 plays, but only seven are extant: *Antigone*, *Electra*, *Trachiniae*, *Oedipus Tyrannus*, *Ajax*, *Philoctetes*, *Oedipus Coloneus*, the best known being the first, fourth, and seventh, which deal with the hereditary curse on the house of Oedipus.

In Greek legend, Oedipus was son of Laius, king of Thebes, and Jocasta. An oracle having declared that Laius would perish at the hands of a son born of Jocasta, Oedipus, at birth, was exposed on the mountains with his feet pierced. There he was found by shepherds, by whom he was taken to Polybus, king of Corinth, who brought up Oedipus as his own son. The Delphic oracle declared that he would slay his father. Oedipus happened to meet Laius and in a sudden brawl killed him without suspecting his identity.

At this time the Sphinx was plaguing Thebes by devouring everyone who failed to answer a riddle. The Thebans proclaimed that the kingdom and the hand of Jocasta would be the reward of the man who rid the country of the monster. Oedipus essayed the adventure. The Sphinx propounded the riddle: What is the being which has four feet, two feet, and three feet; but its feet vary, and when it has most feet it is weakest? Oedipus answered that it was man. Enraged at receiving the correct answer, the monster threw herself from the rock. Oedipus thus became king of Thebes, and unwittingly married his own mother, by whom he had children. A plague then ravaged the land and, an oracle having declared that the plague would continue until the slayer of Laius was found, Oedipus set himself to discover the murderer, and learnt the truth from the prophet Tiresias. Jocasta hanged herself and Oedipus put out his own eyes (Hammerton, vol 14, pp. 7657-8, and vol 11, p. 6177).

On the other hand it is said that several Greek philosophers deprived themselves of their sight so as to achieve deeper meditation. The most notable example was Democritus (about 460 B.C.-380), Greek philosopher, who, according to Cicero and Gellius, blinded himself so that the "penetration of the mental eye should not be impaired by the vision of the natural eye." (Ross, I. 1951, p. 15).

Myths - from ancient time and throughout history

Thus the myths about blindness have an early emergence in history.

There are many myths, both negative - blindness connected to sin, punishment, curse, revenge, darkness (and vision with light, cf. Hoder and Balder), death; and positive - blind people have desirable traits of character (spirituality, patience, cheerfulness), special abilities (musical talents, prophetic gifts, razor-sharp memory), or superhuman non-visual senses.

Monbeck points out the fact that the idea that blind people could be useful, in spite of their blindness, was often explained by reference to the idea that loss of

sight was compensated by other gifts. Among the Ancient Greeks such compensations were believed to be from the gods, and, therefore, of a special divine nature (Monbeck 1996, p. 46). Traditionally, Homer's gift of poetry was considered to be of divine origin and, if the blind poets in the works attributed to the allegedly blind Homer are any indication, he himself considered it so. There is a seemingly autobiographical passage in the Homeric "Hymn to Delian Apollo" and, of course, Demodocus, the blind bard in *The Odyssey*, is described as having received his gift of song directly from the Muse. Both poets are shown as being greatly honored. Tiresias' gift of prophecy was from the gods, as was his magic staff which guided his steps. According to Monbeck, similar beliefs were held in Korea, Turkey, and Russia (Monbeck 1996, pp. 46-47). Throughout history blind people have been associated with mystery, magic, and the supernatural, a belief that blind people are especially suited to the occupation of soothsayer and seer is widespread. Monbeck states that blindness is often connected with miracles, and he correctly interprets the whole question of Jacob's "mistaken" blessing of his grandchildren (Genesis 48: 8:20) to be an example of prophecy, for he claims that he blessed Ephraim first, instead of Manasseh because Ephraim would be the greater of the two (Monbeck 1996, pp. 60-61).

In the seventeenth and eighteenth centuries, a number of philosophers became interested in the abilities, real and potential, of blind people. This speculation,

"was relatively free of ideas involving compensation, although there was some hint that the general 'psychology' of blind people was different as a result of their blindness. From this time on, therefore, the belief in compensatory abilities, for the most part, lost its divine connotations and was expressed within a framework known as the 'vicariate of the senses.' Guillie, for example, in his essay on the instruction of the blind (1819), writes that blind people have added powers of concentration, analysis, memory, imagination, and judgment and a great thirst for knowledge." (Monbeck 1996, p. 47).

Writing in 1872, Levy observes:

"It has often been remarked that the loss of one sense is made up for by increased power in the remaining senses. This is an adage frequently repeated and popularly believed, but its truth has been more or less denied by those immediately occupied in matters connected with the blind." (Levy, in Monbeck 1996, p. 47).

Two pages later, however, Levy, who was blind himself, writes that he can "perceive objects through the skin of my face", a power he calls "Facial Perception". Jack London in *The Sea Wolf* (1904), mentions this "fabled sixth sense," but seems to reject it in favour of a more plausible explanation. In folk tradition common motifs are blind prophets and seers, and Monbeck also refers to a North American Indian tale of a blind trickster figure who finds his way by asking trees their names and determining where he is from their answers; and an English tale in which a blind man is shown as very bold: he crosses a narrow bridge which his guide is afraid to attempt (Monbeck 1996, p. 48).

Blind people are also believed to have magical powers in South Vietnam, Korea, and among the Nuer tribes of Africa and the North American Indians. There is an Aesopian fable in which a blind man feels a young wolf and recognizes its savage nature. Blindness itself is explained in various parts of the world in such magico-religious terms as retribution for sins committed in a past life (Buddhists), misconduct in this life (the Highland Chinantecos of Mexico), the work of sorcerers (Burma), walking in the shadow of an impure woman (Gujarati—India), and a curse by off-islanders (Truk Island). In folklore, too, both magic sight and blindness are most decidedly connected with magical objects (including fairies,

hempsed, spikes, salves, powders, ointments, and the Virgin Mary's shift used as a banner). There are many interesting motifs in folklore related to blindness in animals, and magical cures for blindness using such items as herbs, spittle, feathers, honey, water, a bird's tears, dew, ointments, wands, the sun's rays, and blood (Monbeck 1996, pp. 62-63). Although it is claimed that more advanced peoples are more objective in their assessment of blindness, "the mystery of blindness still seems to exercise some influence over modern man." (Monbeck 1996, p. 63).

Monbeck points out that the idea that blind people, because of their blindness, are maladjusted is relatively new. Before the eighteenth century, it was not common to look upon minor social deviations in terms of adjustment or maladjustment; there were a plethora of other explanations, including folk "psychology" and superstitions, that would have readily come to mind first. Diderot is among the first to conclude that the entire moral code of blind people is different from the one followed by sighted people. He was of the opinion, for example, that because sympathy is a product of our having seen others in misery or pain, blind people are therefore without sympathy (Monbeck 1996, p. 55). Guillié echoes Diderot's judgement and throughout his essay he enumerates blind people's differences: their thoughts are distorted; their sensibilities are deficient; they are ungrateful, without conscience or piety, incapable of acting in their own best interests, and victims of self-love (Monbeck 1996, p. 55).

Monbeck informs us that though the portrayal of blind people as immoral and evil is not completely confined to the modern era, it is true that it is only recently that such portrayals have become common.³² As Tversky, he is of the opinion that the appearance of evil and immoral blind characters in modern literature is in one sense an improvement over many of the other, age-old negative portrayals, since blind people thus can not be seen as utterly helpless, they must at least be able to do some immoral things (Monbeck 1996, pp. 56-57).

Blind people - seemingly out of proportion to their numbers - have always been of interest to writers (Monbeck 1996, p. 24).

Winzer states blind individuals fared somewhat better in literature than deaf people. From the time of Homer, blind persons have generally been portrayed in sympathetic terms; the arts abound with blind poets, storytellers and musicians, and literature presents blind heroes for our contemplation (Winzer, M.A. 1993, p. 11). Monbeck, however, points out that idealization of blind people is found largely in the literature of the past 200 years. The idealization is related to the idea of compensation and in many ways overlaps with it. On the other hand, it can be distinguished from the older notion that blind people are endowed with extraordinary abilities, skills, or talents. Monbeck's concept of *idealization* involves the spiritual nature of blind people, their sensibilities, their personal orientation to the world and to other people (Monbeck 1996, p. 59).

The belief that blind people are incomparably miserable and that their disability produces a sense of utter hopelessness can easily be shown to have been quite widespread in the past by simply noting that blindness and blind people have very seldom been treated humorously in literature. "Past depictions of blind people as being miserable, on the other hand, can be found in abundance." The idea that

³² Before the nineteenth century only a few examples can be cited, and we refer to one of them: "In Jewish legend, Satan is sometimes called Sammael, 'the blind one'." (Monbeck 1996, p. 56).

blindness is worse than death is "one of the common themes in past depictions... " (Monbeck 1996, pp.27- 28).³³

Blind people also are portrayed in drawing and painting. Cf. the "Parable of the Blind" by Pieter Brueghel, the elder (c. 1525-1569). Toward the end of his life, Brueghel seems to have become fascinated by the problem of the falling figure. His studies reached their apogee in a rendering of successive stages of falling in "The Parable of the Blind". (Encyclopaedia Britannica 1995, Online).

This author (Enerstvedt) concurs with Monbeck, concluding that there is ample evidence to support the hypothesis that the present-day attitudes toward blindness and blind people have long been part of our cultural heritage:

"Indeed, many attitudes have been shown to be cross-cultural in nature, indicating some commonality in man's experiences with and reactions to blindness and blind people. The exact part played by past attitudes in the formation of the attitudes of today is difficult to say. In some instances, it may be that a past attitude is learned directly and taken on with little modification. Attitudes from the past may also play some role in reinforcing present-day experiences with and reactions to blindness and blind people or even in predisposing individuals to certain reactions. " (Monbeck 1996, p. 63).

The New Testament and blindness

Does the New Testament tell us something about attitudes towards blind (and deaf) people? It does.

The different parts of the New Testament are written at different times in history. It seems, however, to be a widely shared view that large parts of it were written before 100 A.D.

Exactly what time The New Testament tells us about is not evident. This is also the case for the Old Testament. On the other hand, no written source is outside history; it is always a part of history. This fact is often misunderstood by scientists not taking seriously religious documents, legends (e.g. Odyssey), etc. and making a dualist distinction between history and thoughts in history. Of course, the Bible tells us very much about real history, e.g. about real blindness and deafness and attitudes towards those phenomena.

The tendency in the New Testament is that blindness is not regarded as evil, as a punishment, as sin, which was the case for the Old Testament. We have found only one heavenly curse of blindness in the New Testament, that on the sorcerer Elymas in Acts 13: 8-11:

8 But Elymas the sorcerer (for so is his name by interpretation) withstood them, seeking to turn away the deputy from the faith.

9 Then Saul, (who also [is called] Paul,) filled with the Holy Ghost, set his eyes on him,

10 And said, O full of all subtilty and all mischief, [thou] child of the devil, [thou] enemy of all righteousness, wilt thou not cease to pervert the right ways of the Lord?

11 And now, behold, the hand of the Lord [is] upon thee, and thou shalt be blind, not seeing the sun for a season. And immediately there fell on him a mist and a darkness; and he went about seeking some to lead him by the hand.

However, typical passages are:

Matthew, 9:27 And when Jesus departed thence, two blind³⁴ men followed him, crying, and saying, Thou son of David, have mercy on us. 9:28 And when he was come into the house, the blind men came to him: and Jesus saith unto them, Believe ye that I am able to do this? They said unto him, Yea, Lord. 9:29 Then touched he their eyes,

³³ Monbeck (1996) has himself examined the theme blindness in literature and refers to other studies of that theme.

³⁴ Translation of Greek τυφλῶν .

saying, According to your faith be it unto you. 9:30 And their eyes were opened; and Jesus straitly charged them, saying, See that no man know it. 9:31 But they, when they were departed, spread abroad his fame in all that country.

Mt 15:30 And great multitudes came unto him, having with them [those that were] lame, blind, dumb, maimed, and many others, and cast them down at Jesus' feet; and he healed them:

Mt 15:31 Insomuch that the multitude wondered, when they saw the dumb to speak, the maimed to be whole, the lame to walk, and the blind to see: and they glorified the God of Israel.

Mt 20:30 And, behold, two blind men sitting by the way side, when they heard that Jesus passed by, cried out, saying, Have mercy on us, O Lord, [thou] Son of David.

Mt 21:14 And the blind and the lame came to him in the temple; and he healed them.

Very significant are the following passages (blindness in context) as an example of a new humanist moral:

Joh 9:1 And as [Jesus] passed by, he saw a man which was blind from [his] birth.

Joh 9:2 And his disciples asked him, saying, Master, who did sin, this man, or his parents, that he was born blind?

Joh 9:3 Jesus answered, Neither hath this man sinned, nor his parents: but that the works of God should be made manifest in him.

Joh 9:4 I must work the works of him that sent me, while it is day: the night cometh, when no man can work.

Joh 9:5 As long as I am in the world, I am the light of the world.

Joh 9:6 When he had thus spoken, he spat on the ground, and made clay of the spittle, and he anointed the eyes of the blind man with the clay,

Joh 9:7 And said unto him, Go, wash in the pool of Siloam, (which is by interpretation, Sent.) He went his way therefore, and washed, and came seeing.

Joh 9:8 The neighbours therefore, and they which before had seen him that he was blind, said, Is not this he that sat and begged?

Joh 9:9 Some said, This is he: others [said], He is like him: [but] he said, I am [he].

Joh 9:10 Therefore said they unto him, How were thine eyes opened?

Joh 9:11 He answered and said, A man that is called Jesus made clay, and anointed mine eyes, and said unto me, Go to the pool of Siloam, and wash: and I went and washed, and I received sight.

In fact, negative approaches towards blindness (blindness as "evil", "bad") do not exist at all in the New Testament excepted the referred curse in Acts 13: 8-11 and in metaphors. E.g. "Light" is a metaphor for good, "darkness" for evil. Examples of metaphors are:

Matthew, "6:22 The light of the body is the eye: if therefore thine eye be single, thy whole body shall be full of light. 6:23 But if thine eye be evil, thy whole body shall be full of darkness. If therefore the light that is in thee be darkness, how great is that darkness!"

(In the above passage it is not the evil eye that is interesting regarding the question of blindness, it is the connection between "light" and good, and "darkness" and bad.)

Mt 15:14 Let them alone: they be blind leaders of the blind. And if the blind lead the blind, both shall fall into the ditch.

1Jo 2:11 But he that hateth his brother is in darkness, and walketh in darkness, and knoweth not whither he goeth, because that darkness hath blinded his eyes.

Re 3:17 Because thou sayest, I am rich, and increased with goods, and have need of nothing; and knowest not that thou art wretched, and miserable, and poor, and blind, and naked:

A wonderful "vision" metaphor and well known metaphor is in the following passages:

Mt 7:3 And why beholdest thou the mote that is in thy brother's eye, but considerest not the beam that is in thine own eye?

Mt 7:4 Or how wilt thou say to thy brother, Let me pull out the mote out of thine eye; and, behold, a beam [is] in thine own eye?

Mt 7:5 Thou hypocrite, first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye.

Passages on blindness are much more frequent than passages on deafness both in the Old Testament and in the New Testament.³⁵

Kretschmer is probably right when asserting that the pagan habit of killing the congenitally blind and to some extent also the adventitiously blind was abandoned when Christianity triumphed (Kretschmer 1937, pp.30-31). In the New Testament pity, mercy, sympathy and charity are ideals. On the other hand, pity and some charity was historically about the most that blind people could expect. It was, nevertheless, an improvement over the kind of attitude that condoned the infanticide noted earlier (Monbeck 1996, p. 26). Monbeck correctly states that passages in the New Testament indicate that blind people were helpless - not able to be self-sufficient, e.g. Lu 14:

13 But when thou makest a feast, call the poor, the maimed, the lame, the blind:

14 And thou shalt be blessed; for they cannot recompense thee: for thou shalt be recompensed at the resurrection of the just

Slavery

Rome adopted the Stoic philosophy which exalted human values, yet did little to help the lot of blind and other impaired people. However, also in Rome, there were outstanding blind people. The Roman statesman, orator, and writer Cicero (106-43 B.C.) was deeply interested in the scholarly blind. Not only was he tutored by a sightless man, but another blind scholar, Asconius Pedianus, prepared commentaries on his speeches. However, according to Ross, barbarism in the treatment of the sightless declined more slowly in the high civilizations of Greece and Rome than it did in China and India, where Buddhism, fostering mercy towards the weak and deformed, leavened their lot (Ross, I. 1951, p. 20). It is of interest that in Roman law the blind had a much stronger position than the deaf (cf. chapter on deaf people). The blind were excluded from public offices but they had the right to make contracts and decide over their testament.

There is a fact that very often goes unmentioned talking about ancient times: All ancient societies up to medieval time were more or less characterized by being slave states. The majority of people were slaves or dependants. It is obvious that it was much better to be the blind (or deaf) daughter or son of a citizen (a free per-

³⁵ According to Monbeck, blindness was considered the worst of infirmities (more so than deafness, dumbness, and lameness) throughout the Bible, Talmud, and Midrash [Midrash:(Hebrew: "Exposition," or "Investigation"), in Judaism, the method of biblical investigation in which oral tradition interprets and elaborates on the scriptural text. The term Midrash also denotes the large collections of Halakhic (legal) and Haggadic (nonlegal) materials deduced from the Hebrew Bible by this exegetical method (Encyclopaedia Britannica 1996, Online)].

In the New Testament, this traditional attitude was given support, for example, when Jesus read a passage from Isaiah in which blind people are grouped with those especially deserving of release from their misfortunes (Monbeck 1996, pp. 28-29):

"4:16 And he came to Nazareth, where he had been brought up: and, as his custom was, he went into the synagogue on the sabbath day, and stood up for to read. 4:17 And there was delivered unto him the book of the prophet Esaias. And when he had opened the book, he found the place where it was written, 4:18 The Spirit of the Lord is upon me, because he hath anointed me to preach the gospel to the poor; he hath sent me to heal the brokenhearted, to preach deliverance to the captives, and recovering of sight to the blind, to set at liberty them that are bruised,"

son) than of a slave or a dependant. However, Ibn Burd Basar (-784) is said to be a congenitally blind slave. He was born in Basra, Irak and died there. His freedom was bought by a woman with the name Uquaila to whom he became faithful all his life. He became an outstanding writer, known for his satires and praising hymns. In the year 784 he was condemned to capital punishment for heresy (Scholler 1990, p. 264).

Saint Augustine

Saint Augustine (354-430) was born on November 13, 354, in Tagaste, Numidia (now Souk-Ahras, Algeria). He became bishop of Hippo (now Annaba, Algeria) in 395, an office he held until his death. Augustine influenced attitudes towards blind people and deaf people, in which way, however, is disputed. According to Rev. Theodore M. Hesburgh, his lifetime was a period of political and theological unrest, for while the barbarians pressed in upon the empire, even sacking Rome itself in 410, schism and heresy also threatened the church. Augustine threw himself wholeheartedly into the theological battle. Besides combating the Manichaeism heresy, Augustine engaged in two great theological conflicts. One was with the Donatists, a sect that held the sacraments invalid unless administered by sinless ecclesiastics. The other conflict was with the Pelagians, followers of a contemporary British monk who denied the doctrine of original sin. Hesburgh states that in the course of this conflict, which was long and bitter, Augustine developed his doctrines of original sin and divine grace, divine sovereignty, and predestination.

"The Roman Catholic church has found special satisfaction in the institutional or ecclesiastical aspects of the doctrines of St. Augustine; Roman Catholic and Protestant theology alike are largely based on their more purely theological aspects. John Calvin and Martin Luther, leaders of the Reformation, were both close students of Augustine." (Hesburgh 1994).

According to Hesburgh, Augustine's doctrine stood between the extremes of Pelagianism and Manichaeism. Against Pelagian doctrine, he held that human spiritual disobedience had resulted in a state of sin that human nature was powerless to change. "In his theology, men and women are saved by the gift of divine grace; against Manichaeism he vigorously defended the place of free will in cooperation with grace." (Hesburgh 1994). Augustine died at Hippo, August 28, 430. His feast day is August 28. Augustine's best-known work is his autobiographical *Confessions* (401 A.D.), exposing his early life and conversion. In his *Confessions*, book IX, we find the following passage about the curing of a blind person:

"Then didst Thou by a vision discover to Thy forenamed Bishop where the bodies of Gervasius and Protasius the martyrs lay hid (whom Thou hadst in Thy secret treasury stored uncorrupted so many years), whence Thou mightest seasonably produce them to repress the fury of a woman, but an Empress. For when they were discovered and dug up, and with due honour translated to the Ambrosian Basilica, not only they who were vexed with unclean spirits (the devils confessing themselves) were cured, but a certain man who had for many years been blind, a citizen, and well known to the city, asking and hearing the reason of the people's confused joy, sprang forth desiring his guide to lead him thither. Led thither, he begged to be allowed to touch with his handkerchief the bier of Thy saints, whose death is precious in Thy sight. Which when he had done, and put to his eyes, they were forthwith opened. Thence did the fame spread, thence Thy praises glowed, shone; thence the mind of that enemy, though not turned to the soundness of believing, was yet turned back from her fury of persecuting." (Augustine 401 A.D., p. 88).

Blinding in history

On the other hand: Among animals only human beings are cruel. (Playing with the mouse, the cat has a human trait.) Throughout history the most sly punishments have been used against "the enemy." Preclusion of the nose, ears, fingers, hands, feet, are well known. And blinding - sometimes of one eye, often of two eyes - was regarded as the most severe punishment. The eyes were burned, stabbed, or poked out with the fingers. One method was covering the eyes with unslaked calcium and then watering the eyes. The latter method was prescribed under the Manchurian Tsing-dynasty 1644 in the written law book *Tatsingluli*. Cf. also Samson, Zedekiah, Polyphemus, Tiresias, Daphnis, Oedipus.

Blinding - a legal punishment in Europe

There seem to have been two main uses of blinding, one outside the law - in struggles for power or in wars - the other as a legal punishment.

In Europe blinding was a legal punishment up to the seventeenth century in several law systems but from the fifteenth century blinding was rare in Europe. In the Orient blinding was a legal punishment up to the nineteenth century. In Iran this punishment was abolished in the year 1850 (Kretschmer 1937, pp. 77, 97). We do not know if thousands, tens of thousands or hundreds of thousands of human beings have been blinded throughout history.

As a physical punishment, blinding has always been considered worse than death because, as Chevigny and Braverman say, "it was held to deprive a man of enjoyment in living even as it preserved his life." (In Monbeck 1996, p. 52). Fareed Haj, throughout his book *Disability in Antiquity*, shows that blinding and other physical mutilations were common forms of punishment during the Arab caliphate in the Near East (Monbeck 1996, p. 52). In an article entitled «The Gloucester Treatment», Margaret Robertson recounts instances of both punitive and political blinding in the British Isles from the time of Canute (in an entry from 1014 in the *Anglo-Saxon Chronicle*) and William the Conqueror (c. 1070) to more recent times. Graham and Clark note that until very recently punitive blinding was still a form of punishment of thieves in Tibet and Afghanistan and by the Herero of South Africa for their enemies, the Bushmen (In Monbeck 1996, p. 53).

Some legends are probably not reflecting reality, e.g. that of Belisarius (505?-65), Byzantine general, one of the great military leaders of history, born in Germania, Illyria. In 562 Emperor Justinian I imprisoned him for several months on an accusation of conspiracy, but the legend that he was blinded is unfounded (Encarta 1994).

Blinding also is known in fiction writing. The author was as a child deeply touched by Jules Verne's novel *Michel Strogoff* (1875), in which the hero Strogoff was blinded.³⁶

The many records of blinding, however, prove that it really existed. We know the names of blinded famous people.

Irene - who blinded her own son

Irene (752-803) was a Byzantine empress, born of a humble family in Athens. In 769 she married Emperor Leo IV (750?-80). After her husband's death she ruled as regent during the minority of her son, Emperor Constantine VI

³⁶Norwegian title: "Tsarens sendebud" (also "Tsarens kurér"), "The courier of the czar". First Norwegian edition 1896.

(771?-97). Irene desired supreme power, however, and contested the throne with Constantine, whom she eventually had imprisoned and blinded in 797. Subsequently, her rule was uncontested until 802, when the patricians revolted and exiled her to the island of Lésvos. During her reign image worship was restored by a decree of the Second Council of Nicaea, which Irene had summoned in 787 for this purpose (Encarta 1994).

Boris I - who blinded his own son

Boris (died 907) was Khan of Bulgaria (852-89). During his reign Boris conducted unsuccessful campaigns against Serbia and Croatia. Under pressure from Byzantine Emperor Michael III (838-67), Boris embraced Christianity in 865 and imposed baptism on all his subjects. In 870, after wavering between adherence to the Western and Eastern churches, Boris decided on the latter when the pope failed to meet his demand for the appointment of an archbishop for Bulgaria. Boris voluntarily relinquished the throne in favour of his son Vladimir in 889 and retired to a monastery. Vladimir, however, proved to be an incompetent and vicious monarch, and the nobility revolted against him in 893. Emerging from retirement, Boris deposed and blinded Vladimir and replaced him with Simeon (864?-927), Boris's younger son. Boris then reentered the monastery. He is venerated as a saint by the Eastern church (Encarta 1994).

Louis III - blinded by Berengar I

Louis III (Holy Roman Empire), called "The Blind" (880?-928). He was Holy Roman emperor (901-05), king of Provence (890-928), and king of the Lombards (900-05), son of Boso, king of Provence (died 887). His control of northern Italy was challenged by Berengar I, king of Italy (d. 924), who captured Louis in 905, blinded him, and banished him to Provence for the rest of his life (Encarta 1994).

Béla - blinded by his uncle

Béla the Blind(-1141) was King of Hungary. Although the brother of his father had blinded him by stabbing his eyes out, his style of governing became reputed. Baczkó tells that the wife of Béla, Helena, wished to punish the originators of the blinding. That led to riots and in the end to a war that Béla won (Scholler 1990, p. 66).

Magnus the Blind - castrated and blinded

The Norwegian king Magnus (1115?-1139), reigned 1135-1139. Magnus the Blind was an illegitimate son of Sigurd Jorsalfar who had chosen him to be the sole king. He became a king in 1135 at his father's death. However, he was forced to share his kingdom with Harald Gille who claimed to be the son of Magnus' grandfather. A war broke out between them. Magnus was taken prisoner, castrated, blinded and put into a monastery (Munkholmen) in 1135. Harald was murdered. Magnus was liberated in 1136 but died in a battle against the sons of Harald Gille at Holmengrå outside Svinesund in 1139.

Muleasses - blinded by his son

Muleasses (Muley Assen) (1484-1550) was born in Tunisia and died in Sicily. King in Tunisia at the time of emperor Karl the fifth, he was robbed of his throne by his son Amida and blinded. Muleasses succeeded in fleeing to Spain and later to Napoli. 1548 he went to Germany in order to ask assistance from the emperor who obtained for him a place to live in Sicily (Scholler 1990, p. 340).

History is usually of kings and rich people. However, just as members of the working class and other poor people at present are punished, thrown into jails

and tortured all over the world, the masses of the blinded in history were poor people - war prisoners, thieves, revolutionaries, etc. There is a legend existing in several countries, in written and oral tradition, in which the king or emperor blinds the architect of a beautiful building constructed especially for the ruler -so that the architect never should be able to construct such a beautiful building once more. This legend may have an origin in real events and can illustrate the exploitation in all exploiting societies.

Blinding in fairy-tales

The author has a childhood remembrance of blinding in a fairy-tale - of one who puts out the eyes of his brother.

Monbeck reports that the motif of

"blinding for certain crimes is found in the folk-literature of Sweden and Finland, Greece, Spain, Brittany, and the Indians of North America... There is also a folklore motif showing blinding used for personal vengeance on an enemy. It usually runs something like this: A can have one wish, but his enemy B will get twice the wish. A, therefore, wishes that he may lose one eye; B thus loses both his eyes." (Monbeck 1996, pp. 52-53).

However, investigating fairy-tales from many parts of the world - for example the great Arabic heritage "Thousand and one nights", collected or created by Abu Abd-Allah Muhammed el-Gahsjigari, fairy-tales with origin in legends and myths previous to 1000 A.D., or those collected by the brothers Grimm (Jacob 1785-1863, and Wilhelm 1786-1859), among others - the author (Enerstvedt) found scarcely any evidence of blinding. Blind or one-eyed people occur in the fairy-tales, but as a rule they are not purposely blinded.

There are three examples of blinding in fairy-tales though:

By Grimm there is the narrative of "The two wanderers" - reminding the author of his childhood remembrance (a variant). The fairy-tale by Grimm deals with a shoemaker and a tailor - the two wanderers. The tailor shared his food with the shoemaker but when he himself was nearly starving, the shoemaker said that he would give him some of his food if the tailor would let him put out one of his eyes. The tailor had no choice and the shoemaker put out the tailor's right eye by stabbing. Next time he put out his left eye, and the tailor was blind. In this story the tailor's vision was restored, and finally the shoemaker was blinded - his eyes were pecked out by two crows (Brødrene Grimm Eventyr 1990, pp. 151-162).

By Grimm, we also found the narrative of "The prince who was not afraid of anything". In this fairy-tale a giant stabs out both eyes of a son of a king. A lion, however, friend of the prince, leads him to a brook and splashes water from the brook into his eyes. Then he dimly can see a bird colliding with a tree, falling in the water and then flying away without colliding with anything. By that the prince does understand that this is a sign from God and he washes his eyes in the water and then he can see again (Brødrene Grimm Eventyr 1990, pp. 251-256).

Eventually, the author found his childhood remembrance which obviously is a variant of the German narrative "The two wanderers". It is a fairy-tale by the Norwegian collectors Asbjørnsen and Moe - about the brothers named "Tro" and "Utro" ("Faith" and "Unfaithful"). "Unfaithful" stabs out his brother's eyes, but in this story "Faith", when later married to the princess, does not use the opportunity of revenge, but demonstrates mercy to his unfaithful brother (Asbjørnsen, Moe 1978, III, pp. 168-175).

Making a living

In ancient and medieval times the most common way of making a living for the mass of blind people seems to have been begging. During most of recorded history, the role of beggar has been the one most frequently assigned to blind people. In the ancient world, in both Egyptian and Hebrew cultures, most blind people were beggars. Even in modern times, when in most of the United States mendicancy has been legally banned, Best, according to Monbeck, reports that 14 states in 1934 specifically exempted blind people from the law. In most areas such laws are not enforced against blind people anyway (Monbeck 1996, p. 41). In the ancient world, blind people were occasionally employed as prostitutes, rowers, seers, operators of hand-mills, and scholars specializing in the memorization of law codes and sacred texts (Monbeck 1996, p. 43). There are several literary depictions of blind people as other than totally useless. Folk tradition may also indicate something not merely of attitudes and beliefs, but of real conditions. In such traditions there is a motif in which a blind man carries a lame man and thus, through their combined efforts, they are able to get along. This motif is found in tales from Europe, Ireland, the Philippines, and the Navaho Indians (Monbeck 1996, p. 46).

In the Far East, the fate of blind people was much the same as in the West, but for a small minority at least, there has been a formal social and occupational niche. In Japan there are reports that blind people have been active in massaging, shampooing, and treating illnesses with counter-irritants since the ninth century. In China, many blind people were soothsayers and, in India, transmitters of oral tradition. A blind Chinese Buddhist priest, Ganjin, made many important contributions to Japanese culture in the eighth century (Monbeck 1996, p. 43). Monbeck relates that one of the functions of the traditional occupations assigned to blind people in Japan, Korea, Africa, and the Middle East was to set blind people apart, to segregate them from «normal society». (Even the early schools for blind children were actually more like asylums than educational institutions) (Monbeck 1996, p. 54).

However, there are reports of two other ways the ordinary blind man could earn his bread and butter.

One is that of music. Blind singers and musicians are known from ancient times. Reports telling about the life in China 2000 years B.C. also mention blind musicians. In Egypt at the time of Pharaoh Chu-En-Etens - he governed around 1530 B.C. - there is a picture of 8 blind singers in his palace, probably Court musicians. In the Homeric tradition, describing the Greek civilization 1200-800 B.C., there is some talk of blind persons, especially blind bards. For example, in the eighth book of the *Odyssey*, Homer writes about the blind bard Demodocus.

In medieval times there are many reports on blind bards (Kretschmer 1937, pp. 62-64); in Japan records tell about blind chanters (Monbeck 1996, p. 43).

Another way of making a living was that of making a fool of oneself. Several records tell that blind people were made fools of in mocking performances. *Journal de Paris* of August, 1425 tells that under the reign of Charles VI and Charles VII tournaments were arranged between blind people and a huge pig in Hôtel d'Armagnac in Paris. The blind people were dressed in armour and supplied with sticks. The prize was the pig, which was awarded to the person who killed him. The fight began with a trumpet signal and then the blind combatants tried to

kill the pig with their hits. Since they couldn't see, they of course often hit each other instead of the pig so hard that they would have died were it not for the armour. All this to the great amusement of the spectators. Such tournaments - and others at which blind people made fools of themselves - were not uncommon in medieval times (Kretschmer 1937, pp. 60-61).

One of the reasons Valentin Haüy became interested in the education of blind children is said to be his observation of the cruel exploitation of a group of blind people in a Parisian café. He writes:

"Eight or ten poor blind persons, with spectacles on their noses, placed along a desk with sustained (i.e., provided) instruments of music, where they executed a discordant symphony, seemed to give delight to the audience." (Haüy, in Monbeck 1996, p. 38).

Mockery of blind people seems to be widespread in history. Graham and Clark have found that among primitive people, «The most common reaction to blind people ... is derision...», as found among the Navaho, the Lau (Fiji), the Tupinamba (Maragnan Island), and the Baganda (Africa). Other social constraints reported by them include: blind girls not permitted to marry (Turkey and East Africa) and blind men not permitted to be chief (Twi-Ashanti and Wolof in West Africa) (Monbeck 1996, pp. 54-55).

Through the centuries, occasional blind persons were able to pull themselves out of the sea of illiteracy and to rise to great heights in several fields of endeavor, as we already have mentioned.

Didymus made the first known alphabet for blind people

One of the first records of such a person deals with the eastern church theologian Didymus (c.313 A.D.- c.398), who followed Origen as head of the Catechetical School at Alexandria. He was born (and died) in Alexandria, Egypt, and is said to have become blind at the age of four or five. He studied philosophy and theology. Didymus travelled much and visited the best-known schools and teachers and the most famous writings were read to him. His extraordinary memory allowed him to make great progress not exclusively in philosophy but also in astronomy and music. As the greatest honour Didymus was appointed to a famous position at the Alexandria school (college) (Scholler 1990, p. 176). Didymus stands out, not only for his great learning, but also because he achieved success by his own devices. He carved out of wood an alphabet of letters and from them learned to form words and to construct sentences. This skill opened the way to learning and enabled him to attain great scholarship (Farrell 1956a, p. 6).

According to Palladius, the fifth-century bishop and historian, Didymus, despite having been blind since childhood and remaining a layman all his life, became one of the most learned ascetics of his time. Among those holding him in great esteem were Athanasius the Great, bishop of Alexandria, who made him head of the Alexandrian school, and Jerome, who acknowledged Didymus as his master. Jerome later retracted, however, when the works of Didymus, but not his person, were condemned by the Second Council of Constantinople (553) for teaching the doctrine of Origen.³⁷ Because of this condemnation, most of his works were not copied during the European Middle Ages and thus were lost. He was a leading opponent of Arianism (the Christian heresy that Christ is not truly divine but a created being). Didymus' biblical commentaries (supposedly on nearly all the books of the Bible) survive in fragments only, and those on the Catholic Letters

³⁷ Oregenes Adamantius (born c. 185, probably Alexandria- died c. 254, Tyre, Phoenicia), the most important theologian and biblical scholar of the early Greek church. His greatest work is the *Hexapla*, which is a synopsis of six versions of the Old Testament (Encyclopaedia Britannica 1995, Online).

are of dubious authenticity. He is probably the author of a treatise on the Holy Spirit that is extant in Latin translation. (Encyclopaedia Britannica 1995, Online).

Ibn Haǧr Aus and Al-aċma Abul Kasim

To mention is also Ibn Haǧr Aus and Al-aċma Abul Kasim

Ibn Haǧr Aus lived before the islamic timecounting at the Arabic peninsula. Aus is said to have been congenitally blind. Hammad, an Arabic mediator, has called him the best writer of his time. He wrote mostly wailing poems (Scholler 1990, p. 264).

Al-aċma Abul Kasim lived in the seventh century in Bagdad. His real name is Al-aċma Moauia Ibn Sufjan. His family name "Al-aċma" indicates that he must have been blind. "Al-aċma" in Arabic means "the visually impaired", "the blind". He was a well known poet and narrator, and in addition a demanded teacher (Scholler 1990, p. 20)

Feudalism and blindness

Treatment and education in medieval times

By the fourth century strict cloistering was prevalent, as monastic life attracted increasing numbers of men and women who strove for moral perfection through asceticism. Winzer points out that the cloistering of handicapped persons seemed a natural outgrowth of the monastic impulse. A hospice for the blind was established in the fourth century in Caesarea in Cappadocia (in present-day Turkey) (Winzer, M.A. 1993, pp.20-21). Blind people came to be considered the special wards of the church because of the Christian ideals of pity, mercy, sympathy and charity (Monbeck 1996, p. 26).

In the fifth century Saint Lymnaeus built special cottages adjoining his hermitage at Syr in Syria where he taught blind persons to sing pious songs and they, in turn, accepted alms from those who were moved by their singing.

As the centuries passed, hospices, many offering facilities for other special groups, gradually spread across Europe. Saint Herre (d. 565) was born in a tiny village in Brittany. Tradition presents him as a sightless, barefooted man who, led by a white dog, wandered throughout the countryside teaching children. Apparently, Herre later formed a small monastery in Brittany that became a shrine for blind musicians (Farrell 1956, in Winzer, M.A. 1993, p. 21). Saint Bertrand, bishop of Le Mans in France, founded an institution for the blind in the seventh century (Farrell 1956, French 1932, in Winzer, M.A. 1993, p. 21).

A system of relief for the poor administered by the Church came into existence in Europe as early as medieval times. Before the eleventh century many hospitals and monasteries were founded and many of them also took care of blind people. Blind people lived together with other poor and "defected" people, the hospitals were built for those people who could not be taken care of at home or could not work without being helped. Very little were done to educate the blind but some of them obviously worked in the hospitals and monasteries.

The Koran

Islam and the Koran

Islam is a major world religion belonging to the Semitic family; it was promulgated by the Prophet Muhammad in Arabia in the seventh century A.D.

The Arabic term "islam", literally "surrender", illuminates the fundamental religious idea of Islam - that the believer (called a "Muslim" - also "Moslem", "Muslem", from the active participle of islam) accepts "surrender to the will of Allah".³⁸

Allah is viewed as the sole God - creator, sustainer, and restorer of the world. The religion taught by Muhammad to a small group of followers spread rapidly through the Middle East to Africa, Europe, the Indian subcontinent, the Malay Peninsula, and China (Encyclopaedia Britannica 1995, Online).

The Koran is the earliest known work in Arabic prose; it is divided into 114 suras (chapters) of various lengths and contains the Islamic religious, social, civil, commercial, military, and legal codes. The chief doctrines laid down in the Koran are that only one God and one true religion exist; all will undergo a final judgment, with the just being rewarded with eternal bliss and the sinners punished; and when humankind turned from truth, God sent prophets to lead the way back, the greatest of whom were Moses, Jesus Christ, and Muhammad (Encarta 1994).³⁹

In the eighth century Spain and Portugal were conquered by Arabic Moslems. The Moslem influence became lasting in Europe. To which degree this influenced the attitudes and practices towards blind people in Europe is not known. The Koran gives special consideration to the blind.

The Koran and blindness

The Koran is not investigated as thoroughly as the Bible.⁴⁰

Passages on blindness are more frequent than passages on deafness in the Koran as is the case in the Old Testament and in the New Testament.

The tendency in the Koran is that blindness is not regarded as evil, as a punishment, which was the case in the Old Testament. The most frequent passages regarding blindness in the Koran are metaphors. Of 33⁴¹ passages containing the terms "blind*" 22 were clear metaphors (about sighted people who were "blind" to the message), 7 more ambiguous and only 4 ordinary phrases about blind

³⁸"Allah", Arabic: God.

³⁹The word "Koran", Arabic "Quran", is derived from the verb qaraa "to read," "to recite," but there is probably also some connection with Syriac qeryana, "reading," used for the scriptural lessons in the Syrian Church. In the Quran itself the word is not used with reference to the book as a whole but only as a term for separate revelations or for the divine revelation in general (Encyclopaedia Britannica 1995, Online).

Koran also is spelled Alcoran, sacred scripture of Islam. The name was applied by Muhammad to each individual portion of the revelations, which, according to Muslim beliefs, he received from Allah, or God, but the name was later used for the book containing all the divine revelations given to Muhammad. Whenever Muhammad told of his revelations, secretaries wrote them down, and his followers memorized them. The collection as it is now was compiled by his followers a few years after his death in 632. An authorized version was produced in the early 650s by a group of Arabic scholars under Uthman ibn Affan (575?-656). They attempted to destroy all other versions, but some survived and are now accepted (Encarta 1994).

⁴⁰All occurrences in which the term "blind" are included are investigated, but not the terms "see", "look", "eye", and "sight". As is the case for the Bible - in both Testaments - the occurrences in the Koran are of two main types: Metaphoric terms and phrases - i.e. terms and phrases used, or regarded as being used, to represent something else - and terms and phrases representing objects in the ordinary way.

The Online Version (Palmer's translation) is first investigated to find the passages. Then the Norwegian edition is investigated to give the passages number. Finally, the English translation by Arberry is chosen. In the investigation of the Koran, especially its terms, Abdel Magid Al-Araki was of great help. References to the Arabi terms should be: Al-Araki, Enerstvedt in Enerstvedt 1996.

⁴¹Some of them have the word "deaf" too, but the unequivocal references to deaf *and* blind persons are counted under deaf-blindness.

people. The first of the four ordinary phrases about blind people is in chapter 3, in which Jesus in passage 43 is

saying, "I have come to you with a sign from your Lord. I will create for you out of clay as the likeness of a bird; then I will breathe into it, and it will be a bird, by the leave of God. I will also heal the blind and the leper, and bring to life the dead, by the leave of God..." (The Koran 1955, volume one, p. 80; Koranen 1989, p. 60).⁴²

Chapter 5 has the same story as above, (see passage 110, The Koran 1955, volume one, p.145; Koranen 1989, p. 122). The most important passage on blindness is that in chapter 24 (60 in context with 61) and in chapter 48 (passage 17). In chapter 24:

60. There is no fault in the blind, and there is no fault in the lame, and there is no fault in the sick, neither in yourselves, that you eat of your houses, or your fathers' houses, or your mothers' houses, or your brothers' houses, or your sisters' houses, or the houses of your uncles or your aunts paternal, or the houses of your uncles or your aunts maternal, or that whereof you own the keys, or of your friend; there is no fault in you that you eat all together, or in groups separately.

61. But when you enter houses, greet one another with a greeting from God, blessed and good. So God makes clear to you the signs; haply you will understand. (The Koran 1955, volume two, p.54; Koranen 1989, p. 352).⁴³

The fourth one then, in chapter 48:

17. There is no fault in the blind, and there is no fault in the lame, and there is no fault in the sick. And whosoever obeys God and His Messenger, He will admit him into gardens underneath which rivers flow; but whosoever turns his back, him He will chastise with a painful chastisement. (The Koran 1955, volume two, p.227; Koranen 1989, p. 520).⁴⁴

⁴²The Arabic term translated to "the blind" is "al-akmah". In fact, the translation both by Berg and Arberly is somewhat inaccurate. The reason why we in this passage find another word for blind than usual (see below) is that the meaning here is "the congenitally blind". This is correctly translated by Palmer, saying "...and I will heal the blind from birth, and lepers...".

⁴³The Arabic term translated to "the blind" is "al-a^cmaa".

^c is the transcription of the Arabic letter "cain".

⁴⁴The Arabic term translated to "the blind" is "al-a^cmaa".

Typical metaphoric passages are:

In chapter 6:

104. Clear proofs have come to you from your Lord.
Whoso sees clearly, it is to his own gain,
and whoso is blind, it is to his own loss;
I am not a watcher over you. (The Koran 1955,
volume one, p. 162; Koranen 1989, p. 136).⁴⁵

In chapter 7:

185. Whomsoever God leads astray,
no guide he has;
He leaves them in their insolence
blindly wandering. (The Koran 1955,
volume one, p. 194; Koranen 1989, p. 167).⁴⁶

Most likely, in chapter 17, passage 74 is a clear metaphor seen in context (with 73):

73. On the day when We shall call all men
with their record, and whoso is given his
book in his right hand - those shall read
their book, and they shall not be wronged
a single date-thread.

74. And whosoever is blind in this world
shall be blind in the world to come,
and he shall be even further astray
from the way. (The Koran 1955,
volume one, p. 310; Koranen 1989, p. 277).⁴⁷

Two very similar and more ambiguous, equivocal⁴⁸ metaphoric passages are the following in chapters 35 and 40.

In chapter 35:

20. Not equal are the blind and the seeing man,
the shadows and the light,
the shade and the torrid heat; (The Koran 1955,
volume two, p. 140; Koranen 1989, p. 435).⁴⁹

In chapter 40:

60. Not equal are the blind and the seeing man,
those who believe and do deeds of righteousness,
and the wrongdoer.
Little do you reflect. (The Koran 1955,
volume two, p. 181; Koranen 1989, p. 477).⁵⁰

There can be little doubt that the referred passages in chapter 35 and 40 are metaphors. However, is it not reasonable to interpret them somewhat differently from the clear metaphors? Do not the latter ones - in addition to the "message" about believers and non-believers - tell us that the physiological blind person was not equal to the sighted person?

⁴⁵The Arabic term translated to "blind" is "man ^ḥamiya".

⁴⁶The Arabic term translated to "blindly" is "ya^ḥmahuun".

⁴⁷The Arabic term translated to "blind" is "a^ḥmaa".

⁴⁸Not to the message, but as metaphor.

⁴⁹The Arabic term translated to "the blind" is "al-a^ḥmaa".

⁵⁰The Arabic term translated to "the blind" is "al-a^ḥmaa".

Thus the Koran is not unequivocal regarding blind people. The main tendency, however, seems to be a positive attitude, sympathy and courtesy towards blind individuals.

Visual defects were probably one of the most common types of disabilities in the Arabic world in former times. It was possible for motivated blind students to succeed even in higher education and even before medieval time (Moore 1987, p. 39). Perhaps a career in our time, that of Al-Asheikh, indicates the prospects of previous times: Al-Asheikh, Mohammed Ben Ibrahim (1892-) was born in Riad, congenitally blind. He became a famous teacher of religion. In 1961 he was appointed principal of the Islamic University in Al-Medina Al-Munaurah (Scholler 1990, p. 20). On the other hand, among the early Muslims, an individual could be disqualified from appointment as caliph if he were blind (Monbeck 1996, p. 40).

The knowledge of the eye and of eye diseases in the Middle ages

The knowledge of the eye and of eye diseases increased in the Middle ages.

Al-Quarashi (1210-88), also known as Ibn Al-Nafis wrote commentaries on the writings of Hippocrates and treatises on diet and eye diseases.

One of Leonardo da Vinci's (1452-1519)⁵¹, greatest contributions was in the study of human anatomy. He paid special attention to the eye, and understood what are now known to be basic principles of optics. He noted correctly that images are reversed on the human retina, and remarked on the bending properties of light. He also understood that the eye is a lens which is connected by nerves to the brain.

One of the foremost Italian anatomists of his time, Gabriele Falloppio (1523-1562) of Modena was the founder of the Italian School of Anatomy. He described in detail the muscles of the eye, and tear ducts.

The French philosopher, mathematician and scientist, sometimes called the father of modern philosophy, René Descartes (1596-1650) also made anatomical dissections and investigated the anatomy of the eye and the mechanism of vision.

The Edda - Old Norse mythology on blindness and deafness

The Germanic literary tradition is not as old as the Greek and Roman; it emerges in medieval time. The *Prose Edda*, also called "Snorre's Edda", a handbook for poets, is preserved in various manuscripts of the thirteenth and early fourteenth centuries. One of the oldest and remarkable extants of the Old Norse tradition is the *Poetic Edda (Elder Edda)*. By the end of the twelfth century there existed in Iceland one or more written collections of Old Norse mythological and heroic poems.⁵²

The two twins Balder - god of light and joy, and Hoder - god of darkness

In the *Prose Edda*, Balder (Baldur), the god of light and joy, and Hoder, god of darkness, were the two sons of Odin and Frigga (Frigg), king and queen of the gods. Having dreamed that Balder's life was threatened, Frigga extracted

⁵¹Leonardo da Vinci, Florentine artist, one of the great masters of the High Renaissance, celebrated as a painter, sculptor, architect, engineer, and scientist.

⁵²*Codex Regius*, a copy made a hundred years or so later (around 1270-1300), represents at least a considerable part of one of these (30 poems). The collection of poems which we now know as the *Poetic or Elder Edda* (a few more than in *Codex Regius*) is nearly all that has come down to us of Old Norse poetry of that type (Bel-lows, H.A. 1936, p. xvii).

an oath from the forces and objects in nature, animate and inanimate, that they would not harm Balder, but she forgot the mistletoe. The gods, thinking Balder safe, cast darts and stones at him. The malicious giant Loki put a twig of mistletoe in the hands of Balder's twin, the blind Hoder, god of darkness, and directed his aim against Balder, who fell pierced to the heart. After the death of Balder, Odin sent another son, the messenger Hermod, to the underworld to plead for Balder's return. The god would be released only if everything in the world would weep for him. Everything wept except one old woman in a cave, and Balder could not return to life (Encarta 1994).

The blind man is better than one that is burned

The *Poetic Edda* contains many poems (e.g. Voluspo, Hovamol, Baldrs Draumar (not in *Codex Regius*), etc.⁵³

In Hovamol we find a stanza concerning blindness and deafness.

Hovamol is a poem which in a beautiful manner deals with wisdom and ethics, with the eternal problems of the best way of living, of ideals, of truth, courage, friendship. In stanza 71 we can read:

"The lame rides a horse, the handless is herdsman,
The deaf in battle is bold;
The blind man is better than one that is burned,
No good can come of a corpse."

(Bellows, H.A. 1936, p. 42).

British legends in which blindness occur are that of Lady Godiva, and that of the Holy Grail.⁵⁴

The brotherhoods - blind people's self-organization

There is "a story never told". Matson is right in saying there is no lack of books about blindness and the blind. What has been lacking is a history of what blind people have done for themselves, what they have accomplished together, what they have thought and felt and said and aspired to be and do (Matson 1990). At the end of the twentieth century everyone agrees that self-organization and self-help play a very important role in the education of blind people. Even though the story of organization lies more or less in murky water, organizations

⁵³When and in which way they originally came into existence is still unclear. According to Holm-Olsen, reputed Norwegian researcher and translator, the poems presumably were written down in Iceland, maybe some of them in Norway, for the first time about year 1200 A.D. Maybe they tell us something about the time between the years 700 - 1000 A.D., maybe merely about the time around the twelfth/thirteenth century. Holm-Olsen is of the opinion it is evident that the Edda poems existed in an oral tradition in Norway when the emigration to Iceland took place around the years 800-900 A.D. (Holm-Olsen 1975, pp. 7-8).

⁵⁴Lady Godiva, (flourished about 1040-80), Anglo-Saxon noblewoman, wife of Leofric, earl of Mercia (flourished 1005-57). According to legend, she obtained a reduction in the excessive taxes levied by her husband on the people of Coventry by consenting to ride naked through the town on a white horse. Only one person disobeyed her orders to remain indoors behind closed shutters; this man, a tailor known afterward as Peeping Tom, peered through a window and immediately became blind. The oldest form of the legend is in the thirteenth-century Flores Historiarum (Flowers of the Historians). A festival in her honour was instituted as part of Coventry Fair in 1678 (Encarta 1994).

The Holy Grail (M.L. *cratella*, "bowl"), was in medieval literature, the sacred cup used by Jesus Christ at the Last Supper and later piously sought by the knights of the legendary King Arthur. According to tradition, the Grail was preserved by Joseph of Arimathea, who collected in it the blood from the body of the crucified Christ. The vessel was then conveyed to Britain, where it was transmitted from generation to generation of Joseph's descendants. The Grail possessed many miraculous properties, such as the power of furnishing food for those without sin and of blinding the impure of heart or striking dumb the irreverent who came into its presence (Encarta 1994).

of blind people have existed in one form or another for many hundreds, possibly thousands, of years.

Kretschmer distinguishes *congregations connected with hospitals and free congregations*.

The first congregations of blind people were founded in the hospitals. Many hospitals became places of residence for blind people only (asylums). The Christian founders of those asylums often adhered to their own suppositions in arranging spiritual lives for the blind. In a way, they became secular congregations characterized by the rules laid down and borrowed from the monasteries. Such congregations are known from the fifth century in Europe.

Congregation and House of the Three Hundred

One of the most impressive of these self-contained groups was known under the name "Congrégation et maison des trois cents", i.e. "Congregation and House of the Three Hundred", which flourished in Paris in the thirteenth century. The hospital belonging to the congregation was "Quinze-Vingts". According to Ross, the care and enlightenment of the blind took focus in Europe when Louis IX - known as Saint Louis - opened L'Hôpital des Quinze-Vingts in 1254, close to the Rue St. Honoré in Paris.⁵⁵ In time, "Congrégation et maison des trois cents" became the most famous institution of its kind in the world. Quinze-Vingts was, as the name indicates, intended for 300 blind people, a number that should neither be exceeded nor be less. The members constituted a secular congregation and called themselves brothers and sisters. Every blind person took all his belongings into the congregation and when he died the house inherited everything. The blind had to promise to follow the rules of the house, especially to keep the secrets of the institution, to daily say the prescribed prayers and to participate in the holy mass, as well as join the Lord's Supper and obey the superiors. The members could marry and keep the children to a certain age (Kretschmer 1937, p. 39). Thousands of the blind, famous and infamous, have passed through the doors of Quinze-Vingts. It flourished in medieval times with the backing of the church and state. Although not essentially educational in purpose, for a time it raised the status of the blind. It fostered simple handwork and diffused a degree of literacy in its varied operations. In its original conception it was deeply religious. In this remarkable congregation lived several hundred blind men and women who successfully governed themselves through a popular assembly and were, within the severe monastic limits of the enterprise, entirely self-sufficient. Gradually, however, Saint Louis' proud experiment lapsed into an institution more noted for the beggary, idleness and dissolute ways of its pensioners than for enlightenment and piety. Yet it profoundly affected the outlook of the blind in France and initiated a chain of hospices across Europe, some good, others negligible (Ross, I. 1951, pp. 33, 35).

Some of these hospices of the Middle Ages were mere shelters. At others the inmates received simple instruction, knitted, wove and did domestic tasks.

The institution founded by Saint Louis was followed by others. In the year 1292 a citizen from Chartres with the name Renaud Barboult built the institution "Six-Vingts" in his native district. Other followed. According to Matson, however, in the course of time, the suspicions and stereotypes of the wider society

⁵⁵According to Ritchie, L'Hôpital de Quinze-Vingts is older than Louis IX himself (Ritchie, J.M. 1930, p. 5).

worked against the extraordinary experiments in self-government by the sightless. Both the administration and the statutes of the "Congrégation et maison des trois cents" underwent a number of changes in the course of time, with a considerable loss to the blind of their original rights and a corresponding increase of the influence of the sighted (French,R.S. 1932 in Matson 1990, p. 2).

In Europe the free brotherhoods - mostly trade and artisan guilds but also other kinds of secular congregations - came into existence from the thirteenth century. The brotherhoods had several functions. Their purpose was mutual help. They gave a certain protection to their members, and afforded a kind of poor service. Every brotherhood was connected to a church and had its own patron saint. They had their own rules. Blind people did not always limit membership to the blind; sometimes members could also be lame people and cripples. The brotherhoods in the hospitals existed above all in France. The free brotherhoods were found in other countries besides France, e.g. also in Italy, Spain and German countries (Kretschmer 1937, p. 41).

Guilds of blind people 1000 years ago in China

However, perhaps the earliest record of the existence of free brotherhoods comes from China where blind paupers banded together for mutual protection nearly a millenium ago, giving rise to numbers of guilds and associations (composed entirely of blind people) which were able in time to achieve full legal and social status. The blind sociologist, C. Edwin Vaughan, writing in the American (US) National Federation of the Blind's *Braille Monitor* (April, 1988):

In Medieval China for at least 1,000 years guilds of craftsmen, workers, and merchants were common. Their purpose was to prevent exploitation from government officials and to provide internal regulation of trade and craft areas of employment. There was in Beijing, formerly Peking, a guild comprised of blind persons who made a career of singing, entertaining, and storytelling. Parents would seek to place a young blind son into this guild so that he might learn a trade for his future lifelong employment. As he succeeded in the required skills, he would rise in status in the guild to the level of master.

Blind guild members in China were self-governing. The guild was governed by a board of forty-eight members of whom forty-seven were blind. The secretary was the only sighted person. The guild governed itself with regard to membership, including the discipline of members, the charges for services, and the recruitment of new members into the guild. The guild met twice each year, and the meetings lasted until 5:00 a.m. (Matson,F. 1990, pp. 1-2).⁵⁶

Feudalism: Progress for blind people

But it was in Europe during the Middle Ages that independent guilds and brotherhoods of the blind came to be most highly organized and successful in their purpose.

"Free brotherhoods of the blind", as they were called, flourished throughout Europe towards the end of medieval times. Most of them were in the form of guilds, and it is worth noting briefly the character and functions which these voluntary associations embodied. First of all, Matson emphasizes, they were a means of mutual protection - at a time when blindness was regarded either as a communicable disease or as punishment for sins, and when the sightless might be cruelly punished or put to death with impunity. But the blind brotherhoods also

⁵⁶Scholler (1990, p. 32) refers to a report from Beijing, China, by Gamble and Burgess (1921). This report tells that the blind members of a guild assert that their guild be more than 2000 years of age and that it was constituted in the beginning of the Han-dynasty (206 B.C.). Thus Chinese guilds for blind people might have existed B.C.

had a positive role to play. They were a vehicle of self-expression and representation for the blind in the affairs of the community. In that respect they were a force, not for segregation, but for integration of the blind into the carefully articulated society of the period. For these guilds of the blind were not unique in the age of feudalism. They coexisted with a wide variety of other specialized associations, each with its particular rights and status, which together made up the medieval community. Through such groups, largely voluntary, the blind and others of the disabled gained a collective identity and a degree of security which was otherwise denied them. Indeed, group membership was essential to all men and women as a source of recognition and identification in the Middle Ages. To exist, one had to belong to an association: a household, a manor, a monastery, a guild. (Matson, F. 1990, p. 3).

What was true for the prosperous and able-bodied, according to Matson, was more profoundly true for the blind. Matson holds the opinion that it is likely that they enjoyed a greater measure of physical and economic security within the corporative, guild-oriented society of the Middle Ages than in any previous period of history - certainly more than in the so-called "golden age" of classical antiquity. Nor would the first centuries of the modern era compare favourably with the medieval situation.

Some famous blind people born between the fourteenth and the seventeenth century

Of the few blind people mentioned in records, the following are said either to have been congenitally blind or have become blind as a child:

Francesco Landino, (also Fr. Cieco v. Landini) (1325-1397) was born in Firenze/Italy. Landino became blind as a child. In the church accounts of S. Lorenzo in Firenze he is counted as organ player from 1369-1396. Landino was also a composer. He is acknowledged as one of the greatest musicians of his time.

Congenitally blind, Konrad Paumann (between 1410 and 1415-1473) was born in Nürnberg and passed away in Munich. He became a famous organ player and was also a composer.

Francesco il Bella (end of fifteenth century-) was called "The Blind from Ferrara." Very little is known from the youth of this poet. Thus, we do not know if he was congenitally or adventitiously blind. He studied civil law and received a title of Dr. in Pisa. Between 1490 and 1496 he wrote the "Mambriano", a bard's poem with 45 songs. In 1509, after his passing away, the poem was printed. Intrigues and envy may have led to his accusation of conspiracy and murder, and perhaps also to his imprisonment (Scholler 1990, pp. 374, 213).

Nicasius of Verdun (Nicaise de Voerden) (about 1440-1492) was born in Heyst-op-den-Berg. Nicasius is said to have become blind at the age of 3. He studied philosophy at the University of Loewen and taught later canon and civil law at the University of Cologne. He was the first blind person to be ordained as a minister (priest) by the pope. Nicasius died in Cologne.

Aurelio Lippo Brandolini (1454-1497) was born in Firenze. Brandolini became almost totally blind as a child. He became a well-known writer. Brandolini passed away in Rome.

Miguel de Fuenllana (about 1500-about 1579) was born in Navalcarnero (Madrid) and was a Spanish sound-virtuoso and composer. He is said to have been congenitally blind. From 1562 to 1569 he served at the Spanish royal court.

In 1554 he dedicated to Philip II his printed work of sound, one of the most important pieces of Spanish music literature in the sixteenth century, "Libro de música para vihuela intitulado Orphenica lyra" with sound elaboration of "Vocal-sätzen" and fantasies by Fuenllana. Fuenllana is likely to have passed away in Valladolid.

Antonio de Cabezón (about 1510-1566) was born in Castrillo de Matajudios. Cabezón was congenitally blind. He was cembalo- and organ-player and composer. Cabezón died in Madrid.

Luigi Groto (1541-1585) was born in Venice. Groto was known under the name "Il Cieco d'Adria". He became blind shortly after his birth. Groto studied languages and sciences in Padua. Groto was member of several Italian academies and was known as an excellent orator. He translated the Homeric Iliad (*Ilias*) to the Italian language. Groto died in Venice.

M. Udalrich Schönberger (1601-1649) was born in Weida/Oberpfalz. Schönberger is said to have become blind at the age of 3. He was a famous teacher of language in Königsberg, where he also died.

Turlagh Carolan (1670-1738) was an Irish writer and musician. He became blind as a child.

Dominicus Rolli, (1685-1751) was born in Rome. Rolli is said to have become blind at the age of five. He was a scholarly writer and a poet. About 1750 he was well known in Italy

Achilles Daniel Leopold (1691-1773) was born in Lübeck. He was a (congenitally or adventitiously?) blind scholar (Scholler 1990, pp. 319, 346,78, 229, 89, 251, 401, 90, 387).

As a rule the references to blind people are references to congenital or early childhood blindness. However, no rule is without exception.

The English poet John Milton is one of the major figures of Western literature. Milton became blind at 44 years of age but he accomplished important works after that. According to Dayton Haskin, his "Christian epic *Paradise Lost* assures his stature as the finest nondramatic poet of the Renaissance, the worthy successor to Homer, Vergil, Dante, and Tasso. Only Shakespeare among English writers has been more lavishly praised or continuously admired." (Haskin 1995).

John Milton (1608-1674) was born on December 9, 1608, into a prosperous London family.

In 1641, Milton became embroiled in political and religious controversy by writing the antiprelatical tract "Of Reformation Touching Church-Discipline in England", the first of his many polemical pamphlets. He also published - soon after his young wife left him - a series of tracts arguing for the legality of divorce, including "The Doctrine and Discipline of Divorce" (1643). Together with *Areopagitica*, an eloquent oration advocating freedom of the press from government censorship, these controversial writings won him public recognition and notoriety as a spokesman for liberty and an opponent of monarchic government (Haskin 1995).

In 1649, during the trial of Charles I, Milton wrote "Of the Tenure of Kings and Magistrates", a republican argument that monarchs can rule only with their subjects' consent. He then became secretary to the Council of State under Oliver Cromwell and was entrusted with writing in Latin a defense of the execution of the king, *Eikonoklastes* (The Image Breakers, 1649), which proved to be the last

major project on which he labored with the remnant of his failing eyesight. In 1652 he became completely blind and was tempted, according to Haskin, as he confessed in the moving sonnet "When I consider how my light is spent," to despair of ever accomplishing his life's work (Haskin 1995). With the help of a series of amanuenses, he continued in his post until the restoration of the monarchy (1660), when he was imprisoned and fined and then allowed to retire (Haskin 1995).

With the Restoration the cause for which Milton had laboured was defeated, but his last poems manifest a remarkable rebirth of creative energy after profound personal disappointment and testify to the poet's indomitable will. Having retired from public life, Milton married (1663) his third wife, his former nurse Elizabeth Minshull, and lived with her and with the daughters that Mary Powell had borne after their reconciliation. According to Haskin, he enlisted the girls in the work of reading and transcribing. Abandoning his long-standing plans for a patriotic epic on King Arthur, he took up the subject of Satan's rebellion, "man's first disobedience" of God, and the banishment of Adam and Eve from paradise (Haskin 1995). *Paradise Lost* appeared in 1667. It was followed 4 years later by *Paradise Regained*, a "brief epic" in a more austere style that dramatizes the Son of God's resistance to the temptations of worldly power, an act of heroism that surpasses that of Achilles and Odysseus, the heroes of classical epic (Haskin 1995). With *Paradise Lost*, this work holds out the possibility of recovering a "paradise within." (Haskin 1995). In his last work published in his lifetime, *Samson Agonistes*, Milton recast a biblical folktale into classical tragic form, bestowing on the figure of Samson a moral stature that dignifies his violent revenge on the Philistines. Milton died, probably of complications arising from gout, on November 8, 1674 (Haskin 1995).

The ambiguity of the new capitalist order for blind people

For the blind, as for others of the disabled, the breakup of the feudal order and the emergence of the modern world were in crucial respects not progress but regress. The movement from group status to individual contract - and more specifically the enactment of the infamous Elizabethan Poor Laws - not merely deprived the blind of their fraternal guilds but left them scattered, alienated, and utterly dependent upon the charitable impulses of a new society that was at best indifferent and frequently cruel in its treatment of the handicapped (Matson,F. 1990, p.3-4). In this atmosphere it is not surprising that organizations of the blind, like trade unions and other independent associations of the poor, were actively discouraged and discredited. Within the various separate institutions that grew up to take care of them - the almshouses and workhouses and subsequently the schools, homes, lighthouses⁵⁷, and sheltered workshops - the blind were in effect segregated not only from normal society but also from each other (Matson,F. 1990, p.4).

Education was always a part of the work of the guilds and associations of blind people. The dominant opinion among sighted people in those times, however, was that blind persons were uneducable.⁵⁸

⁵⁷In the field of blindness a lighthouse is a rehabilitation centre for blind people.

⁵⁸The term "uneducable" or "ineducable" is no longer in use. It was formerly applied to an individual with an intelligence quotient (I.Q.) of less than 50. In the Education (Handicapped Children) Act of 1970 (UK), the term became inapplicable as it was considered that all children were educable, i.e. eligible for education according to ability (Worthington 1986, p. 64).

Ascertaining that, we should not forget that the upper classes up to our century have always viewed the so-called "lower classes", the mass, as uneducable - with the exception of the learning of some easily understood manual labour.

On balance: The revolutionary changes in Europe in the post medieval times breaking the ground for capitalism and its ideology (*Chacun est le forgeron de sa fortune*) ("everyone is the blacksmith of his own fortune") were *ambiguous*, and *equivocal* for blind people.

Catholicism and Protestantism - a new relation private and public

On the one hand the feudal organizations, also those protecting blind people, slowly disappeared. The service for the poor of the Catholic Church decayed and the Church was challenged by emerging Protestantism. The Protestant ethic became the ideology of the emerging capitalism, the ideology of survival of the fittest. Being successful was the sign of being chosen, being poor the sign of not being chosen. The Protestant Martin Luther viewed begging as unchristian, thus making life more difficult for the poor.

On the other hand Luther demanded a public service for the poor in his publication "An den christlichen Adel deutscher Nation" (To the Christian nobility in the German nation) (1520). Such public services were established, especially in the new cities, but also constituted by the states. With the divorce between Catholicism and Protestantism there also came slowly into existence two different orientations towards poor people, including the blind: Charity for poor people survived longer in the Catholic countries than in Protestant countries, the distinction between "private" and "public" being weaker in Catholicism. On the other hand, the public services became further developed in Protestant countries dominated by the Lutheran teaching of the "two regiments" - church and state. In those countries, the responsibility of the state for all its citizens came into a higher degree of practical existence at an earlier stage. The Reformation spread to other European countries over the course of the sixteenth century. By mid-century, Lutheranism dominated northern Europe. Spain and Italy were to be the great centres of the

Counter-Reformation, and Protestantism never gained a strong foothold there. With the spread of Protestantism, much of the charity formerly provided through the church was replaced by secular intervention (Monbeck 1996, p. 27). In British history, the Poor Law was a body of laws undertaking to provide relief for the poor, developed in sixteenth-century England and maintained, with various changes, until after World War II. The Elizabethan Poor Laws, as codified in 1597-98, were administered through parish overseers, who provided relief for the aged, sick, impaired, handicapped and infant poor, as well as work for the able-bodied in workhouses (Encyclopaedia Britannica 1996, Online).

However, at the end of the twentieth century, a time of contrarevolution throughout the world, it should not sink into oblivion that it was the great French Revolution of 1789-1793 - which broke with former both Catholic and Protestant traditions - that gave the inspiration, the impetus, for a totally new comprehension of *all citizens*, their equality, freedom, and brotherhood. The importance of this revolution for blind people should not be underestimated. It is only the great October Revolution of 1917 - stating the equality, freedom, brother- and sisterhood of *all human beings* - that is of greater significance.

The first publications favouring education of blind people

At the end of the eighteenth century blind people were regarded as fully of age by the law in most European countries. At the same time, the most commonly held view was still that the blind could not be educated except for primitive labour.

The first publication in which the education of blind people is encouraged seems to have been *De subventionem pauperum* (On the support of the poor). It was published in 1530 in Paris by the Spaniard Ludvig Vives. Here, the author talked about the use of blind people in various occupations. Although he also mentions the study of the sciences and the performance of music, he above all was concerned with labour.

Many writers raise the question of blind people and writing, cf. Erasmus of Rotterdam, Pero Mexia, Girolamo Cardano (lat. Hieronymus Cardanus) and Francesco Lana-Terzi.

A speech made in Nördlingen by the blind student J.A. Schmidt was published in Strassburg 1662: *De visu carentium conditione, a literarum amore et laude, nulla ratione neque unquam excludenda* (On the condition in which the blind exist who under no circumstances should be excluded from the love for the sciences and the fame of their performers.) Commenting on famous writers, the author tries to prove that the spirit need not be (or is not) dependent on the external senses, that blindness might be an advantage for the study of arts and sciences. He especially recommends to his fellow blind people the study of theology, philosophy and law.

A central question in the philosophy and psychology of the seventeenth and eighteenth century was about the relation between knowledge and the sensations (perceptions), cf. Locke's philosophy. In this frame the question was raised if it was possible for a blind person to learn to discriminate objects by touch as finely as a sighted person did by vision. A question that is also discussed at the present time was: Can a blind person, recovering sight, distinguish forms by sight alone without reference to touch?

The question had originally been posed by William Molyneux (1656-1698), a scholarly writer, philosopher, astronomer, and member of the Irish parliament, who claimed that a blind person on regaining sight would not recognize by sight objects that he had learned to know through touch (Winzer, M.A. 1993, p. 43). Molyneux held a personal interest in the problem because of his wife's increasing visual problems. Locke supported Molyneux, as did Bishop George Berkeley in his "Essay toward a New Theory of Vision" (1709). Locke, Berkeley, and Molyneux all agreed that a person, on suddenly being able to see, would not be able to distinguish objects by sight because that person had never had visual experiences of objects. The problem eventually reached France with Voltaire's popularization of the philosophies of Locke, Newton, and Berkeley (Winzer, M.A. 1993, p.43). According to Winzer, the philosophical speculation was lent credence by the case of a thirteen-year-old lad who, in 1728, was successfully operated on for cataracts by William Cheselden, the celebrated surgeon and anatomist. Even with his repaired vision, the boy found it difficult to form any visual judgment regarding the shape of familiar objects. He could not distinguish between his dog and his cat and was observed one day passing his hand over the cat and saying, "So, puss, I shall know you another time." He still had more confidence in the judgment of his hands than of his eyes (French 1932, in Winzer 1993, pp. 43-44).

Education of blind people as a theoretical and practical problem*Denis Diderot challenged the opinion of uneducability of blind people*

The great French encyclopedist Denis Diderot (1713-1784) challenged the opinion of uneducability in his *Lettre sur les aveugles à l'usage de ceux qui voient* (Letter on the Blind for the Use of Those Who See), published in Paris in 1749. The impetus to deal with blind people was the attempts at his time to cure the eye condition cataract by surgery and the discussion about how the blind reacted after the surgery. This question aroused public interest (Kretschmer 1937, p. 117). To experience how far the spirit can reach without the help of the eyes Diderot visited a blind person in the small town of Puiseaux and also studied the life of Saunderson (see below). Of importance in the history of blind education is that Diderot in his cited work was occupied with the role of different sense functions for achieving knowledge. Thus he must have been one of the first to write about the role of *touch* (tactile activity).

In his *Letter on the Blind*, and in the addition published in his more mature years, Diderot made some profound observations. He advanced the opinion that the senses of the blind are not especially sharpened by the loss of sight, but that the loss of sight compels the increased use of the remaining senses; that education ought to be built on what the blind man has rather than what he has lost; and above all else that he should keep active all possible contacts with the objective world. Even the deaf-blind, Diderot maintained, could be taught through touch by patient and insistent connection of tangible signs and objects. Farrell concludes that the great value of Diderot's *Letter* was that, coming from such an erudite pen, it commanded the respect of the savants of the time, who through it came to know something of the sightless and their educational potentialities. It focused attention not only on the blind who had achieved fame but also on the beggars still found at the doors of churches, the wandering bards common throughout Europe, and the misery of those who lived in "darkness" (Farrell 1956a, pp. 15-17).

Diderot proposed no measures of practical utility for blind people.

Hints for the instruction of blind people

Some publications contained hints for the methodology of teaching the blind. The oldest of them, according to Kretschmer, is a work published in 1760 by Jean Rameau, *Code de musique pratique ou méthodes pour apprendre la musique, même à des aveugles*. We know that Rameau also met Diderot. In his publication, Rameau goes for a thorough training of the ear. This would make it possible for the blind to learn to perform on miscellaneous instruments and to compose music. Christian Niesen, whom we will meet as teacher of the blind Weisenburg, in 1773 published *Arithmetic for the sighted and blind* in which a section deals with arithmetic for the blind. In the year 1777 followed *Algebra for the sighted and blind* (Kretschmer 1937, pp. 117-118).

At the end of the eighteenth century articles appeared in the press telling of isolated instances of success in instructing the blind.

The rise and development of plane- and point-writing in the education of the blind before Braille

The Roman rhetorician Marcus Fabius Quintilianus (d. 100 A.D.) influenced the teaching of the blind in his *Institutio oratoria* (Teaching eloquence of speech). It is not written for educating blind people. However, in the first volume he criticizes the customary method of teaching writing and he recommends a "table". This "board" could be made of wood, ivory or metal with the signs of italic style engraved. It was possible to follow the lines with a slate pen. Quintilianus distinguished this "board" from the wood- or ivory-board covered with wax which was the habitual writing material (Kretschmer 1937, p. 120).

Erasmus of Rotterdam (1467-1536) refers to Quintilianus' "board" in his publication *De recta latini graecique sermonis pronuntiatione* (On the correct pronunciation of Latin and Greek)⁵⁹:

"We have namely experienced that also some blind people in this way have acquired the ability of writing in a free style." (In Kretschmer 1937, pp. 120-121).

If this is correct, and (although Erasmus did not mention any names) there is little reason to doubt it, the first writing by blind people seems to have been plane line writing. However, raised (embossed) types had been used for *reading* since Didymus. As the reader will see later, Maria Theresia von Paradis executed a kind of writing with raised types. We would suggest that Didymus and some very few others also achieved that kind of writing and, if we name the arranging of raised letters or words as "writing", then this is the first kind of writing by blind people.

Although mentioned by the widely-recognized Erasmus, the teaching of writing to blind people did not spread. The Spaniard Pero Mexia seems to have been the first person who explicitly deals with how a blind person could learn writing with the help of boards. He describes his method in *Silva variarum lectionum* (A Collection of Various Pieces of Reading) published in Sevilla in 1542. Shortly thereafter the same views were promoted by the Milanese Girolamo Cardano (1501-1576) in his publication *De Subtilitate* (On Plain Style) (Nürnberg 1550).⁶⁰

Francesco Lana-Terzi: A new period in the history of blind writing

Descriptions in the following time of how blind people could be taught writing may be traced back to Mexia and Cardano. However, there are some reasons to believe that the remarks by Erasmus nearly sank into oblivion. Some blind people learned reading but probably almost none learned writing. Thanks to Francesco Lana-Terzi (1631-1687) the insights from Quintilianus, Erasmus of Rotterdam, Mexia and Cardano did not totally vanish. Lana was born in Brescia and received his education by the order of Jesuits in Rome. He was a teacher in Terni, Brescia and Ferrara and died 1687 in Brescia.

Lana published, in 1670, a work with the title *Prodromo ovvero saggio di alcune inventioni nuove premesso all' arte maestra, Opera che prepara il P. Francesco Lana Bresciano della Compagnia di Gesù* (Introduction or evidence on some new inventions ...)

⁵⁹Basel 1528.

⁶⁰Girolamo Cardano was an Italian philosopher, mathematician, and physician. Born at Pavia, September 24, 1501, he was professor of medicine and mathematics at Milan and Bologna. His medical reputation was great. In 1570 he left Bologna for Rome, where he died, September 21, 1576 (Hammerton vol 4, p. 1762). His most important works are *Practica Arithmeticae generalis* (1539), *Artis magna sive de regulis algebraicis liber unus* (1545), *Regula Aliza* (Basel 1570), all with a mathematic substance, whilst *De Subtilitate* (Nürnberg 1550) contains matters of nearly all sciences.

The second chapter has the heading: How a congenitally blind person can learn not merely writing but also disguise his secrets in cipherwriting and understand the answers in the same cipher.

Lana first mentions the use of the board which he tells that he knows from the seventeenth book of Cardano's *De Subtilitate*. However, Lana adds something new: In order to prevent the blind writing the rows on top of one another and to achieve a horizontal writing he recommends a little frame of a page size. In the frame there should be parallel stretched iron or lute strings with a row as interval. Lana briefly gives a direction for the use of this arrangement. This is the first "plane writing board" with an arrangement for leading the hand.

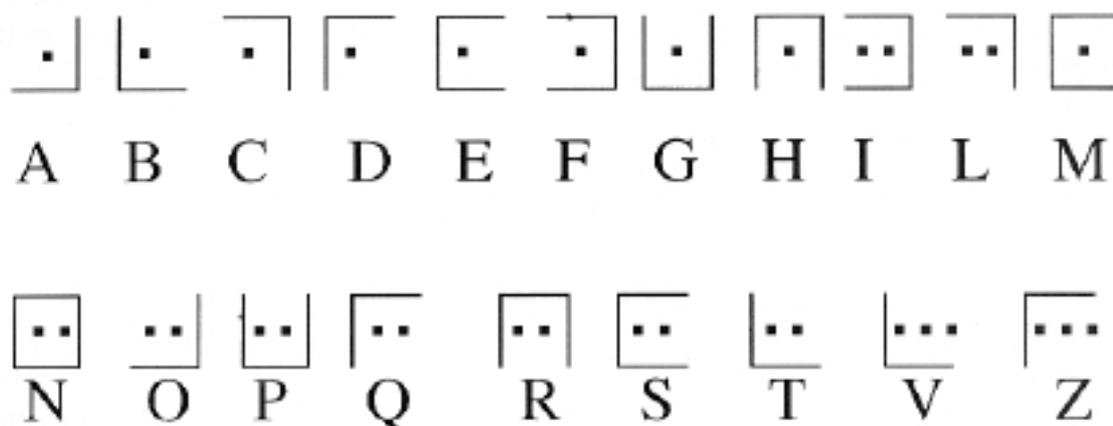
Lana opened a new period in the history of blind writing. He had several proposals for blind writing. The first one is perhaps the most interesting.

On a board, divided by two pairs of intersected horizontal and vertical parallel lines, the letters of the (Italian⁶¹) alphabet are represented either deepened or raised - the latter preferred by Lana - like this:

A	O	G	P	B	T	V
F	I	M	N	E	S	
C	L	H	R	D	Q	Z

The purpose of this aid is that the blind should memorize the letters and their place in the line system. This form, however, is translated to lines and points (dots) based on the following system: A letter is indicated by its encircling lines with the dots indicating its place. Thus the following alphabet is achieved:

⁶¹The Italian alphabet did not contain any "U" at Lana's time.



Pietro is written:

A reader who is not a specialist of problems concerning blind people rightfully could ask: What is the benefit of this? We will answer that question very soon.

Another construction of Lana has the following key:

a b c d	e f g h	i l m n	o p q r	s t u z
,	;	:	.	?

When the blind person is writing, he represents the letter with a number (1 2 3 4) and the field with the punctuation mark. Thus Pietro is written as follows:

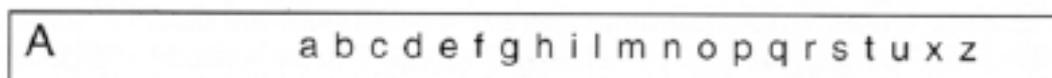
2. 1: 1; 2? 4. 1.

Following Lana's proposal the punctuation marks might be replaced by the numbers 1 to 5 put before the numbers representing the letters. Then Pietro would be written like this:

42 31 21 52 44 41

For the blind person who could not write the numbers and the punctuation marks Lana recommends the production of the necessary signs in wood or lead, the print type then replaces the writing (cf. Maria Theresia von Paradis).

Lana also has some other proposals. Often the proposals seem to serve two purposes: *that of being understood and that of communicating secrets*. One proposal is that of string (sail yarn line) writing. It might be various keys for reading the secret message. One form is this:



Writing Pietro, one key might be to fix the thread at A and then stretch it to "p" where a knot is fixed, then to A again, then to "i" where a new knot is fixed,

etc., etc. Through this a string (sail yarn line) with knots at different distances is produced. A person knowing the key then could read the message (Kretschmer 1937, pp. 122-124).⁶² Some other proposals by Lana were not of so much interest. However, one was: He recommends typing letters in soft wood and thereafter planing down the wood over the letters making the board plane. The blind receiver lays the wood in water and after some time the letters will appear in relief. Obviously this must be one of the first proposals for making letters in relief which could be read by touch.

It is easy to fall in with Kretschmer when he is concluding that Lana's influence on blind writing is evident. He contributed to the development of reading and writing with raised letters and his proposals clearly also go in the direction of point writing.

Practical results of Lana's theory we see in the plane writing. Six years after the publication of *Prodromo* Bernoulli taught the blind Esther Elisabeth von Waldkirch from Geneva to write based on Lana's arrangement of hand leading. Weissenburg used a similar arrangement. In the first institutions for blind people we also meet the plane writing frame used for hand leading (Kretschmer 1937, p. 126).

A long time was to pass - about 150 years - before it was possible to really combine the idea of relief writing and point writing. This was done by the French officer Nicolas Marie Charles Barbier de la Serre (1767-1841).

Advantages and disadvantages of different types of writing for the blind

At this point we should address the question of the advantages and disadvantages of different types of writing for the blind. This question could and should be transformed into the question: What is the problem for blind people in these matters?

The problem is that it is very difficult for blind people both to read and to write in the same way as sighted people do. That's evident, since vision is extremely important both in reading and writing. However, going further into the matter, the problems concerning *reading* are not quite identical with the problems concerning *writing*. In *writing* touch is not necessary but it is difficult for a blind person to

- a) write letters with continuous lines, especially curved ones
- b) avoid writing on top of what has already been written (difficulty in writing horizontally).

Difficult is not the same as impossible. So it is possible for a blind person to write in the same way as sighted people, especially with the help of some very simple devices (see below). *However, writing in the same way as sighted people would mean that the blind person could read neither what he himself had written nor what other people had written.* In *reading*, some kind of touch (tactile

⁶²String (sail yarn line) writing is known in history from miscellaneous parts of the world. When the Spaniards conquered Peru drawers were found with threads of various colours, lengths and widths. On the long threads shorter threads were fixed with knots of various forms and size. They were historical records, s.c. "quippos" which even the blind could read. The blind musician Vionville used the quippos-idea and invented a knot-and string (sail yarn line)-writing by which he and a friend communicated. In the English institutions there for a long time was upheld a string (sail yarn line) alphabet. On a strong cord knots and loops were fixed at various distances. They represented the letters of the alphabet. Ms. Bühnau from Roda (born 1731), when corresponding, wrote the letters of the alphabet on tiny scraps of paper and threaded them on a cord distinguishing the words with empty scraps (Kretschmer 1937, p. 124).

activity, kinaesthetic) is necessary. Ordinary writing with the help of pen and ink or ordinary print cannot be read by touch. Were it possible to make a type of ink that could be touched, then this problem would be solved. It should therefore be mentioned that at least one attempt to produce thick ink for writing raised (embossed) letters is known, the attempt by Adet and Hassenfratz in the year of 1783 (Kretschmer 1937, p. 168). However, we know of nobody who has used viscous ink for writing. It seems inconvenient, at least with the techniques up to the present time. Interpreting (reading) the lines (which the letters are composed of) is also not easy, but definitely possible, e.g. Latin letters and Moon letters (see below). Printed raised letters are, that is evident, easier to read than hand writing. Those problems mentioned above, however, both for reading and writing, are the reason for the continuous search for a new way. The problem to solve was to find a method of communicating that made it possible for the blind person both to write and read by himself so that he could write to others and he himself read the answers. *Today* we know that the new way that came to be victorious was point writing. However, a long way was to be passed before the advantages of point writing were recognized.

Very simplified then:

1) The first method of reading and writing probably was done by the help of large single letters and whole words made in wood (or other hard materials). The letters and words could be arranged by the blind person (writing) and, if done by another person (blind or sighted), the blind person could read by touching the large letters. (It was impossible then to send or receive a "letter"; only face to face communication was possible).

2) Then some, probably very few, blind people learned to write normal writing. A letter received from another person had to be read for the blind person because the letter could not be read by touch.

3) With the invention of printing it became possible for some blind people to read raised printed letters by touch. However, raised letters could not be written by the blind person.

4) Point writing, however, has the advantage that it can be written and read by the blind. It is probably easier to read points by touch than letters composed of lines.

A disadvantage with point writing was (is) that when written by hand it must be written as if seen through a mirror, i.e. reflected or backwards from right to left. That is because the raised points are touchable on the other side of the page. When typed, this mirror problem is solved by the Braille typewriter; you simply write in the same manner as you would type letters on a typewriter. Nowadays you can write Braille with the help of a slate and stylus (see below), writing from right to left ("handwriting" Braille), or you can use a Braille typewriter and type in an ordinary way.

Blind people conquer reading and writing - some important forerunners

A major obstacle in the learning and teaching process of blind people is that vision is necessary in reading. In a society more and more based on written materials this is crucial. The breakthrough contributing in solving this problem came with the Frenchman Braille (1809-1852). Before him, however, many contributions could be mentioned. The great scholar Didymus used an alphabet made of wooden blocks almost 2000 years ago.

However, it is not merely in reading that vision is crucial, it is of course also in writing. Writing therefore was a major obstacle for the realization of blind people's potentialities.

Nikolaus Saunderson - not much concerned about promoting the blind

Nikolaus Saunderson (1682-1739) was born in Thurlston, Yorkshire, England and became blind in his first year of life. When he attended school, he demonstrated such extraordinary abilities in mathematics that the teachers did not have enough knowledge on that subject to teach him. When after finishing the preparatory studies he could not afford studying at a high school, he came as a teacher to the University in Cambridge and lectured to a crowded auditorium on the theories put forward by Newton with whom he had a personal relationship. He won the dignity of magister and was later chosen a professor in mathematics. King George appointed him doctor of law. Saunderson invented an arithmetic board for blind people which also could be used for geometrical constructions. After his passing away a work by him on algebra was translated into German by professor Grūson in 1798. In this there also is an extensive biography of Saunderson. In no domain Saunderson worked to improve the education of his fellow blind people. Characteristic of him is what Weissenburg is writing in a letter to Niesen:

"In his intercourse with sighted people he thought far too little on his blindness. Deeply absorbed in mathematics, like Archimedes in his sand heap, he was not much concerned about promoting the blind to the level of the sighted." (Kretschmer 1937, p. 140)

The student, friend and successor of Saunderson, William Inchlif, 1747 in Dublin published a book on his life, *The life and character of doct. Nicholas Saunderson, late Lucasian professor of the mathematics in the university of Cambridge*.

Esther Elisabeth von Waldkirch - the first planned teaching of writing to a blind person

Esther Elisabeth von Waldkirch (1661-?) was the daughter of a rich merchant from Schaffhausen who later moved to Geneva. She was born 1661 and became blind early in life. Accounts tell that her father was so interested in her education that she by 15 mastered Latin, French and German and that she could memorize all but the whole of the Holy Scripture. She was also familiar with philosophy and played several instruments. It was emphasized as remarkable for her time that she could write. The English theologian Burnet⁶³ tells that letters of wood were used as aids in teaching her writing, a teacher named Spon, however, describes in *Journal des Savants*⁶⁴ the method of writing as follows:

"All of the letters in the alphabet were cut out on a board for her so that she could touch them with her fingers and follow the grooves with a lead ore pen until she herself was accustomed to forming the letters. Thereafter a frame was made for her to hold on the paper and to lead her hand so that she could write dead straight. She rather writes with a pen of lead ore than with ink... In such a manner she often writes Latin to her friends as well as the two other languages." (Kretschmer 1937, p. 154).

⁶³Some letters containing an account of what seemed most remarkable in travelling through Switzerland, Italy, some parts of Germany etc., in the year 1685 and 1686. Rotterdam 1686 and 1687. (In Kretschmer 1937, pp. 153-154).

⁶⁴1680, n:o 8: Extrait d'une lettre écrite de Lyon à l'auteur du journal par M. Spon D.M., Agrégé au Collège de Lyon, touchant un fait singulier et remarquable. (In Kretschmer 1937, p.154).

This is the first time a planned teaching of writing to a blind girl is mentioned. This teaching was performed in the year of 1676. Her teacher was the mathematician Jacob Bernoulli from Geneva. Without doubt, according to Kretschmer, Bernoulli had taken the writing apparatuses and the method from Lana whose *Prodromo* was published 6 years before the teaching of Esther Elisabeth. Bernoulli has himself never asserted he invented the method. However, this recognition should be given him concerning the teaching of arithmetics and geometry. In this teaching he used carved figures in the base of parallelepipeds of wood so that the girl could recognize them through touch (Kretschmer 1937, p.155).

Mélanie de Salignac - "I am utilizing everybody's eyes"

Mélanie de Salignac (174?-63) came from a well suited family and lost her sight in early childhood. She was educated above all by her mother. It is said about her that she was very able at using her other sense functions, e.g. the mode and tone of a voice was very informative for her. When a relative had played a bad trick, she burst out:

"Who would expect that of such a voice?"

Salignac was also taught by other teachers, e.g. in geography were she used tactual maps. She could write and read. When writing she used a pen of lead ore. A narrow ruler served as a leader of the hands. Besides normal writing she also mastered relief writing. The latter she produced with a needle, stitching the letters from right to left on thick paper. As her writing apparatus she used a frame with two parallel movable tin plate rulers. Using this she corresponded with her brother in Bordeaux and also wrote excerpts of the history of Hénault, historian and president of parliament. When sighted people wrote to her they had to stitch the letters so that she herself was able to read the letters. Raised scripture she read fluently. The printer Prault printed for her a reading book with raised letters, such as Peter Moreau, a scholar of language, already in 1640 cast in lead for the blind.

Mélanie Salignac knew the principles of astronomy and showed interest in algebra and geometry. She signified mathematics as a suitable science for blind people. For the teaching of music she produced touchable notes fixed to raised lines on a large board in accordance with Rameau's directions. She invented herself a way of stitching the melodies on paper. With needlestitching she also made playing cards perceivable.

In 1760 the philosopher Diderot became acquainted with Mélanie. He had contact with her to 1763. One day he asked her why she never made any complaints of losing her sight. She answered: "If I had my sight, I only would see with my own eyes, while now I am utilizing everybody's eyes and due to the loss I am always being a target of interest and compassion, every moment receiving proof of the obligingness of humans and loving to feel gratitude for this."

Diderot tells about Mélanie in his addition to "Lettre sur les aveugles." (Kretschmer 1937, p. 157).

Of interest is Mélanie's opinions on sight and touch that she conveyed to baron Grimm: If you, she said,

"drew in my hand with some instrument a nose, a mouth, a man- or woman-figure, I most certainly wouldn't guess wrongly, and were the drawing passable, then I perhaps could hope recognizing the person drawn by you. My hand should for me provide a substitute for a sensitive mirror although the difference probably is large between the sensitivity of this tissue compared to the organ of seeing. I imagine the eye being a living

tissue of endless fineness and that when the air hits an object the former will be thrown back to the eye which in this way receives a lot of miscellaneous impressions determined by the peculiarity of the object and the air, whose properties you know as badly as I myself, and through the diversity of these impressions the images will emerge in your eye. Were the skin in my hand as sensitive as your eye, then I should see with my hand just as you do with your eye and I also imagine that animals exist that are blind, however, thereby not less clear-sighted."

Mélanie de Salignac passed away in Paris 1763 21 years of age. (Kretschmer 1937, pp. 156-157).

R. Weissenburg and the first German teacher of blind people: Christian Niesen

R. Weissenburg was born 1756 in Mannheim, son of a valet employed by the Pfalzian electoral prince. At 7 years of age he lost his sight, some light perception excepted, due to smallpox. By 14 he became totally blind. His wealthy father wanted to give him an education coherent with his talents. Without any adapted teaching method he learned language, arithmetic and other subjects. By 15 the scholar Christian Niesen became his teacher. It is told that he reached a high level especially in arithmetic, algebra and trigonometry. Later he himself taught a 9 year old boy arithmetic. In the learning and teaching of arithmetic he used the Saundersonian board. Niesen improved this board by dividing it into small raised (embossed) quadratures and made holes in the lines between the quadratures. Thus the board could be used for the making of fractions and algebraic mathematics. The figures in the teaching of geometry were made of steel threads and fastened to cardboard. Even the explaining letters accompanying the figures were made by steel threads. With the help of these letters Weissenburg learned the alphabet, and relatively late - in 1779 - he reached as far as to write. His writing apparatus has similarities to the one Waldkirch used. A quadrangular depression of a quarterpage size is cut in a board. Around this depression there was adapted a brass frame. Over this frame there were horizontally stretched thin strings (sail yarn lines) which served as handleaders. Three pages of paper were laid in the depression, a white in the bottom, a black or red in the middle and a white at the top. When writing with a stump slate pencil on the paper at the top, a readable copy was made on the paper at the bottom. In this way Weissenburg wrote excellent German and French, recorded his thoughts and made an extensive correspondence especially with Maria Theresia von Paradis and with his teacher Niesen. In the teaching of geography, maps were used on which the frontiers of the countries were produced with the aid of silk strings, the rivers with flexible steel threads, the ocean with sand and the cities with pinheads.

Weissenburg invented an ingenious method to make playing cards perceivable for the blind person. He made needle pricks at the back side of the card and by that points emerged on the front side. He taught the game of chess to a deaf person who learned it by lip reading and by the raised alphabet used by Weissenburg. Kretschmer points out that Niesen was an outstanding teacher. He tried to adapt his teaching to the conditions of his blind pupil and, in cooperation with Weissenburg, he made a lot of devices for the teaching. The writing apparatus was made with some changes according to the same model as Waldkirch's. Weissenburg honours her in a letter to Paradis, looking upon her as at the same level as Saunderson and Grotto. He owned a Latin letter written by her to her uncle. Niesen has left two writings, one on arithmetic and one on algebra, both for

sighted and blind. Weissenburg regarded Niesen as worthy of honour and respect. In the letter to Paradis Weissenburg tells:

"I was cast down in outer and inner blindness...up to the year of 1771 when a man with a head and a heart revealed himself and lighted the torch of science. Oh God, how great be not my debts to this inventive spirit! He has given me rewards which no mortal can take away from me. If I owned the whole principality I couldn't return his good deeds. A grateful heart is beating in my breast and my soul is steadily filled with wishes for his well-being."

Niesen died in 1784, little known in his own country. Kretschmer informs us that he was the first German teacher of blind people (Kretschmer 1937, pp. 157-159).

Maria Theresia von Paradis - a creature of mystery and romance

The Austrian Maria Theresia von Paradis (1759-1824) was one of the most famous blind persons in the eighteenth century. She was looked upon as an excellent musician, a pianist, singer, and dancer dazzling several audiences in the capitals of Europe in the 1780-90s. She was born in Vienna on May 15, 1759 as the daughter of an Austrian governmental councillor, and became blind at four years of age on a December morning in 1763 when awakening with convulsive twitchings of the eyes, which were "twisted around so violently that only the whites could be seen; at the same time they protruded far out of the sockets." (Ross 1951, p. 86).

Early in childhood she demonstrated great musical talent. Her parents let her have instruction in singing and piano playing. At 11 years of age she sang Pergoleses Stabat Mater in the Augustinerkirche and accompanied herself at the organ. The empress Maria Theresia, her godmother, who was present, was moved by the performance and from that time supported her further education (Kretschmer 1937 p. 147).

At 18 years of age she was "cured" by the questionable Franz Anton Mesmer (1734-1815) with his "magnetic fluid" treatment while living in his house. Her father forced Mesmer to stop the treatment - and she left Mesmer's house blind. Maria, however, emerged from this experience as a creature of mystery and romance and became the leading attraction in the European cities she toured (Ross 1951, pp. 86-95). 24 years of age she toured with her mother to German countries and Switzerland. Encouraged by the success she toured to Paris where she performed for Marie Antoinette and the court. The Paris *société* welcomed her in their salons and in one of them she met Haüy. From Paris she travelled to London. In Brussels she sang a cantata for the archduchess Marie Christine in which the story of her blindness was told. It was written by Pfeffel and composed by herself. After two years she returned to Vienna. Everywhere she became the centre of celebrations and the most famous personalities at that time wrote their names in her memorybook. In this we find dedications of Bürger, Klopstock, Claudius, Pfeffel, Gessner, Lavater, Benjamin Franklin and Charlotte Kestner and also a verse by the blind Weissenburg, whom she met in Strasbourg after corresponding with him by letter from Vienna. After returning to Vienna she started an institute of music. She did not perform so much anymore, but she eagerly composed (Kretschmer 1937 pp. 147-148).

Maria Theresia is not merely of interest in the history of blind people because of her artistic performances. She also has a place in the history of education. Her parents arranged for her a general education adapted to her blindness. With

her we find all but the same maps as with Weissenburg. This can be explained by the exchange of letters between the two. In arithmetic she used the Saundersonian board. In her musical education, including her teaching, she produced the musical notes in two different ways. Either she cut them in thick paper and pasted them up or she used a wooden board with raised (embossed) music lines and many holes in which small pegs could be put. The pegs had heads with notes and musical signs which could be touched. She did not master the method of Waldkirch and Weissenburg for writing with "handleading." She had learned the alphabet by touching raised letters and began writing with them by combining small cardboard plates with raised letters on them to form words and sentences. She had an apparatus for reading but, as we know from the history of the typewriter, Wolfgang von Kempelen in 1779 designed a machine for mechanical writing especially for her use - the "Schreibsetzgerät". By touch she set cast types, coating them with printer's ink and made an imprint of the letters with a press on a piece of paper. From that time she really could correspond with her friends, e.g., Weissenburg. She was so grateful to the inventor that she sent him a letter in which she wrote, "Here You see the first fruits of Your work by which You have made your blind pupil so endlessly happy, yes, I would nearly say, giving her a new sense." (Kretschmer 1937, pp. 147-148).

Maria Theresia's importance for the development of the education of blind people should not be underestimated. Her virtuosity and education was an example demonstrating the possibility of successfully educating blind people. Her meeting with Haiüy whom she informed of the devices she used in education and corresponding was one of the impulses inspiring him to found the first school for blind people. Her example also inspired Wilhelm Klein and the founding of the first schools for blind people in German countries.

Maria Theresia von Paradis passed away on February 1, 1824, in Vienna, at the age of sixty-four.

Some prominent blind people born in the eighteenth century

Hokinoichi Hanawa (1746-1821), a famous researcher of the classic Japanese literature, became blind in his fifth year of life.

Franz Huber (also Huebner) (1750-1831) was the son of a well-known Geneva family which also had some connections to Voltaire. He became visually impaired and is said to have become blind in his childhood. Huber became a prominent scientist and he was the first person to discover many important aspects of the way of life of the bees.

Petronella Moens (1765-), born in Cubart (Friesland), became a poet writing in the French language. At the age of 3, she became blind.

Friedrich Ludwig Dulon (1769-1826), born in Oranienburg, became blind already as a newborn. His father taught him to play the flute. At 13 years of age he performed his first concert-voyage. Later followed travels all over Europe. Everywhere his play was acknowledged. Already at the age of 9 he began composing. He has written an autobiography: "Dulons, des blinden Flötenspielers Leben und Meinungen, von ihm selbst bearbeitet" which was published in Zurich 1807-1808. He died in Würzburg.

Marianne Kirchgässner (1770-1808) was born in Waghäusel at Bruchsal. She became blind at the age of 4. Kirchgässner had an extraordinary talent for music, played accordeon and composed.

William Axe (1785-1823) was congenitally blind. He became organist in Whiston. Because of his "musical "ear" he became a consultant for numerous organ constructions.

Frantz Wendt lived in the second half of the eighteenth century in Berlin. He became blind as a newborn. Wendt was a constructor of music instruments and an acknowledged musician. Wendt invented a tactile tonewriting for blind people, the so called "Hakennoten", which could be seen as a predecessor of the Braille writing (Scholler 1990, pp. 255, 321, 178, 310, 60, 503).⁶⁵

What has the invention and development of the typewriter to do with the history of blind people?

Concerning writing, it is of great historical importance to recall a mostly forgotten fact: The *typewriter* that perhaps through a whole century - the twentieth century - was to become a vital communication device for the general population used in many domains of life, was invented for the use of blind people and later adapted for the use of seeing people. *It was not the other way around.*

Credit for the first conception of an idea for a mechanical writing machine goes to Henry Mill, an English engineer, who on January 7, 1714, was granted a patent by queen Anne. Mill announced his patent as an aid to the blind, but no drawing of his machine is now extant nor is its construction known.

Later in the same century (1779), as mentioned above, a mechanic by the name of Wolfgang von Kempelen of Pressburg, designed a machine for mechanical writing for the special use of Maria Theresia von Paradis. This machine was called a "Schreibsetzgerät".

In 1784, a Frenchman designed a machine, in Marseilles, to make embossed or raised characters. This was intended primarily for blind people. A model of this machine was provided with the first manual keyboard (Condon, J.V. 1929).

The next report we have of a writing machine made for a blind person was in 1808, when an Italian (name unknown) is said to have built such a machine for the use of a blind daughter of a friend. In 1830, M.X. Progin, a Frenchman, provided a machine, described as a "clypographic" machine or pen. It was no success (Condon 1929). We have no information saying this was invented for helping blind people.

The next recorded effort in building a typewriter for the blind was by a blind man himself, François-Pierre Foucault⁶⁶, a teacher in the Paris Institution for the Blind. This machine, which was patented in France in 1849, printed embossed letters for the blind quite successfully. The machine was exhibited at the World Fair in London in 1851, and attracted great attention. Foucault earlier, however, had invented a machine called the "Raphigraph" in 1837. This machine had ten radial rods to operate the mechanism, but it was not as successful as the later machine, of which several copies were constructed. These remained for a long time in institutions for the blind but were never developed further.

⁶⁵Baczko mentioned the (congenitally or adventitiously?) blind Delille (eighteenth century) under the "News of some strange Blind People" (Nachrichten von einigen merkwürdigen Blinden) and he added that he was the most loved French poet at that time (Scholler 1990, p. 105).

⁶⁶Foucault, François-Pierre (1797-1871) was born in Corbeil-Essonnes in France. Foucault is said to have become blind at the age of 5. He made several inventions, most of which were not put into production due to lack of money (Scholler 1990, p. 213).

In England at about this period, there appeared the "Typhlograph", invented by William Hughes, also a worker in the field for the blind. This machine was intended for embossing letters, but it was subsequently modified to give impressions through carbon paper and thus early utilizing a method of writing later to be common on "Varyper". This machine of Hughes was awarded a gold medal in London in 1851.

It is obvious from the above that similar ideas were developing in various countries and the United States was not exempt from this influence. The first American writing machine appeared in 1829. William Austin Burt of Detroit, Michigan, was the inventor. He had it patented and called it a "typegrapher". There is no information that this was made for blind people. Charles Thurber of Worcester, Massachusetts, constructed a machine in 1843-45. Mell⁶⁷, in his famous encyclopaedia on the blind published in 1900, makes the statement that "in the year 1847 Howe of Boston made known an invention by one Thurber which was called Chirographe." (Coon,N. 1953, p. 3). This apparatus was in the form of a small piano and printed capitals only. We know from other sources that Thurber secured his first patent on a writing machine in 1843, another patent two years later (Coon,N. 1953, p. 3). This machine was never finally perfected for practical use, especially because it was designed to perform the motions of the hand in writing, but this machine influenced later developments and we do know that it was designed specifically for the use of the blind and that quite probably Thurber, who lived in Massachusetts, was in contact with Howe at Perkins Institution. A few years later, we find the note of another patent (1856) by Alfred E. Beach of New York City, who was an editor of *Scientific American*. His typewriter was made also for imprinting embossed letters for the blind and it embodied the characteristic basket-like disposition of type bars and type, which is used on standard machines today. It is said that this machine did good work, although it was slow in operation and it had one serious limitation in that it wrote only on a narrow ribbon of paper. The machine apparently never emerged beyond the experimental stage. Till then, all invented typewriters were much slower to use than handwriting. After all this experimentation, however, it was only natural to expect that someone would come along with a development of these ideas which would be practical. Credit for this and for the really first successful typewriter and also for the name we use today, goes to the American inventor Christopher Latham Sholes who was born in Pennsylvania in 1819 (Hammerton, vol 15, p. 8241). In 1867, Sholes read an article in the journal *Scientific American* describing a new British-invented machine and was inspired to construct what became the first practical typewriter. His second model, patented in 1868, wrote at a speed far exceeding that of a pen. It was a crude machine, but Sholes added many improvements in the next few years, and in 1873 he signed a contract with E. Remington and Sons, gunsmiths, of Ilion, N.Y., for manufacture. The first typewriters were placed on the market in 1874, and the machine was soon renamed the Remington. Among its original features that were still standard in machines built a century later were the cylinder, with its line-spacing and carriage-return mecha-

⁶⁷ Alexander Mell (1850-1931) was born in Vienna. He studied natural sciences. In 1886 he became director of the Institution for Education of the Blind in Vienna which was founded by Klein. Mell was also a famous researcher of the problems of blind people. His work from 1900 "Enzyklopädisches Handbuch des Blindenwesens" is also today a reputed contribution to our knowledge on blindness (Scholler 1990, p. 333).

nism; the escapement, which causes the letter spacing by carriage movement; the arrangement of the typebars so as to strike the paper at a common centre; the actuation of the typebars by means of key levers and connecting wires; printing through an inked ribbon; and the positions of the different characters on the keyboard, which conform almost exactly to the arrangement that is now universal. Mark Twain purchased a Remington and became the first author to submit a typewritten book manuscript (Encyclopaedia Britannica 1996, Online). The Remington became the first commercial typewriter.

Thus, the above documentation makes it obvious that the invention of the typewriter goes hand in hand with the concern for blind people.

We connect the "Braille" with blind people but we also tend to forget that the typewriter has been of great value for blind people.

The use of the typewriter grew rapidly not only among the blind but also in business and by 1900 a number of models were being used. Throughout this development, however, the blind people were not forgotten. We find that in 1905 the Hammond typewriter (later "Varityper") had been arranged for embossing braille along with printing letters on the same machine.

With the much larger use which was found for the machine by the general public, throughout the world, the special interest of the blind people in such a machine was largely forgotten, but not this first suggestion that the blind could become good typists. According to Coon, historians seem to agree that it was the inspiration of the successful use of the typewriter by the blind which gave rise to the teaching of the method of *Touch Typewriting* (Coon, N. 1953, pp. 3-4). Typewriting seems to have been an occupation for blind people in many countries in the twentieth century.

The lesser known French revolution - L'Institution Nationale des Jeunes Aveugles - Valentin Haüy

Valentin Haüy (1745 - 1822), one of Rousseau's younger contemporaries, founded the world's first school for blind people in Paris in 1784. Haüy was born in the village Saint-Just-en-Chaussée in the Picardie, France, on November 13, 1745, and he passed away in Paris in 1822. He was the brother of the famous mineralogist René Just Haüy. Valentin Haüy first studied linguistics, and he was also a clerk in the French department of foreign affairs. For various reasons Haüy became interested in blind people. He became aware of their need for education when he saw a blind girl visiting the public school together with her sighted brother. She asked him if he could read aloud for her in his spare time. He knew Diderot's opinions and he had also observed the work of L'Épée for deaf people. Through Maria Theresia von Paradis he heard about Weissenburg and about the devices the German blind used in their learning and when writing. Then Haüy met François Lesueur.



Valentin Haüy – the founder of the world’s first school for blind people

Photo: NTB-photo

Lesueur was born in Paris in 1766. At 6 years of age he became blind. At 16 years of age he was seen by Haüy. François was begging at the door of a church to support his family. Haüy succeeded in persuading him to take part in the studies. After that François begged merely part of the day; the rest he used for studies in the home of Haüy. The teaching was a success and Haüy drew the public's attention to this. A philanthropic association (Société Philanthropique) supported him and he founded the school first as a day school, then as a boarding school. In fact, the Société Philanthropique, which had been constituted in 1780 in Paris, already supported blind people, especially their training for the crafts. This training was inspired by Edmond Regnier, a skilful inventor. He knew the technology of that time and understood that also blind people could do useful work (Scholler 1990, p. 190).

Fourteen blind boys and girls, with Haüy as head teacher and François Lesueur as his assistant, were housed first in a dwelling on the Rue Coquilliere and later in the Rue Notre-Dame des Victoires. After some time the Academy of Science gave a satisfactory evaluation of Haüy's teaching. That promoted the public support of the school. While still under the direction of Valentin Haüy the school increased to fifty people and became known as L'Institution Nationale des Jeunes Aveugles (The National Institution for Young Blind people) (Farrell 1956a, p. 25), also termed in English as the "Paris School".⁶⁸

In the year 1789, the year of the revolution, Haüy opened a school for sighted children in his institution. Blind people taught them reading, arithmetic, grammar, geography and history. Writing and drawing were taught by sighted teachers. Although the revolution favoured the education of blind people, a very difficult time followed. The philanthropic society was dissolved and the state took

⁶⁸Before the French revolution the name of the institution was "L'Institution Royale des Jeunes Aveugles."

over the institution. In 1790 the National Assembly decided that the institution of the blind and that of the deaf should work together under Sicard. Students were moved to the convent of the Celestines, a monastery, and the joint school was partly financed by sequestered ecclesiastical revenues. But Haüy and Sicard bitterly quarreled over ownership and organization until the existence of both schools seemed in jeopardy. Then in 1791 Haüy's financial base evaporated when the Société Philanthropique was broken up and its members were imprisoned, exiled, or guillotined. The tension between Sicard and Haüy did not come to an end. Ultimately, the school for the blind moved to separate quarters in 1794 (Winzer, M.A. 1993, pp. 58-59). Under Napoleon, Haüy lost the control over the institution. Embittered and hurt he retired and founded a private institution, the "Musée des aveugles." Of historical importance is the fact that Haüy in his private institution began teaching blind children from 4 to 7 years of age, i.e. preschool teaching! Economically his institution was no success and it was dissolved in 1806. The same year Haüy travelled with Fournier to St. Petersburg where czar Alexander had asked him to found an institution for the blind.⁶⁹ He travelled through Berlin and there he gave the impetus to the founding of the first Prussian institute for blind people. He returned from Russia in 1817. His work there was not very successful. The rest of his life he lived in very modest conditions with his brother in Paris, where he passed away on March 19, 1822 (Kretschmer 1937, pp. 162-166).

At the dawn of the nineteenth century we find the strange history of Johann Caspar Altorfer (1785-) who was born in Schaffhausen. Altorfer was blind until he became 16 years of age. After a successful operation his vision was restored. In an extensive report that was printed in *Sweizer Boten*, June 1813, he describes the years of his blindness and the way of learning to see (Scholler 1990, p. 23).

The first book for the blind using raised script

In 1786 Haüy published the first printed book for the blind using raised script. The story goes that Lesueur was handling some papers and ran his fingers over the reverse side of a freshly printed sheet. He demonstrated to his teacher that he could distinguish individual letters even from the lightly raised ordinary print. This was all the information Haüy needed to begin experimenting with raised, enlarged types. He soon developed a complicated raised script, and literacy for people who were blind became a possibility (The Lantern 1991, p. 5-6).

The treatise of 1786 was printed by blind children under the leadership of the printer Clousier. It was exclusively meant for blind people.

The goal of our institution, Haüy tells in the treatise, is to teach the blind to read with the help of books in reliefprinting and, with this ability as intermediary, to teach them printing, writing, arithmetic, language, history, geography, mathematics, music, etc., and to occupy these miserable people with arts and crafts. Haüy also held the opinion that the blind should work to earn their own living and to be useful for society. He felt that the main effort ought to be teaching the blind to read and to make a library for their use. Haüy referred to the reading of the blind man from Puiseaux who read with the help of embossed letters that he moved about a plate. He also referred to the reading and writing of Maria There-

⁶⁹ Alexander Fournier (dawn of eighteenth century) was born in Paris. He became blind as a child. Fournier is said to have been very bright, therefore Haüy brought him with him to St. Petersburg to demonstrate the successes of teaching blind people (Scholler 1990, p. 213).

sia von Paradis. However, Haüy held the opinion that these ways of reading were so primitive that they merely could give the blind man the hunger for reading without giving him means to satisfy him. We have found these means, Haüy continues, and describes the observation of how a printed page when it left the press, showed all the letters in relief, although inverted, and how they succeeded in producing the first imprint of a page with embossed (raised) letters which could be read by touch (Kretschmer 1937, pp. 166-167).

Haüy rejected plane writing and also the use of relief ink. The reason why he turned down plane writing was his opinion that it would be strange that the blind person should write something that he himself could not read. In the treatise of 1786 he therefore describes the production of an iron uncleft pen which should be pressed on thick paper without using ink. Thus raised letters were produced on the back of the paper. They could be read by letting the fingers move in the opposite direction. Haüy also describes a frame with horizontal strings for hand-leading when writing. It is sensible to assume that Haüy through Maria Theresia von Paradis knew of this hand leader from Weissenburg. From them he also got the idea for geographical maps. He adapted the maps for printing. On the other hand he turned down Saunderson's and Weissenburg's boards for arithmetic and invented new ones.

In the beginning Haüy did not have music in his teaching scheme. However, he introduced music later because many blind people loved music and some of them already played some instruments. Therefore they had the possibility through their music to earn a living. Musical signs (notes) were produced in embossed print. The vocational training comprised spinning, ropemaking, harness making, chair-plaiting, sewing, gold embroidering, lacework and printing (Kretschmer 1937, pp. 169-170).

It is evident that Haüy always will hold a distinguished place in the history of blind education. He founded the first public school for blind children, the first kindergarten (preschool), and produced the first printing of books with raised letters.

In the footsteps of Haüy

All the pioneer work for the blind was carried out by voluntary bodies, probably in most countries of the world. It can also be assumed with a high degree of probability that most of them were religious.

In the late eighteenth and early nineteenth century special schools for blind people began to appear also outside France. The work of Haüy became known in many European countries, and it is fairly obvious that he influenced the founding of new institutions for blind people in many countries.

Initially, blind people were only taught simple trades at these schools, but later attempts were made to teach them reading and writing.

The first schools for blind people in Britain

In 1791, a school was opened in Liverpool where blind persons would be instructed in "Music or the Mechanical Arts, and so be rendered comfortable in themselves, and useful to their country".

Edward Rushton - the sailor who established the first school for the blind in Britain

Edward Rushton (1755-?) was born in Liverpool. He founded the first school for blind people in Liverpool and was the pioneer of work for the blind in

Britain. Rushton started as a sailor and lost his sight at the age of 19 as a consequence of attending a cargo of Negro slaves stricken with malignant ophthalmia, according to W. McG. Eagar. He had a romantic later career, engaging in several occupations and becoming a poet of some distinction. Rushton defended human rights. That is said to be the reason for an attempt to kill him. In 1791, with the help of friends, he acquired two small houses in Liverpool and established the first School for the Blind in Britain. Four-and-a-half centuries earlier, homes of refuge for the blind had been established in London and at Swansea and, in the intervening years, many benefactions producing pensions for blind people had been created. But these efforts, like certain provisions in the Poor Law Act of Queen Elizabeth, were designed merely to relieve destitution, not to anticipate and prevent it by education and training. The Liverpool School, though probably seen by its founder simply as a practical answer to a local problem, did in this sense embody the dynamics of a new idea, first conceived by Valentin Haüy in Paris a few years earlier. The school was the authentic beginning of modern blind welfare in Britain, according to Eagar (1962, p. 26). By the end of the eighteenth century it had been followed by three more institutions in Edinburgh (1792), Bristol (1793), and London (1799). At this period institutions for the blind in the UK tended to combine several of the functions of providing education for children, training them for industrial occupations, providing employment for some adults and giving shelter to the aged (Report 1972, p. 1).

In Norwich, in 1805, a school for blind people was founded initiated by the blind nobleman Tawele. In Dublin, in 1810, the National Institute Richmond opened its doors for the blind who were able to work, and in 1815 followed the Molyneux Asylum for blind women.

The first schools for blind people in German countries

Austria: Johan Wilhelm Klein - "Vater der Blinden"

In Austria the first school for blind people is connected with the name Klein. Johann Wilhelm Klein (1765-1848) was born at Nördlingen and passed away in Vienna. Klein, originally the director of Vienna's poor service, became a well-known educator of the blind. He taught with success the blind child Jakob Braun, who was brought to him in May, 1804.⁷⁰ Braun was first taught in Klein's home, but 1804 is considered as the year of foundation of the first Austrian school for the blind, i.e., the first *German* school. Klein read the publication "Kurzer Entwurf zu einem Institut für blinde Kinder" (1802) by Franz Gaheis. In this he was directly encouraged to found an institution for the blind. By education Klein was a jurist. He had heard about Haüy but he did not know his methods. Therefore he began developing his own methods and teaching devices. He also wrote down his experiences in numerous publications, e.g., *Lehrbuch zum Unterricht der Blinden, um ihren Zustand zu erleichtern, sie nützlich zu beschäftigen und zur bürgerlichen Brauchbarkeit zu bilden*⁷¹ and *Geschichte des Blindenunterrichtes und der den Blinden gewidmeten Anstalten in Deutschland samt Nachrichten von Blindenanstalten in anderen Ländern*⁷². Klein received the name of honour, "Vater der Blinden"⁷³ (Scholler 1990, pp. 190-191).

⁷⁰ Jakob Braun (1795-1839) was born in Bruck and passed away in Vienna.

⁷¹ (Textbook in Teaching of the Blind to ease their Conditions, to employ them in a useful Way and to educate them to civil Fitness).

⁷² (A History of the Education and Institutions for the Blind and News from Institutions for the Blind in

Prussia: August Zeune started with one pupil

The first Prussian School was founded in 1806 directly promoted by Haüy when he made a stay in Berlin and introduced to the ophthalmologist Grapengieser his blind pupil Fournier who accompanied him on his travel to St. Petersburg. The first head of this school was the high school teacher and University professor August Zeune. He, as Klein, also started with one pupil. His school was to be considered one of the best schools for blind people in Europe. He published his experiences in blind education in the publications "Belisar - Über den Unterricht der Blinden"⁷⁴ (1821) and "Belisar oder über Blinde und Blindenanstalten"⁷⁵ (1838). Of importance is the fact that Zeune, to improve his work among blind people, travelled to France, the Netherlands and England for study purposes. He saw as especially important his contact with Johann Heinrich Pestalozzi, the founder of the public school⁷⁶, whom he visited in 1820 in Iverden, Switzerland (Scholler 1990, p. 191).

Public involvement in blind education for many years remained highest in the Protestant Prussian-led Germany. In other countries, the church and other associations of charity were dominating. In all countries the education of the blind oscillated between being organized as an "educational service" and a "social service" before it ultimately was recognized and administered as "education."

The first schools for blind people in other European countries

The institutions in Vienna and Berlin became an inspiration for the founding of new schools in German countries. In Russia Haüy himself founded the first institution for blind people. The pioneer of blind education in the Nordic countries was the Swede Per Aron Borg. He started teaching a blind girl according to his own method in 1806. He was also interested in deaf people and in the first decade of the nineteenth century, he taught blind and deaf pupils in his home in Stockholm. In 1812, he bought the property Manilla at Djurgården, and with the help of students and teachers he built a colony for deaf and blind people.

In the Netherlands, the first institution for blind people was founded in Amsterdam in 1808, in Switzerland in Zurich in 1809, and in Denmark the Royal Institut for the Blind⁷⁷ in 1811 in Copenhagen.

In the following years institutions for blind people were founded in several other European countries (Kretschmer 1937, pp. 177-179). In German countries several schools for blind people came into existence. One of them became very famous, the Gärtnerinstitut in Munich inaugurated in 1838. The young Dane Johannes Moldenhawer visited this school and also other schools in German countries and Austria. In a speech he once said that he felt he came back to Denmark as a Luther in the field of blind education. Moldenhawer became the director of the new institute which was situated in a new building at Kastelsvej the on November 5, 1858. This institute became an inspiration for the school for the blind in Norway. In Norway an inspector at a hospital (Rikshospitalet) in Kristiania, Jochum Nicolai Müller Johansen, visited Copenhagen and worked hard to begin

other Countries).

⁷³ (Father of the Blind).

⁷⁴ (Belisar - On the Education of the Blind).

⁷⁵ (Belisar or on the Blind and the Institutions for the Blind).

⁷⁶ ("Volksschule").

⁷⁷ ("Det kongelige Blindeinstitut").

education of blind people. Johansen collected the first statistics on blind people in Norway. This demonstrated the need for education. 2759 blind people were registered, 409 of them below the age of 30. In 1858 Johansen succeeded in establishing a committee with the goal of founding an association for blind people. This association⁷⁸ was founded in 1858 and took over the work for a school for the blind. The school⁷⁹ was founded in Kristiania in 1861 and began its work with two blind children. Bernhard Roggen, a friend of the famous Norwegian educator Hartvig Nissen, became the first director of the school (Hauge 1961, pp. 12-23; Aasland 1959, pp. 25-26).

To sum up: Inspired by Haüy, new institutions for blind people were founded in other European countries in the years: Liverpool 1791, Edinburgh 1792, Bristol 1793, London 1799, Vienna 1804, Berlin, Glasgow and Stockholm 1806, Milan 1807, Amsterdam and Prague 1808, Dresden and Zurich 1809, Copenhagen 1811, Warsaw 1817, Breslau 1818, Brussels 1819, Barcelona 1820, Pressburg⁸⁰/Budapest 1825, Freising/Munich 1826, Stuttgart 1827, Bruchsal-Ilvesheim 1828, Braunschweig 1829, Hamburg 1830, Brugge 1836, Lüttich 1837, Madrid 1842, Hannover 1843, Königsberg 1846, Kristiania/Oslo 1861, Helsinki 1865.

In 1885 we at least find the following number of educational institutions in Europe, a lot of them probably still not financed and led by the state but by charity organizations (churches, foundations, etc.):

⁷⁸ ("Foreningen for blinde").

⁷⁹ ("Kristiania Blindeinstitut").

⁸⁰R.The.E.: Pressburg, city in Austria, later Austria-Hungary; at present: Bratislava, capital of Slovakia.

Educational Institutions for blind people in European countries in 1885

State	Institutions
France	13
Austria-Hungary	9
England	18
Scotland	4
Ireland	4
German countries	26 and 2 pre-schools
Denmark	1 and 1 preschool
Sweden	2
Norway	1
Netherlands	1
Belgium	9
Switzerland	3
Italy	5
Spain	3
Poland	1
Finland	2

(Scholler 1990, p. 189).

The first schools for blind people in Non-European countries

As early as in the nineteenth century, institutions for blind people were constituted also in other parts of the world, in Asia, Africa and America.

Although Häüy's work in European/Asian Russia was not successful he founded the first public school for blind there, in 1807 in St. Petersburg.

About 1850, Dr. Gutzlaff liberated 6 blind girls from slavery in Canton, and they were brought to the United States and England for education. One of them returned to China and became a teacher for blind people in Shanghai. The first school for the blind in China, however, was founded in Beijing in the year 1876 by Andrew Murray. In the history of blind people we should not forget Linschau (1862-). She was born in Namthau and became blind at 4 years of age. Her step-father threw her out of the house and a christian Chinese person brought her to the "Berliner Findlingshaus". Linschau became later teacher at the Asylum for blind Girls in Hongkong (Scholler 1990, p. 323).

In Japan in 1875 an association for blind services - the "Rakuzen-kai" - was founded by Nakamura, Kishida, the German missionary Burchard and the English physician H. Faulds. This gained official permission for founding the blind-school Rakuzen-kai-Kunmoin, later named Tokyo Blind and Deaf-and-dumb School. Teaching began in 1880.

In India the first school for the blind was founded in 1887 by the English missionary Ms. Annie Sharp. Regarding the blind in India, we should mention R.M. Apaiwala (1887-). Born in Bombay, Apaiwala became the first president of India's "National Association for the Blind". Perhaps he is the person who has most promoted the work for blind people in India (Scholler 1990, pp. 26, 92, 265, 296-297). The author knows very little about the position of the blind in India. However, some blind people obviously were highly esteemed. It is said that Dayananda Sarasvati (1824-83), the Hindu religious reformer, founder (1875) of the sect Arya Samaj, was taught the Vedas - which he preached from 1863 until the end of his life, proselytizing throughout India - by the blind scholar Swami Virajananda of Mathura (Encarta 1994, Wendy Doniger O'Flaherty).⁸¹

United States of America

It is impossible to write on the history of the education for blind people without mentioning Samuel Gridley Howe and The Perkins School for the Blind in the United States of America.

Howe and the Perkins School for the Blind

Samuel Gridley Howe: Struggle for freedom of all people

Samuel Gridley Howe was born in Boston, November 10, 1801, and died in Boston, January 9, 1876.

Though he was well known in the 1840s, few people remember Howe nowadays. He was an active advocate of specialized instruction for handicapped children in the United States, and his view was progressive for those times. The Greek Revolution, the war of independence from the Turkish tyranny, started in 1821. Howe arrived there in 1825 and fought together with the Greek soldiers and performed surgery when he did not fight. Back in the United States, Howe energetically opposed slavery. He undoubtedly played a significant part in the organization of specialized education for handicapped children (Meshcheryakov 1979, p. 43-44).

⁸¹(R.Th.E.: Veda - Sanskrit, "knowledge", the most ancient sacred literature of Hinduism, or individual books belonging to that literature.)



Samuel Gridley Howe – the first director at Perkins

Photo: Perkins School for the Blind

When Howe - regarded as the founder of deaf-blind education (see below) - first made plans for setting up a specialized institution for the blind in Boston he decided to go to Europe to study findings made in this field. He did so in 1831 and returned in 1832 with two blind teachers, a Frenchman and a Scot⁸². On this travel Howe again demonstrated his devotion to the struggle for freedom of all people. "He frequented the salon of the Marquis de Lafayette and, contrary to the Marquis's advice - ... accepted a mission to carry funds to Polish revolutionaries. He was caught, imprisoned in Berlin, expelled for life from Prussia, and thrown bodily over the French border at Metz..." (Lane 1984, p. 287). However, he brought back with him the two blind instructors: Edouard Trencheri, trained at Haüy's school, who would teach academic subjects, and an Edinburgh mechanic to teach the rest of the curriculum (Lane 1984, p. 287).

⁸²Source: Kenneth Stuckey

The Perkins School for the Blind

In 1829, the New England Asylum for the Blind, the first school for the blind in the United States, was incorporated. In 1831 Dr. Samuel Gridley Howe (1801-1876) became director and in 1832 the school opened with six students.⁸³

The institution was not founded by Howe. It was founded by (med.) Dr. John Dix Fisher in 1829. Two years later Howe became director.⁸⁴ John D. Fisher was a friend of Howe. Mrs. Howe says:

"Dr. Howe now returned [1831] to his native country, to find there a new object of interest, destined to claim the longest and most continuous service of his life. A friend of his, Dr. John D. Fisher, of Boston, had recently returned from Paris much impressed with the education of the blind as pursued in that city in the school, which had been founded by Valentin Haüy." (Howe, M. and Howe Hall, F. 1903, p. 6).

In 1832 then, Howe opened the doors of the school. At that time, "asylum" was all that even the most fortunate blind persons might expect out of life. Because Howe intended to challenge that tradition, he immediately called his school the New England *Institution for the Education of the Blind*.

Howe visited the Paris School during his journey but he judged the school did not succeed since only one student (pupil) in twenty was able to support himself on leaving, although the students learned spinning, weaving, knitting, chair-caning, rope-making, shoe-making and harness-making.⁸⁵

Howe argued that "the original capacity of the intellect is precisely the same in the blind, as in seeing children" (Perkins Inst. 1837, in Winzer 1993, p. 179). He reiterated three educational themes: each child was to be considered an individual and trained for personal ability; the curriculum of the school would follow

⁸³ The reader might be confused by some terms concerning Perkins: When founded the name of the institution was New England Asylum for the Blind, then New England Institution for the Education of the Blind (1833), and in 1839 it was renamed Perkins Institution for the Blind in honour of Colonel Thomas Handasyd Perkins, a prominent Boston merchant and one of the school's principal early benefactors. Up to 1955 the name then was Perkins Institution for the Blind, after then the name has been Perkins School for the Blind (decided November 7, 1955).

⁸⁴Source: Kenneth Stuckey (1938-).

This history could not have been written without the great support from (the English born) Kenneth A. Stuckey. He is himself an important part of the history of Perkins School for the Blind where he started working September 1, 1965, as an assistant librarian. He became the head of the library - named Samuel P. Hayes Research Library in 1974 - in 1967. The library - formerly known as the Blindiana Library, was founded in 1880 by the second Director of Perkins, Michael Anagnos. In 1912 the third Director of Perkins - Allen - moved the Perkins Institution to where it is now located - in Watertown. In 1966 the library was moved to a new building specifically designed for it. The library has the largest non-medical collection of material (books, pamphlets, magazines, etc.) in the world concerning blindness and deafblindness. The research library is named after Dr. Samuel Perkins Hayes (1874-1958). He was a psychologist with a doctoral dissertation dealing with colour blindness. He had his base in Mount Holyoke College but held the title of Director of Research of two institutions - Overbrook and Perkins. Hayes worked all his life with problems concerning blind people. He is above all known for his adaption of the Binet-Simon (Terman) intelligence tests for blind people. The first adaption was published in 1923 (Baumann, M.K. 1974).

⁸⁵ The author has a clear childhood memory of blind piano-tuners in his home.

It might be of interest to know that piano-tuning was introduced as a profession for the blind by the Paris School between 1830-1840 - as one of the efforts of making the students self-sufficient. The story goes that it was adopted in this way: Claude Montal was a pupil at the institution, and with a fellow-student got himself into trouble for tampering with the action of the school piano. In spite of his discouraging start he and his friend obtained permission to buy the wreck of an instrument and keep it in the institution. This they studied carefully and at length were able to restore it to playable condition. Montal afterwards became one of the best known tuners in Paris (Ritchie, J.M. 1930, p. 12).

that of the common schools, but with greater stress on music and crafts; and blind children were to be helped to become contributing members of society (Perkins Inst. 1834, in Winzer). However, Winzer has observed something very often forgotten or neglected in the study of blind people (as well as deaf people), the class society:

"Still, for most blind children industrial training formed the central face of instruction; only those from the upper echelons of society were exempt. In the early days the Perkins Institution for the Blind had one class of children from rich parents who learned geography, history, English, French, and arithmetic - a curriculum almost parallel with that of the common schools. Another class, for children who needed to earn their living, focused solely on learning handicraft work and music (Perkins Inst., 1834). Institutional blind students from the poorer ranks manufactured doormats from Manila hemp in looms, produced various kinds of basketwork, mated mattresses, and fabricated moccasins (Perkins Inst., 1834)." (In Winzer, M.A. 1993, p. 180).

Physical training (education) was encouraged - especially by Howe - and promoted for blind students as well as for deaf students.

In the history of education for blind people, Howe can be seen as playing the same role as Bell in the history of education for deaf people. They were both orators and also shared many other important views, e.g they were in abstracto both for integration of deaf and blind students in the schools for hearing and sighted students and in general life.

The Perkins Institution (1955: School) for the Blind is since 1912 located in Watertown, outside Boston (Massachusetts). The institution continued to play a very important role in the education of blind people. In 1887 the school established a kindergarten for blind children, in 1920 came the first psychological tests for blind children, and the first graduate-level Teacher Training Program was established, in conjunction with Harvard University.

An important person in this development at Perkins was the third director, Edward Ellis Allen (1861-1950).⁸⁶

In 1906 Anagnos died and the following year Mr. Allen was appointed to succeed him at Perkins Institution for the Blind. He held that position to July 1 1931. At Perkins he did not have to create a "new spirit." Under Howe and Anagnos, ideals were established which brought a sense of dignity and purpose to blind men and women, and a standard of dedication to their teachers. However, Allen made an outstanding contribution continuing their work in his 25 years of service as director. He moved the Perkins institution onto a suburban estate in Watertown, Massachusetts. The new institution set standards for many schools for the blind. But though he enjoyed constructing two outstanding school complexes, he was mainly concerned about the quality of teaching. In 1920 he cooperated

⁸⁶Edward Allen was born in West Newton, Massachusetts. He graduated at Harvard College in 1884. After a year at the Harvard Medical School in which he came to question his choice of a career, he accepted an offer to teach temporarily at the Royal Normal School for the Blind in Upper Norwood, London, England under the direction of Mr. (later Sir) Francis Campbell, a remarkable blind American who had formerly taught at the Perkins Institution for the Blind in south Boston. Here he found teaching to suit his tastes better than practicing medicine. In 1888, he was offered a choice of two identical positions at the Philadelphia School for the Blind and at Perkins. Choosing the latter as nearer home, he became the Headmaster of the Boys Department under Michael Anagnos. He accepted to be principal, however, at the Philadelphia School in 1890. He there showed that he was capable of providing outstanding leadership. In the 17 years he directed the school, he moved the campus from downtown Philadelphia to suburban Overbrook where he erected a plant of architectural distinction. He injected a new spirit into the school. His pupils in later years paid heartfelt tribute to the inspiration he gave to their lives.

with Harvard University in presenting a series of extension letters on the education of the blind. From this small beginning, teaching blind children has risen to a high professional level with graduate courses offered by colleges and universities throughout America and overseas.

Equally important perhaps was the impetus provided by Allen to scientific research into the psychological aspects of blindness. In 1916, in cooperation with the successor at Overbrook he interested Dr. Samuel P. Hayes, professor of psychology at Mount Holyoke College, to devote part of his time to the development of tests and measurements for use with the blind students. As a result of the Hayes-Binet Intelligence Tests, the popular notion that blind people in general are mentally defective was largely dispelled, and blind pupils could be accurately classified.

Among many other activities on behalf of the blind, Allen participated in programmes for the prevention of blindness and the establishment of classes for the partially seeing. Perkins helped establish the first such school in the United States in Boston. Allen also helped to persuade the various factions in the long and heated controversy over the various forms of embossed material to adopt the uniform Braille system now in use throughout the world.

Allen was a prolific contributor of papers at conventions and articles in journals (Waterhouse 1973).

As we will see below, Perkins school was to play a central role in the development of education of deaf-blind people.

Other schools for blind people in the United States

Other schools for the blind followed in the United States.

In 1831, the New York Institution for the Blind, later renamed the New York Institute for the Blind, opened under the direction of Dr. John Dennison Russ. The Pennsylvania Institution for the Instruction of the Blind, now named the Overbrook School for the Blind, was started by Quakers in 1833 under the directorship of Julius R. Friedlander.

The schools were residential, privately financed and based on the programmes offered by the National Institute for Blind Youth in Paris (The Paris School). The first students were children of families who could afford to pay the tuition and boarding fees (Sardegna, J., Paul, T.O. 1991, p. 74).

Schools for blind children slowly multiplied. There existed 6 schools in the United States by 1847, 17 by 1854, and 18 by the time of the Civil War. By 1875 there were 30 schools for blind persons serving 3,000 pupils (Halifax Institution for Blind, 1875; in Winzer, M.A. 1993, p. 108). By 1900 37 schools were in existence. Many of these institutions began as multipurpose settings; by 1875 11 states provided schools to jointly serve both deaf and blind children (Winzer, M.A. 1993, p. 108).⁸⁷

Howe - as Edward Miner Gallaudet (see below) - recognized the power of the college and the university. Following Gallaudet's success in founding an institution for advanced training of deaf students, Howe in 1869 called, unsuccessfully, for a national collegiate institute for blind persons. In 1865 blind students had been transferred away from the Columbia Institution for the Deaf and the Dumb and the Blind, which then got a department with college rights for the deaf. But,

⁸⁷Canadian schooling for blind children developed more tardily. By 1875 there were three Canadian institutions serving 150 students (Halifax Institution for Blind, 1875; in Winzer, M.A. 1993, p. 108).

according to Winzer, nothing more of a substantial nature was done for the blind in higher education; they were admitted to and were successful in the regular universities (Winzer, M.A. 1993, pp. 124-125). "It could be surmised that the advent of materials in special alphabets and then Braille accelerated this process." (Winzer, M.A. 1993, p. 125).

The battle of the dots: Louis Braille - the triumphal progress of the raised dots

In 1832, a competition was announced in Britain for the best method of printing for the blind using raised letters. More than twenty variations of such an alphabet were submitted over the next few years, and the first prize of a gold medal was presented to Edmond Fry for an alphabet consisting of the printed capitals of the Latin alphabet. Fry himself was unable to receive the prize since he died before the competition was closed, but his alphabet, as propagated in a somewhat modified form by Alston, soon spread to many countries (Meshcheryakov 1979, p. 44). In North America Fry's alphabet with a few changes introduced by Friedlander came to be known as the Philadelphia alphabet.

In Europe Howe encountered the then virtually unknown alphabet using raised points devised by Braille. In 1829, the twenty-year-old blind Louis Braille had made public his invention but found no support among his contemporaries. At the same time many people assumed that Braille's system, which bore no resemblance to ordinary letters, would isolate the blind from the sighted completely and would make written communication between the two groups still more difficult (Meshcheryakov 1979, p. 44-45).

Charles Barbier - the inventor of the first point system

Braille, himself a pupil of the Paris School once founded by Haüy, did not develop his system out of nothing. It was based on a system devised by a military man with full sight, Charles Barbier. Barbier's intention was to invent a simple cipher writing independent of the habitual letters and with the possibility of producing several copies at the same time. He was not concerned with the blind but was seeking a way to send along the battle line code messages that would be meaningless to the enemy and could be employed in darkness. Therefore one of his systems had the name "night-writing". In the beginning he was not interested in blind people at all and also did not think of relief writing. In his first attempt he created a stenographic cipher writing (1809). In 1815 he produced the first point system. This was the "eleven point writing", the "three point writing" and the "note point writing." These point systems could be read by touch. In the year 1819 Barbier's inventions were displayed at Louvre. The eleven point, the three point, and the notepoint writing were named, respectively, "écriture nocturne", "écriture d'ambulance", and "écriture de combinaison." The evaluation of the secret or cipher writing was purely based on their possible interest for the military or diplomacy. However, it was observed that the Paris School⁸⁸ already had adopted "écriture nocturne" in its teaching scheme. In the year 1822 a periodical published an article devoted to the "écriture nocturne"⁸⁹ under the heading: *Suite des applications de l'expéditive française. Second article. Écriture nocturne à l'usage des aveugles.*

⁸⁸ ("L'Institution Nationale des Jeunes Aveugles").

⁸⁹ ("night writing").

The form from 1815 got 6 horizontal columns in 1822. The alphabet contained 36 characters intended to express the sounds of French which could be produced by 6 points (dots) vertically and 2 points horizontally ("twelve point writing"). We easily see how close this is to the system developed by Braille. Barbier also tried to improve the ways of making the relief writing trying various methods. According to Kretschmer it is discussed if Barbier's work were founded on Lana's ideas. Kretschmer holds the opinion that it would be strange if Barbier did not know Lana's work since this was translated into French by Coste d'Arno-bat in the year 1803 (Kretschmer 1937, pp. 127-129). However, it seems fair to revere Barbier for the relating, the connecting, the mingling together of relief writing and point writing.

In some unexplained way, Barbier brought his system to the Paris School for the Blind in 1820. It was given a trial by Dr. Sebastien Guillié⁹⁰, head of the School, to whom it seemed impractical, and it was officially discarded. However, an adaptation of the system - Sonography - was adopted. Sonography employed a complicated system of raised dots and dashes that spelled words phonetically. However, Braille, at that time a pupil in the school, was impressed with the possibilities of the dot system and began to tinker with it (Farrell 1956a, pp. 96-97).

Louis Braille develops his new system

Louis Braille was born in 1809 in Coupvray, France, the son of a harness maker. At the age of three, he injured his eye while playing with his father's leather-working tools. The initial injury became infected, spread to both eyes and left him completely blind. He was sent to The National Institution for Young Blind people (the Paris school) when he was 10. By 19 he was appointed a teacher at the school. According to Sardegna and Paul, Braille and Barbier met to discuss possible alteration to the system. When Barbier insisted that the method remain unaltered, Braille developed his new system (Sardegna,J., Paul,T.O 1991, pp. 34-35).

⁹⁰ Guillié was from 1814 to 1851 director of the "Institution Nationale des Jeunes Aveugles" (the Paris School) in Paris. In the teaching of blind people he made many changes and nearly totally ignored the system from Haüy (Scholler 1990, p. 253).

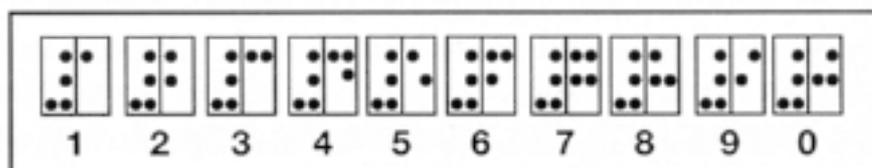
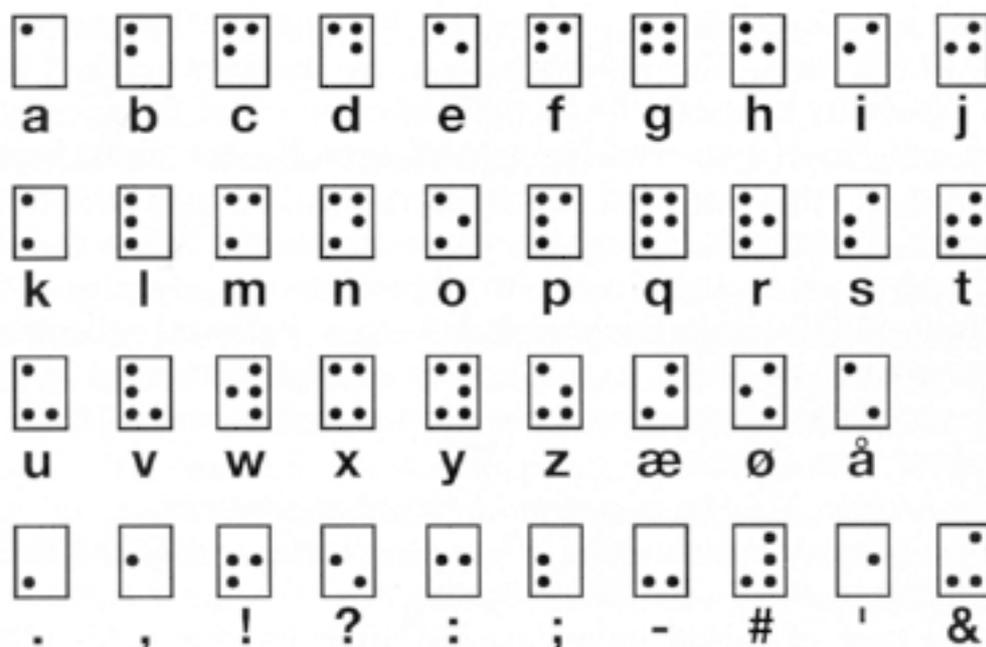


Louis Braille – the founder of the Braille writing and reading system of raised dots

Photo: NTB-photo

The Braille system is a system of raised dots. In adapting Barbier's system he reduced its size so that it could be comprehended by the fingers (from 12 to 6 dots in each cell) and changed its basis from phonetic to orthographic, i.e. from direct representation of French sounds to representation of standard written French. Dots in Braille's six dot cell could be arranged in 63 combinations which accounted for the alphabet, numbers, and eventually systems for music notation and mathematics.

In advocating this new system of reading for the blind, Louis Braille stressed what he called "the principle of logical sequence". According to this, a line made up of the first ten letters of the alphabet, using the upper two rows of dots for symbols, forms the basis for succeeding rows. The second line, beginning with the eleventh letter, *k*, is an *a*, with the addition of the left-hand dot in the third row of the cell, and so on through *t*. The remaining letters of the alphabet, plus enough symbols to make the third row of ten, are formed by adding the two dots of the third line of the cell, and the fourth row is made by adding the lowest dot on the right-hand side of the cell. As the French alphabet contains no *w*, this letter was missing from Braille's original system. Introduced later to meet the needs of other languages, it is a *j* with the addition of the lowest right-hand dot of the cell.



The Braille writing and reading system – alphabet with the additional three Norwegian letters æ, ø, å; punctuation marks; and numbers

Photo: Norges Blindforbund

Louis Braille was first of all a musician. According to Farrell he undoubtedly had music in mind when he constructed his writing system. However in his first announcement of the system Braille places the writing of music as secondary and it was in its use for "ordinary writing" that the dot system soon superseded the line type developed by Valentin Haüy and won universal acceptance (Farrell 1956a, pp. 98-100).

Braille had in fact finished his system already in 1824-25, at 16 years of age. He improved the system and published a second edition of his *Procédé* in 1837. Braille also contributed to the construction of an apparatus which made it easier for the blind to write in point writing. Together with the friend François-Pierre Foucault (who in 1849, patented a typewriter with embossed letters for blind people⁹¹) the s.c. Braille-Foucault Raphigraph was created in 1841. One of

⁹¹Cf. the section about the development of the typewriter.

his students, Victor Ballu improved the raphigraph in 1865 and others, like Con-tonnet and Nouet, also worked to improve it (Scholler 1990, pp. 77-78).

Braille also invented a method of reading and writing called "Braille hand speech." This is a method of holding the index, middle and ring fingers of both hands in such a position on the receiver's body that the tips represent the six dots of the braille cell. The sender writes, the receiver reads. Braille hand speech can especially be useful for people who are blind from early childhood and subsequently lose their hearing (Pennington, Karlan and Lloyd 1986, p. 398). However, it was not until much later, the 1870s in fact, that Braille's alphabet began its triumphal progress across the world, when at last the blind themselves and their teachers came to appreciate its advantages over other alphabets. In the 1830s, only linear alphabets were believed acceptable and these were to a greater or lesser extent copies of alphabets used by the sighted. Howe appreciated the advantages of Braille's alphabet, and in 1836 he attempted to introduce it in America.

William Moon - the Moon system of raised characters

However, another system still in use also at the end of the twentieth century, is worth mentioning - the Moon system.

This is a type of raised letters named after its originator, Dr. William Moon (1818-1894).

He was born in Horsmonden, Kent, on December 18, 1818, and passed away on October 10, 1894. Moon lost the sight of one eye through scarlet fever when he was four and all of his vision by the time he was twenty-one. Financially well-to-do, he set out to explore the possibilities of developing a form of reading that would be "open and clear to the touch." He did not resort entirely to arbitrary characters, but took the capitals of the Roman letters and reduced them to the simplest form. For example, the letter A was stripped of its crossbar and the letter D of its front vertical line.

"Where I could not alter", Dr. Moon said, "or remove certain characteristics, I formed new characters."

Nine simple characters in different formations resulted in an alphabet that was easy to read and also legible to the eye. In 1847, the first book in Moon type appeared. When Dr. Moon died in 1894, books in his type were printed in 419 languages and dialects. In many parts of the world as late as in the fifties, there was still a demand for Moon books, especially among newly blinded persons who feel unable to master Braille, and particularly from old people (Farrell 1956a, pp. 102-103). At the end of the twentieth century Moon books are still produced but today there is little demand for Moon.

Thomas Armitage supports the Braille system

In 1868, Thomas Armitage (1824-1890), a London physician obliged to give up practice of medicine owing to failing sight, set up a small committee of blind men to examine the considerable number of embossed types then in use in English institutions for blind people. After some months of research they recommended unanimously in favour of Braille for use in education, though they considered Moon type (based on the Roman letter with simplified outline) should be retained for the less literate.⁹²

⁹²Armitage was born in Filgate Hall/Sussex and passed away in London. He became very visually impaired through retinal atrophy.

Armitage became an ardent promoter of Braille. He and Francis Campbell⁹³ were founders of the "Royal Normal College and Academy of Music for the Blind" in Upper Norwood. It was opened in 1872, with the support of the marquis of Westminster.

The "British and Foreign Blind Association"⁹⁴ was founded in Armitage's home in 1868 primarily to further the production of Braille and to popularize its use and, some years before his death in 1890, Braille was universally adopted in the U.K. as the medium of education for blind people. The Institute and the Scottish Braille Press has later published periodicals and books in Braille, and many thousands of books have become available on loan from the national library for the blind. Armitage also printed a pamphlet in Braille that is looked upon as the first issue of the newspaper for blind people, "Progress." Already during his studies he got the first symptoms of his eye disease. This forced him in 1860 to give up his extensive practice as a physician. He promoted the work for blind people in many ways (Scholler 1990, pp. 30-31; Hammerton, J., p. 1367).

Boston Line Type - Howe's alphabet

The experiment to introduce Braille in the US in 1836 was, however, unsuccessful. The reason might well be that Howe probably did not really promote it. A year earlier, Howe had begun to publish textbooks for the pupils at his school in an embossed line print which he had himself devised. It was with the help of this particular alphabet, which came to be known as the Boston alphabet ("Boston Line Type"), that the first success in teaching a deaf-blind pupil was achieved. Her name was Laura Bridgman. The alphabet propagated by Howe differs from Fry's in many respects. In an attempt to make this print for the blind more compact and cheaper Howe dropped capitals from his alphabet altogether, removed all ornament and flourishes and reduced differences in the height and depth of letters to a minimum permissible in letters that had to be perceived by touch. In order to make these letters easy to distinguish one from another, he introduced special characteristics for the individual letters. For instance, the letters *a*, *h*, *n*, *o*, *r* were presented in angular shapes, while *b*, *c*, *j*, *q*, and *s* retained rounded contours. All these details were designed by Howe to make it easier for the blind to distinguish between the various letters of the alphabet by touch. In order to economize on space not one of the letters in his alphabet came below the line. Howe's alphabet was to become very popular in the United States (Meshcheryakov 1979, p. 45). However, according to Lowenfeld, Howe - as also Haiüy - was committed by his conviction to have the education of blind children conducted in the same way as that of seeing children. This led both of these "otherwise great men" into an unfortunate insistence that reading and printing for the blind must use the letter shapes commonly read by the seeing and the only concession to blindness was that embossed print was used. This insistence caused what is known as the "Battle of the Dots" that delayed acceptance of Braille for many

⁹³Francis Joseph Campbell (1832-1914) was born in Franklin County. He became blind by an accident as a child. Although he also was hearing impaired he learned to play piano and became at 16 years of age a teacher of music. With Armitage he founded the Royal National Institute for the Blind (RNIB), Great Britain. He played a great part in the development of support for the blind in England (Scholler 1990, p. 89). Cf. also the Perkins director Allen.

⁹⁴ (Later the "Royal National Institute for the Blind").

decades (Lowenfeld 1974 [1983], pp. 181-182). This seems to be a valid conclusion.

The first European Congress of Teachers of the Blind

As late as at the first European Congress of Teachers of the Blind in Vienna in 1873 Braille was not universally accepted. Howe was present at this congress. The question of a generally acceptable reading and writing system took up considerable time.

New York Point - introduced by William Bell Wait

The two different systems were Braille and an American system of print called "New York Point". The American system was also a system of dots. In that sense it indicates that the struggle for raised (embossed) letters or dots in reality already was settled.

The American system - New York Point, was introduced in 1868 by the educator William Bell Wait, who threw the full strength of his personality behind point as against line type. New York Point was a variation of the original Braille, intricate and scientific. According to Ross, Wait's numerous critics charged that it was really Dr. Russ's invention. However, there is no disputing the fact that Wait worked out the details - including a full musical notation - and staged a long and bitter fight for its survival. So, in the US the struggle stood not between Braille and the Boston system but between New York Point and the Boston system. Howe's follower at Perkins Institution for the Blind, Michael Anagnos (1837-1906), was the unrelenting foe of New York Point (Ross 1951, pp. 247-250).⁹⁵

⁹⁵Michael Anagnos was born in Epirus, Greece. He was at first a journalist after studying philosophy and linguistics. He demanded a democratic government in Greece and liberation of territories governed by Turkey. At one time he was imprisoned because of his writings. In 1867 he came to know S.G. Howe when he visited Kreta in a supporting action for the people there. Anagnos was persuaded to go with Howe to the United States. He held miscellaneous positions at Perkins Institution for the Blind, but after the passing away of Howe he became director, in 1876. He was the second director of Perkins. Anagnos is well known for his part in the education of Helen Keller. He was director at Perkins until his death in 1906, succeeded by Allen a year after.



Michael Anagnos – the second director at Perkins

Photo: Perkins School for the Blind

The triumph of the Braille system

It should be noted that also the British representatives at the congress in 1873 were in favour of a thorough examination of the American system. One of them was Thomas Armitage. However, Armitage backed Braille at the congress. He later became one of the most ardent advocates of Braille. The congress did not reach any agreement, but it elected unanimously a standing committee to investigate the whole problem (Lowenfeld 1973, p. 172). At the next congress, held in Dresden in 1876, a modification of Braille was adopted. The congress meeting in Berlin in 1879, however, recommended original Braille for universal adoption, a move confirmed at Frankfurt in 1882. However, the struggle "New York" - "Boston" went on in the US. According to Ross, the entire situation changed in the US when Frank H. Hall, superintendent of the Illinois Institution for the Blind and a backer of American Braille, introduced a Braille typewriter in 1892. Hall's typewriter was a neat model with six keys, one for each of the points of the Braille cell. Thus the whole Braille character could be made with one stroke. (Ross 1951, p.250).

International co-operation

According to Scholler, the interest of mutual information and learning in the one society and among different states got a setback after the first enthusiasm following in the footsteps of Haüy. However, slowly cooperation increased.

In France in 1855 Guadet founded the periodical *L'instituteur des aveugles*.⁹⁶ In Germany *Der Blindenfreund*⁹⁷ was published in 1881. The periodical was promoted by "Verein zur Förderung der Blindenbildung".⁹⁸

The willingness to arrange meetings also increased.

In New York City, the first convention of instructors (teachers) of blind students in the US was held in August 1853. Howe was elected president of the as yet unnamed body of instructors (Winzer, M.A. 1993, p. 229). In Germany the first meeting occurred in 1855 in Winnenden. The French teachers of the blind met in 1878 in Paris, the English in 1883 in York, and the Italians in 1883 in Florence. At the same time the work for an international congress went on.

In the history of the education of blind people the congress in Vienna in 1873 is important, since it seems to be the first international congress concerning blind people. The man who promoted the idea and did the preparatory work for the congress was Ludvig August Frankl (1810-1894), a Czech Jew studying in Vienna and Padua. He became a physician, but did not practice medicine. He wrote poetry and achieved his greatest fame as the author of a poem "The University", the first that was published free of censorship in the March 1848 student movement. It was a stirring poem of a revolutionary character. He started a school for Jewish blind children in Vienna. It was opened in December 1872 and remained a centre of progressive education of blind children until 1938 when the Nazis dissolved it and most of its pupils became their victims (Lowenfeld 1973, pp. 169-170). A committee of which Frankl was elected president sent invitations to all known schools for the Blind in the world to meet in Vienna from August 3 to 8, 1873, for the first European Congress of Teachers of the Blind. Most of the - almost 90 - participants came from Europe, one came from Cairo in Egypt - Henry Lavanchy, founder of the Institution for the Blind in Cairo. From the US came S.G. Howe, Boston; Thomas H. Little, director of the Wisconsin Institution for the Education of the Blind; and Adolw Wilhartz, teacher of music at the Institute for the Blind, St. Louis. The congress in 1873 was followed by other congresses. However, the first international congress with a really broad *international* participation was held in 1931 in New York, the World Conference on Work for the Blind. Delegates from 32 countries met from April 13 to 30 (Lowenfeld 1973, pp. 170, 179).

Blind people in the nineteenth century - contributions to world culture

In the nineteenth century, as previously, few records of congenitally - or early in life - blind people are known. Records tend to refer to exceptional people.

Francis Jane Crosby (1820-1915), also known as Fanny, was born near New York. She became blind as an infant. Fanny was educated at the "New York Institute for the Education of the Blind." In 1844 her first book of poetry was issued. In 1858 she married the successful music teacher Alexander von Alstyne, a well-known composer of sacred music. She wrote hymns for his music, many of which became famous.

Victor Nareisse Ballu (1829-1907) was a teacher of the blind and inventor of numerous technical supports for blind people. He was born in Anjou, France, and he became blind as the result of a shooting accident at the age of 11.

⁹⁶ ("The teacher of the blind").

⁹⁷ ("The friend of the Blind").

⁹⁸ ("Association to promote the Education of the Blind").

The famous singer and harp virtuoso Antonietta Banfi (1832-1869) was born in Milan, congenitally blind. She performed several times at Theater della Scala in Milan.

Congentially blind, Yves Josef Levitte (1833-1884) was born in Autun. He studied at the Paris School and held later a leading position there. Levitte died in Paris (Scholler 1990, pp. 101, 62, 321).

Karl Rengsti (1842-1876) was born in Vienna. He was congenitally blind. Rengsti was a virtuoso in playing piano, violin and cittern. He was a conductor of choruses, organ player and composer (Scholler 1990, pp. 385-386).

Alice King (about 1845-1895) was born in Cutcombe, England. She was visually impaired from birth and became blind at 7 years of age. She began very early to write prose and poems and when 10 years old she published two hymns. Her first novel was written at the age of 15. Among others, she has published "Queen of Herself," London 1871; and the religious, "I have found the Way," London 1886 (Scholler 1990, p. 310).

Adam Geibel (1855-) was born in Frankfurt, Germany. When 9 days old he became blind. In 1862 his parents emigrated to the United States. Geibel wrote more than 1000 compositions, many of which are also published in Europe.

The important piano and organ player Raphaelo Cavallacci (1858-1893) was blind from childhood (Scholler 1990, p. 90).

Gennaro Fabozzi (1866-) was born in Napoli. He became blind as a child. In the years 1873-1887 he was educated at an institute for blind people in Napoli (Italy). He became a considerable pianovirtuoso giving concerts not exclusively in Italy but also in Munich, London and Paris (Scholler 1990, p. 209).

Henry Sanderson Furniss (1868-1939) was congenitally blind, and he was born and died in London. He studied modern history and economy at Hertford College in Oxford and became an senior lecturer in economics at Ruskin College in Oxford. In 1930 he was made a noble man - a baron. Furniss wrote "L.S. Buxton, A Memoir" and an autobiographie "Memories of Sixty Years." (Scholler 1990, p. 229).

The piano and organ player and composer Rudolf Braun, (1869-) was born in Vienna congenitally blind.

The well-known writer Etienne Laubaréde (1872-) was born near the lake Palinde, Dordogne in France, congenitally blind. Among his works are "Lourdes, echos et souvenirs", Paris 1897; "Henri Lasserre, l'homme, l'écrivain, l'œuvre", Paris 1901; "Princesse Caroline de Sain-Wittgenstein", Paris 1904 (Scholler 1990, p. 320).

Jose Ezquerra Berges (1880-1965) was born in Vinaceite, Spain. At 13 years of age he lost his vision. In 1905 he founded the royal association for the Blind, "Real Asociación Espanola en favor de los ciegos." Berges was a prominent worker for blind people.

Friedrich Mittelsten-Scheid (1891-1981) was born and passed away in Wuppertal. Mittelstein-Scheid became blind in early childhood. He studied mathematics, physics and philosophy and elaborated a translation of mathematical symbols to writing in points.

Bruno Schultz (1894-) was born in Berlin and he became blind at the age of 3. Schultz studied the sciences of law and economics. In 1955 he became a tenu-

re professor in Dresden. Schultz has worked very much in the field of the history of economics and also for blind people.

The Austrian Leopold Bick (1894-1963) founded in 1923 the "Verband der Blinden-Vereine Oesterreichs." He contributed to the foundation of the "Oesterreichisches Blindenverbandes" in 1946 and was its president. Bick became blind in childhood (Scholler 1990, pp. 69, 337, 403, 71).

Congenitally blind, Paolo Bentivoglio (1894-1965) was born in Modena. He became President of the "Unione italiana dei ciechi". Bentivoglio died in Rome.

Finally, Blind Lemon Jefferson (1897-1953) was born in Memphis, Tennessee. Jefferson was a congenitally blind country-blues singer and guitarist. Only after his passing away was he regarded as an influential musician (Scholler 1990, p. 301).⁹⁹

The people referred to above are not typical for the fate of blind people in history.

Monbeck tells that in the 1860's Levy made an informal survey of organized services for blind people throughout the world. He found that, except for Western Europe, America, and a few other countries, almost nothing was being done to help blind people and in most countries there were not even estimates of the number of blind people who lived there (Monbeck 1996, p. 45).

Progress of ophthalmology and aids for blind people

In the last half of the nineteenth century the diagnosis and assessment of visual impairment made rapid progress.

Herman Snellen - scientific measurement of vision

The Dutch ophthalmologist Herman Snellen (1834-1908) was the first to establish a scientific measurement of vision. He was born in Zeist, Holland, 1834, the son of a physician. He received his medical degree in 1857 at the University of Utrecht. Remaining in that community until his death in 1908, he became attached to the Netherlands Hospital of Eye Patients in 1858 and devoted himself to the field of ophthalmology, where he attained great distinction, especially for operations on the eye. In 1877, he became Professor of Ophthalmology at the University of Utrecht, serving in that capacity until 1899. In 1884, Dr. Snellen became director of the Netherlands Hospital, continuing until 1903. He succeeded the famous Dr. Franz Cornelius Donders (1818-1889), who introduced the present type of ophthalmoscope. In undertaking his task, Snellen drew heavily on the achievements of his predecessor Dr. Donders, undoubtedly the greatest authority on geometric optics at that time and the first to separate clearly the errors of refraction from those of accommodation. Donders also proved that the antithesis of myopia (nearsightedness) was hyperopia (farsightedness) and not presbyopia¹⁰⁰; up to that time it had been associated with the loss of vision in old age, thereby accounting for the anomaly known as the "old sight of young people" (Farrell 1956a, p. 201).

⁹⁹Tom (1849-) was born in Columbus, USA. He is known as "The blind black pianist", but the author of the present book has no information on when he became blind. Already at the age of 5 he composed and soon made concert travels in America. 1867 he came to England and France where he astonished the world of music. Many of his compositions became famous, e.g. "L'imitation de l'orage et de la pluie" and "Bataille de Manassés." (Scholler 1990, p. 442).

¹⁰⁰Presbyopia: A decrease in the ability to accommodate, more noticeable after the age of about 40. Loss of ability to focus on near objects with age.

In 1862 the so-called Snellen chart used to measure visual acuity was devised for the first time. The chart was devised by Snellen, and is still the most common means of testing distance acuity. The Snellen test chart consists of letters or numbers or pictures arranged in rows of differing sizes. Each of these symbols, e.g. letters, represents a calculated angle at which it is recognized at a certain distance with normal vision e.g. 60m, 36m, 24m, 18m, 12m, 9m, and 6m. The person to be tested stands 6m away from the chart and if he can read the 6m letters, which is considered to be normal vision, then his visual acuity is 6/6 (pronounced SIX-SIX). If he can only read as far as the 24m letters, then his visual acuity is 6/24 (six-twenty four) (Fitt and Mason 1986, pp. 43-44).

Aids for blind people

Spectacles, sticks, dogs, slate and stylus

The more scientific measurements of vision made possibly spectacles of a higher quality. This cannot be overestimated in the history of visual impairment. Throughout the centuries - and still, especially in many developing countries - many visually impaired people were judged as mentally retarded. The more adequate use of eyeglasses, spectacles, was a revolution in this sad history, cf. *masquerade*.¹⁰¹ Legend claims that eyeglasses were invented by Saint Jerome (347-420), which might well be true, since he was the most notable student of Didymus, the great blind scholar of Alexandria. The claim inscribed on a tomb in a church of Florence, however, should not be overlooked:

"Here lies Salvino degli Armati, the inventor of spectacles. Died 1317. May God pardon his sins."

In 1268 the English philosopher Roger Bacon recorded one of the earliest statements about the optical use of lenses. Possibly as early as the tenth century, however, the Chinese had made use of magnifying glasses placed in frames. In Europe eyeglasses were first used in Italy. Some portraits dating from the Middle Ages depict persons wearing eyeglasses. With the invention of the printing press in the fifteenth century, the demand for eyeglasses increased and by 1629 was large enough for a charter to be granted to a guild of spectacle makers in England. The first bifocal glasses were made for Benjamin Franklin at his suggestion

¹⁰¹Masquerade: Studies of hearing impairment in hospitals for mentally handicapped people have shown that some persons classified as mentally handicapped are very able measured by tests of intelligence. This fact is then called a "Masquerade" - denoting the minority of very able hearing impaired persons in the institutionalized population 'masquerading' as mentally handicapped.

The presence of hearing impairment can markedly limit verbal language both in terms of acquisition and expression. If hearing impairment is not suspected or diagnosed, the deficit and lack of progress in language development and usage may be wrongly assigned to the presence of mental handicap (Kropka, B.I. and Williams, C. 1986, p. 53-56).

The same as stated above also is valid for vision.

A survey of visual handicaps among mentally handicapped residents of National Health Service institutions in England and Wales was conducted between 1978 and 1980. It identified a minority of visually handicapped inmates who were *not* mentally handicapped and, because of the poor accuracy of the subnormality ratings used, it seems likely that many more may have been cast into institutions because of the debilitating effects of their visual handicaps (Ellis, D. 1986a, p. 31).

The author of this book has a relevant experience casting some light on this question: A friend of the author, at present around 60 years old, has made some marked contributions to social science, being an excellent "theoretician". The author was very surprised when he one day said that he was in the primary school classified as "mentally retarded". The reason was simple: He had problems with reading, writing and mathematics simply because he was very visually impaired. He was not mentally retarded - he was short of glasses.

about 1760. In early times the only eyeglasses having spherical lenses were manufactured to correct nearsightedness and farsightedness. Not until the end of the nineteenth century did the cylindrical lens for the correction of astigmatism come into common use (Encarta 1994).

No matter who invented them, spectacles were known in both China and Europe in the thirteenth century and, according to Farrell, by the sixteenth century were in common use (Farrell 1956a, pp. 199-200). Common use is very likely to be an exaggeration! Anyway, it was not before the end of the nineteenth century they commonly were based on scientific measurements. According to Dr. Sorsby, "It was largely the work of Donders that made the problems of refraction and the rational use of glasses part of the ophthalmic creed." (Sorsby p. 74 from Farrell 1956a, pp. 201-202).

Other material aids for blind people, like sticks and dogs have probably been used for hundreds, perhaps thousands of years. A very important aspect of blindness, is that it usually leads to a disability in *mobility*.

However, it was not until World War I that systematic training methods were used. It began in Germany. Dogs used to carry messages onto the battlefield were found to locate wounded soldiers and lead rescuers to their aid. As a result, the Germans began to train these dogs as guides for men blinded during the war. German shepherd dogs were trained to work with the blinded war veterans.¹⁰² Dorothy Harrison Eustis, an American living in Switzerland, learned of the development and developed a training programme for dog guides. Eustis returned to the United States and established the first American dog guide school, The Seeing Eye Inc., in 1929 (Sardegna, J., Paul, T.O. 1991, p. 68).

In some countries, the mobility cane is used along with the guide dog. The mobility cane or long cane was until the twentieth century not developed into a highly effective aid. During World War II Richard Hoover, working with blinded U.S. veterans in the United States, developed the long cane and a program of instruction which greatly improved the effective use of the white cane (Stuckey, K.A. 1993, p. 26).

Very important for blind people was the development of the Perkins Braille. One of the drawbacks of raised print (also Howe's) is that it is almost impossible to use for writing. Braille, which could be used for both reading and writing, increased in popularity and by the 1920s was widely accepted internationally as the standard communication system for people who were blind. Braille is written by hand using a slate and stylus.¹⁰³

¹⁰²Although German shepherds are still used, other breeds including golden retrievers and Labrador retrievers have been introduced.

¹⁰³The braille slate and stylus are tools used to write braille. The slate is made from two rectangular metal (or plastic) plates hinged together at one end. The upper plate has rows of small, open windows punched out of the metal. Directly underneath each window on the bottom plate is an indentation of a complete braille cell.

In order to make a braille letter with the slate and stylus, a card or sheet of braille paper is placed between the two metal plates of the slate. The stylus, a short metal prong fastened to a handle, is held in the palm and used to make the letters. The writer presses the stylus downward onto the paper within an open window. The stylus pushes the paper against the corresponding indentation of the braille cell dot on the bottom plate. A raised dot is formed on the reverse side of the paper. The writer continues to press against the correct dots in the cell until the correct letter is formed. The writing is read when the paper is turned over and the dots are facing upward.

Therefore, in order to write braille, which is read from left to right, the slate and stylus user must write backwards and from right to left. When the paper is turned over the Braille characters are in their proper positions

The process of writing Braille with a slate and stylus tends to be slow. The need for a writing machine was great.

Frank H. Hall introduces "The Brailleur"

The first Brailleur, the Hall Braillewriter, was introduced in 1892 by Frank H. Hall, superintendent of the Illinois School for the Blind. This was the first machine with general acceptance. In 1900 a point writer was constructed in London by Stainsby and another in Berlin in 1901 by Picht. In 1941 David Abraham in collaboration with Edward J. Waterhouse (1902-)¹⁰⁴ at the Perkins School produced a prototype of a new Braille writer, now known as the Perkins Brailleur.

This was nearly identical to the model which is now known and used worldwide. On August 20, 1990, Brailleur number 200,000 was completed (The Lantern 1991, p. 7-9). Current American Braille writers include the Perkins Brailleur, the Lavender Braillewriter and the Hall Braillewriter. Today several countries produce their own Brailleurs. In general the principles are the same. Braille writers have six keys and a space bar. Each key corresponds to a dot of the six dot Braille cell. To form a Braille letter, the user simultaneously pushes the keys corresponding to the needed dot combination. The dots are pressed onto lightweight manilla tag paper. Users can attain writing speeds of up to 60 words per minute (Sardegna,J., Paul,T.O. 1991, p. 36).

(Sardegna,J., Paul,T.O. 1991, p. 202).

¹⁰⁴Edward J. Waterhouse was born in Hale, Cheshire, England, in 1902. He emigrated to the United States in 1930. Waterhouse joined the staff of Perkins School for the Blind and except for a leave of absence during the war years, he remained there until he retired.

He became the fifth director of Perkins, in function as director from 1951, resigning in August 1971.

Waterhouse is an outstanding educator of blind and deaf-blind people. He has been active in international organizations for blind people and is the contributor of numerous articles to professional journals on the education of the blind and deaf-blind people both in the United States and in other countries (Biographical data - Edward J. Waterhouse).



The Perkins Brailier

Photo: Perkins School for the Blind

Sound reproduction - a great progress for blind people

A great progress for visually impaired people, especially blind, was the invention of sound reproduction. The telephone became more and more accessible for common people, including blind people, in the last half of the twentieth century. Other methods of sound reproduction (records and later cassette recordings, and radio) made it possible to have not only access to information and pleasures such as music but also to be an active participant in communication, not only to be a receiver, a listener, but also to be a sender of information, e.g. by transmitters and cassettes. Compared to the number of print titles relatively few books were and are produced in Braille. At the end of the twentieth century many countries have large libraries with books and magazines on tapes. Personal computers with Braille are the latest progress, and translations of printed text into speech and speech into printed text are also in the period of take-off (Stuckey, K.A. 1993, pp. 26-27).

The revival of blind people's self-organization

Perhaps most important in the history of visually impaired people is their self-organization.

In the last quarter of the nineteenth century associations composed of blind people emerged in several countries. Still, we have little knowledge of them. In the United States voluntary associations of blind people began again to take shape, initially in the form of local and specialized groups. One of the first on record was the Friedlander Union of Philadelphia, organized in 1871. Six years later came the New York Blind Aid Association, also composed predominantly of sightless members (Matson, F. 1990, p.4).

In many countries of the world today we find organizations with primarily blind members. They play a crucial role in the education of visually impaired people.

Two examples:

The first example demonstrates the struggle at an international level. When the *World Council for the Blind* at its general assembly in 1964 in New York did not adopt a proposal that would have strengthened the role of blind people in international work, the result was two international organizations working for blind people: *World Council for the Blind* and *International Federation of the Blind (IFB)*. [Fédération Internationale des Aveugles (FIA), Internationale Föderation der Blinden (IFB)]. This was a part of a never-ending disagreement and partly struggle between people and organizations working *for* the blind and people and organizations *of* the blind.

At the historic meeting of October 26-27, 1984, the representatives of the organizations *for* the blind and *of* the blind from 69 countries unanimously voted for establishing a new international organization with the name *World Blind Union*. This organization has now taken over the former work of the *World Council for the Blind* and the *International Federation of the Blind* (Scholler 1990, p. 501). Although not ending the struggle, the new international organization can be seen as putting a wet blanket on the contrasts.

The second example from the United States also indicates the role of blind people themselves:

The National Federation of the Blind (NFB), founded in 1940, is the largest organization of the blind in the United States. Membership includes more than 10% of the nation's blind persons (1991). The organization is dedicated to the complete, equal integration of blind persons into society.

The NFB serves as a public clearinghouse on information concerning blindness, directs and conducts research, produces and disseminates information to blind persons and researches and monitors legislation concerning the blind.

It advises and refers blind individuals to services, provides assistance to blind persons with discrimination concerns, consults with congressional committees and state legislatures, serves as an advocate for the rights of blind individuals and evaluates and promotes new technology. NFB offers more than 20 scholarships to blind students and grants an award for the greatest contribution to the welfare of the blind.

With the United States Department of Labor, NFB developed Job Opportunities for the Blind (JOB), a programme that matches qualified blind workers with employers. JOB directs seminars on career planning for unemployed blind people and educational seminars concerning blindness for employers.

Publications include *The Braille Monitor*, a monthly journal, *Future Reflections*, a bimonthly magazine, and numerous pamphlets, brochures and materials in print, Braille and on records and cassettes. NFB holds an annual conference (Sardegna, J., Paul Otis T. 1991, pp. 153-154).

Thus, a blind culture exists, and has probably existed as long as blind people have constructed communities (guilds, organizations, informal associations, etc.). This culture, however, has more the character of a sub-culture in the majority culture contrasted to the culture of the deaf, which is a minority culture with a minority language as its core.

The education of blind people - the influence of T.D. Cutsforth

Before we turn to Cutsforth it might be sensible to sum up some of the tendencies in the education of blind people.

* *Special schools* for blind people are founded, starting with Haüy.

* Beginning in German countries there is a tendency of a transmission *from private to public responsibility* for educating blind people. This tendency is the same for sighted people.

* Also in line with the development for sighted children *the blind children begin schooling earlier in life* (at a lower age). In the beginning the start often was at 10 years of age. Successively the start creeps downwards. At the same time Kindergartens (pre-schools) for blind children also spread.

* *The time at school was extended* to several years (same as for sighted children).

* The development goes *from boarding schools to day schools*. (This is not identical with integration but the latter promoted this development).

* The idea of *integration* of blind and sighted children comes very early into existence and spreads both theoretically and practically.¹⁰⁵

* *The development of pedagogical (educational) theories and practices seems to have been equivocal*. On the one hand there was the tendency of limiting the education to very *simple subjects*, mostly those necessary for doing very simple manual work. On the other hand there was this tendency of the other extreme (Klein: "Behandle den Blinden wie einen Sehenden" - Treat the blind in the same manner as the sighted) (Scholler 1990, p. 192), the tendency of *classic ideals*. There is a leaning from the former to the latter but the problems go deeper than that and nobody has understood that better than Cutsforth. Therefore we now turn to him.

Estimating the influence of one book is of course a risky task. However, that discussions on "verbalism" has played an essential role in this century's education of blind people cannot be doubted. The "father" of this theory seems to be T.D. Cutsforth who presented it in the book *The Blind in School and Society* published as early as 1933 by the American Foundation for the Blind, New York. It was reprinted in 1951 and 1972. Presently this book seems to be sinking into the oblivion of history. It does not deserve that. Cutsforth's thoughts should survive shallow fashions.

Hector Chevigny: Cutsforth's book - a flood of cold, clear, even cruel light

Hector Chevigny states in the foreword to the reprint that the

"profound influence this book has had becomes all the more remarkable when we reflect that for ten years prior to this republication by the American Foundation for the Blind it was very difficult to obtain. First published in 1933 in a small printing, its plates were destroyed in 1943 and it was therefore out of print." (In the foreword by Hector Chevigny. New York City 1951. Cutsforth 1951, VII).

Chevigny tells, it became so rare that though he tried for five years to buy a copy of his own he never succeeded. It became known only through personal

¹⁰⁵In the year 1789 Haüy opened a school for sighted children of both sexes in his institution. The blind taught reading, mathematics, grammar, geography and history. The teaching of writing and drawing were made by sighted people. This cooperation between the school for the sighted and the blind lasted for three year (Kretschmer 1937, p. 164). We cannot look upon this experiment as integration of blind and sighted pupils, still it tells us something about integration. The first example of integration of a blind youth seemed to have been done by the Croat teacher Josip Cunić 1863 in his "Volksschule" (public school) near Zagreb.

lending and the use of the steadily-dwindling number of copies in a few libraries. The wonder that the book survived at all increases as we recall its first reception almost twenty years ago, Chevigny continues. It met with little approval. Indeed, it was condemned and excoriated. Chevigny reports that the heat of its rejection can hardly be imagined today. The author, being blind himself and a product of the schools and the society of which he wrote, was held to have delivered a merely personal attack although he had the distinction of having become a practising clinical psychologist (In the foreword by Hector Chevigny. New York City 1951. Cutsforth 1951, VII).

Chevigny says,

"I can hardly exaggerate the influence of Cutsforth on my own personal thinking. On losing my own sight I was, as who is not, handed several books and told of many more, all of which, I was assured would aid me in finding what was termed my 'adjustment.'...

The books I had been handed uniformly spoke of adjustment to blindness as something confined entirely to the individual who loses his sight; in them was no hint of a reciprocal social effect. Then I happened on Cutsforth's book. It was a flood of cold, clear, even cruel light on the psychological mechanisms with which I contended." (In the foreword by Hector Chevigny. New York City 1951. Cutsforth 1951, VIII).

Cutsforth: The stern critic of classic and verbalist education

In the history of education of blind people Cutsforth has four major contributions:

- * His elaboration of the theory of verbalism.
- * His comprehension that some serious problems for blind people are rooted in the *relation* between blind people and sighted people and primarily are brought about by the sighted.
- * His comprehension of the organization and integration of sense functions.
- * His comprehension of tactile (haptic) activity and kinaesthetic.

Cutsforth's elaboration of the theory of verbalism and his conclusion on verbalism is at the same time an evaluation of the education of blind people from Anagnos to the 1930s. This evaluation is probably not only valid for the United States but for greater parts of the world.

We will therefore quote him extensively, especially his dealing with verbalism, and turn to the other aspects of his opinions in a later book.

Cutsforth, the stern critic of classic and verbalist education, criticizes "the spirit of Haüy".

According to Cutsforth, the spirit of Valentin Haüy still in the 1930s hovers over the sensory and motor education of the blind. It is still necessary to offer concrete proof that the blind are capable of intellectual development, Cutsforth says. Cutsforth states that the sensory and motor education of every institutional child

"is measured in terms of specialized skills. If he has produced three caned chairs at the end of the year, he is superior in sensory and motor development to the child who has produced only one or two. It doesn't matter how apt the one or the other is at manipulating the larger and more complicated aspects of his general environment." (Cutsforth 1951, p. 189).

According to Cutsforth, the modern methods of sense training for the blind have retained most of the psychological and educational fallacies of Haüy and have made their contribution by enlarging upon them.

Haüy, as a pioneer, was able to find only a few activities that were adaptable to the blind. First among these was bookbinding. Since his time a great

many other forms of activity have been added to the list of sense-training methods. In Cutsforth's opinion, they were thought to be better adapted to the education of the blind because they are much more mechanical and give a much narrower range of activity and movement. Basketry is generally considered to be more valuable educationally because it is simpler than bookbinding and because it is more easily reduced to mere mechanically learned repetition. Thus, Cutsforth asserts, for the sake of mechanizing learning and of producing automatic movements, training devices have been introduced that are educationally much inferior, and the defect has been aggravated by the additional fallacy that defective method can be overcome by multiplication of defective methods (Cutsforth 1951, pp. 189-190).

Neither the seeing nor the blind fully realize the difference that exists between their respective worlds of experience and reality, Cutsforth says. The seeing are scarcely aware of the fact that the greater part of their lives consists of visual experience, employing visual form, size, colour, brightness, movement, and spatial distance. The blind are taught these concepts and how they are employed, and with the verbal mastery of them a workable parity appears to have been established between the seeing and the blind (Cutsforth 1951, p. 48).

Verbalism

Cutsforth is of the opinion that the unique social and educational situation in which the blind are placed creates the necessity of treating a vast world of unreality in some realistic manner. This necessity has produced the much-discussed verbal-mindedness of the blind. The following could be seen as Cutsforth's definition of verbalism and also his explanation of the phenomenon:

"Word-mindedness, or verbalism, is not a social phenomenon found only among the blind. It exists in any situation that demands the use of abstract concepts not verified by concrete experience. Words are conventional symbols for objects, qualities, actions, feelings - shorthand signs for experience. Their significance for communication depends on the assumption that they represent essentially the same experience for all who use them. But social situations frequently arise in which words pass current in their own right, with little or no regard for the experiential reality they imply.

A mild form of verbalism may be found in every college community among the students who constitute the college intelligentsia. Such groups are made up, for the most part, of persons who have never come into contact with social reality outside their highly protected home and college environments. Yet they talk together glibly on such topics as labor, marriage, poverty, literary standards, philosophy of life, or, in fact, anything but what they have experienced themselves. A congenitally blind person's discussion of the theory of color mixture is not a whit more verbal than a college student's opinion on the labor question when he has never worked a day in his life. The factual content in each case is derived from the experience of others. The adolescent college student knows no more about the unidealistic aspects of love and marriage than a man born blind knows about the hue, tint, and chroma of colors. There is, however, a vital difference between the verbal college student and the verbal blind. At the end of his college course, if he does not enter the academic field, the college student will be thrust out into a world which demands verification and readjustment to reality. The blind have no such avenue of escape. They are compelled to continue in a world of unreality. They remain under the necessity of dealing with the unreal as though it actually existed for them." (Cutsforth 1951, pp. 48-49).

Verbalism in the blind is not, as some writers hold, a sort of social compensation, an unconscious attempt to assert equality, according to Cutsforth. If a blind person possesses any curiosity at all, it is necessary for him to socialize his findings regarding his world of unreality in some manner so that more may be ad-

ded through communication with seeing people. Words and words alone, are the medium in which the socialization may take place. This situation is found in those blind from birth, and to some extent in those who have visual imagery. Visual imagery of a decade ago is not adequate to cope with the visual world of to-day. For example, even clear visual imagery of the styles of dress ten years ago is of but little value in imagining how the modern world is clothed (Cutsforth 1951, pp. 49-50).

In its larger aspect the underlying purpose of verbalism is that of meeting social approval, according to Cutsforth. It is an attempt to represent things as nearly as possible as they would appear to others in the social situation. Socially and educationally the blind are expected to appreciate things not as they themselves experience them, but as they are taught how others experience them. For example, a lamb, which is a kinky, woolly, bony, wiggling object, possessing none too delightful an odour, whose feet are generally dirty and sharp and whose mouth and nose are damp and slobbery, is not described as such, but as the snow-white, innocent, gambolling lamb (Cutsforth 1951, p. 51).

Although the education of the blind has seen a swing away from the strict literary tendencies towards attempts for greater objectivity, according to Cutsforth, "conditions still direct learning towards unreality and away from appreciation of self-experienced data. Still in literature, history, and composition the word rules as king." (Cutsforth 1951, p. 56).

In the terminology of that time (1930's) Cutsforth speaks of a literary or classic method (the classic ideal of a person mastering world literature, Latin, etc.) contrasted with what he calls an "objective method." However, he also critically evaluates the objective method.

There exists a grave danger, Cutsforth says, that the educators of the blind are deluded into thinking that mere introduction of the objective method will, in itself, solve the problem of unreality. To be sure, all possible objectivity should be introduced into educational method. But, in Cutsforth's opinion, certain questions at once arise in connection with nearly every form of objective pedagogy. What is the purpose of the objective method? Is it to illustrate some visual analogy, or is it to increase the range of sensory experience of the blind child? The first occurs in the majority of the rapidly multiplying objective methods, and the second is generally deemed irrelevant to the process of education. For example, a teacher feels that if she shows a child a porcelain model of a frog, she has given reality to his concept of a frog, its size, shape, and position. Temperature, slipperiness, movement, all the tactually characteristic frog attributes, as well as its sound, are omitted. Tactually the porcelain frog is scarcely froglike at all. It may look like a frog, but it surely does not feel like one. Its concreteness possesses little more meaning than the verbal symbol (Cutsforth 1951, pp. 57-58).

As an example Cutsforth discusses the method revealed in two reports:

"The following are two written reports which developed from an 'objective' lesson on snow. The children were shown models of snow crystals and were taken out into the snow to feel it and observe its characteristics:

The snow is like a jewel -
 So clear, white and cool
 It comes from the clouds
 In crowds and crowds.
 When the sun shines on the snow
 It looks like diamonds, you know.

I saw something fall
 It was very small -
 A snowflake from the sky -
 A pure white butterfly.¹⁰⁶

The examples are taken from the partially sighted members of the class. What the blind child was able to get from the lesson in snow we blush to ask. Is highpower objective nature faking necessary to teach the totally blind child that snow comes from the clouds and that snow itself is cold? Even the most retarded blind child would know before entering school all that he was taught in this lesson, though he had never seen a paper model of a snow crystal. For the blind child the same models might be used equally effectively in a lesson on starfish." (Cutsforth 1951, pp. 59-60).

Cutsforth asserts, never yet has he seen an objective lesson taught in which there has not been an evident attempt on the teacher's part to read into the experience some sensory perceptions that do not exist for the pupil and at the same time utterly to neglect and discredit whatever reality may exist in the experience of the pupil. It requires a hardy soul to maintain a wholesome respect for one's own experiences when such a social discount is forever being given them. Soon they lose their face value as worth-while experiences, even to the child, and right then the educational system has created a lifelong verbalizer, with the personality of a verbalizer who dares not trust the validity of his own experiencing self (Cutsforth 1951, p. 60). It is difficult, if not entirely impossible, "to persuade educators of the blind to see the psychological necessity of having the blind pupils value their own world first, before emulating the experiences of other, and forever foreign, lives." (Cutsforth 1951, p. 61).

Cutsforth points out that the same conditions that produce verbal-mindedness also create another problem in the education of the blind. Too rapidly thrusting the blind child into a world of unreality produces loose and uncritical habits of thinking. The blind cannot, no more than the philosopher, think clearly in the face of obscure relationships. Education has been evolved to aid the expanding, growing, seeing child in becoming oriented to his increasingly complex visual world (Cutsforth 1951, p. 61). Cutsforth holds the opinion that the education of the blind, for the large part, has been an attempt to adjust this ill-fitted garment to the entirely different mental structure of the blind. Long before the blind child has become oriented to his own world as it is to him (not to his teacher) and long before the increasing complexities of his own world have become relationally meaningful, he is compelled to acquire a highly artificial and foreign working knowledge of another and stranger world. This task, as it is now presented in the education of the blind, is utterly impossible (Cutsforth 1951, p. 61). Cutsforth obviously views Helen Keller as an example of horror: If the blind pupil is to beco-

¹⁰⁶Dorothy Dean Sheldon, *The Blind Child in the World of Nature* (American Foundation for the Blind, 1929).

me proficient in the task that his education has set for him, he must become like Helen Keller and "lose once and for all the finer distinctions between fancy and reality." (Cutsforth 1951, p.62). He must become an adept at juggling concepts and making judgements that allow of no perceptual verification. He must acquire the same degree of faith in nonexistent things and situations that he inherently possesses for the things he can experience. If his education has been successful, he will be living, emotionally at least, in a world which does not exist; he will have lost the ability to discriminate between the real and the unreal and will have a freed slave's attitude towards his own experiential part in the world. He will not only fear and hate that which he has tried to become, but also despise that which he really is (Cutsforth 1951, p. 62).

In Cutsforth's opinion, nothing but highly uncritical and loose thought habits can be produced when warped concepts, false values, and judgements lacking validity are the material from which they must be built. It may be noted that those blind individuals who have coherent thought habits and who adhere to strict observance of valid relationships are also those individuals who were more immune to the educational inoculation. They are the ones who are not graduated or who have been graduated with their fingers crossed, as it were, and are able to slough the gaudy garb of unreality and return to earth when school days are over (Cutsforth 1951, p. 62).

As a result of verbalism something very serious has occurred, according to Cutsforth, namely

"a blind child has developed the desire to employ a visual adjective in lieu of one which is infinitely more meaningful to him. A predisposition toward the unwarranted use of meaningless visual terminology demonstrates a strong tendency toward unreality in which valid relationships are utterly disregarded. The inevitable result is that nothing but incoherent and loose thinking is possible. Intellectually the child is organized without reference either to himself or to his own experiential world. The seeing world with its visual concepts and values becomes the flimsy gossamer web out of which his intellectual fabric must be woven.

It is true that the methodology in the education of the blind has undergone a great change from the time of Anagnos, but still this education is doggedly committing the same fundamental error. The educators of the blind are only deluding themselves and some of the blind into the belief that a great and sweeping revolution has taken place when new and modern methods are adopted and scientific procedures employed which are far more subtly and more effectively committing the same fundamental mistake. This is the error of not educating the blind child into his own world of experience so that he may live in harmony with himself and his world, whether it be among the blind or among the seeing. No school for the blind has ever achieved this as yet, but a few blind individuals have partially achieved it for themselves." (Cutsforth pp. 69-70).

Cutsforth's critique of Howe

According to Cutsforth, the creative spirit in education of the blind in America died with Samuel Gridley Howe in 1872.

The educators since that time have satisfied themselves by imitating the material achievements of that pioneer, but none has dared to go beyond what he was able to achieve, namely furnishing a methodology by which a liberal education can be provided (Cutsforth 1951, p. 199). According to Cutsforth, "they are so absorbed in the maintenance of the integrity of the institutions with their methodologies and mores that they have lost sight of the blind individuals, of the fact that each pupil represents a separate and individual social problem instead of

another justification for the existence of an institution which social practice and tradition have perpetuated." (Cutsforth 1951, p. 200).

Cutsforth states that Howe, like Martin Luther, achieved a reformation and established a much-needed social institution. But, like Protestantism, the institution crystallized at the level upon which it was founded. Social theory has changed, social practice in general has continued dynamic, but adherence to tradition and the shadows of the founder have defeated the full purpose for which the institutions were originally established (Cutsforth 1951, p. 201).

In Cutsforth's opinion, Samuel Gridley Howe revolutionized American treatment of the blind by introducing a system of literary and manual education. The blind were made to participate in the intellectual pursuits of their seeing brothers; they were taught to engage in the industrial activities of their neighbours. A hundred years later the blind are still labouring hopelessly with their problems of personality and wrestling ineffectually with their social adjustments. According to Cutsforth, the principles that Howe laid down have not helped in the least to free them from their social isolation, which may have been enhanced by the liberation of the intellect and the quickening of the senses. Indeed, the system he introduced has done much in later years to aggravate the personality problems of the blind (Cutsforth 1951, p. 201).

According to Cutsforth, Howe lived in a day of extreme individualism, when man was thought to be the captain of his destiny and when the logical social rationalism of Rousseau and of Voltaire had not yet demonstrated its social inconsistencies. There was enough of the sage and of the scientist in that grand old abolitionist that if he should make a centennial visit to America, he would be the first to apply the torch to much of his own construction (Cutsforth 1951, pp. 201-202).

Without the tutoring of Freud and Jung Howe could perceive that

"at this stage of the education of the blind an active, alert mind is worthless when in company with a crippled personality. The blind of his period were contrasted to the blind previous to 1832, but now the blind are compared with the seeing of 1932..." (Cutsforth 1951, p. 202).

Howe received international recognition for educating Laura Bridgman to the upper level of feeble-mindedness. The twentieth-century deaf-blind win fame only when they become bachelors of arts or deliver lectures. A hundred years ago a blind handicraftsman could be eccentric and odd and still be a huge success. To-day, Cutsforth states,

"the blind must be as nearly as possible indistinguishable from any other citizen. They can afford no luxurious set of social defenses and compensations. They must conform to the constricting concept of being fit and adequate members of society." (Cutsforth 1951, p. 203).

Cutsforth is right concerning the change in expectations in the hundred years elapsing from 1832 to 1932. The expectations of what blind people really can achieve have radically been transformed. However, this probably correct *observation* also makes the validity of Cutsforth's *criticism* less general. Historically - in Europe and the US, if he is right about the change of expectations, that change indicates a great progress, a qualitative improvement in the lives and relations of blind people. In the countries Cutsforth is dealing with the process of integration has led to the abolishing of the institutions of Cutsforth's time. Vital parts of Cutsforth's criticism, however, is also valid at the end of the twentieth century:

Remaining as an important contribution to this day and still actual and valid are essential parts of Cutsforth's opinions on verbalism, his emphasis on the *relation* between the blind and the sighted for solving the problems of blind people, his comprehension of the organization and integration of sense functions, and his comprehension of tactile(haptic) activity and kinaesthetics.

Maybe the essence of Cutsforth's historical contribution and understanding of education of blind people is contained in the following passage about Howe. Cutsforth viewed Howe as a forerunner, dedicating his book to him. However, when talking of Helen Keller he emphasizes other aspects of Howe's and Anne Sullivan's legacy:

"Helen Keller was reared in the literary tradition that Howe introduced into the education of the blind. This method of education, which, in essence, was an emulation of the literary and informational achievement of the seeing, produced an optimum condition for word-mindedness. The educational objective lay not as much in the direction of social adequacy and economic adjustment as in the direction of literary culture and refinement. In short, it was an adaptation for the blind of the European classical tradition. Under this system word-mindedness could flourish in its own right, for the word was taken at its face value so long as it was employed in its correct social and educational relations. If the student could quote Shakespeare and translate Latin¹⁰⁷, but little concern was given to what it really meant to him. To perform the same achievements as the seeing students was the criterion of worth. The flower of this methodology has bloomed in the literary endeavours of Helen Keller. Her teacher was fresh from a school at the height of literary unreality. Reflected in the writings of Helen Keller are found both its virtues and its subjective viciousness. It is a system which inevitably sacrifices reality on the altar of literary hypocrisy. It is a birthright sold for a mess of verbiage." (Cutsforth 1951, p. 56).

Cutsforth's deep comprehension did not merely change the author's opinion regarding methods in blind education but also his opinion regarding methods in deaf education.

H.G. Wells and Edward Bellamy interpreted by Monbeck

Monbeck is of the opinion that "there are two authors who have dealt with blindness and whose stories we should consider." (Monbeck 1996, p. 63). This author (Enerstvedt) shares Monbeck's view that both can tell us a great deal about the relationship between people with a full set of senses and people without one of those senses:

"The first of these is H. G. Wells, whose short story 'The Country of the Blind' was first published in 1904. Very briefly, the story is about a completely isolated and idyllic Peruvian mountain valley in which all of the inhabitants have, through the action of some mysterious mutation or disease, been without sight for nearly 20 generations. Wells admirably demonstrates that man can and does adapt his existence to whatever conditions he must face. The inhabitants of this 'world of blindness' are shown as completely self-sufficient and, because of the fortunate circumstances of their valley, reasonably well off. Into this little world, Pedro, a more or less illiterate native mountain-climbing guide, is accidentally thrust. Assuming that 'in the land of the blind, the one-eyed man is king', Pedro learns to his utter dismay that his having sight is of no particular advantage in a world organized completely on the basis of four senses. The daily routine of the inhabitants is supported by a 'four-sense' theology and cosmogony; they have no remembrance or even a conception of sight and so count it a harmful deviation or

¹⁰⁷ R.Th.E.: One might believe part of this sentence has been lost, but the quotation is correct.

mutation. Wells, therefore, indicates the true nature both of normality and deviation and of the relationship between a majority and a minority.

Secondly, we have Edward Bellamy making a similar point in his short story 'The Blindman's World,' which was first published in book form in 1898. In this story, the world of the blind men is Earth as viewed by the inhabitants of Mars whose complement of senses includes foresight. Speaking to a 'blind' earthling, who has been mysteriously transported to Mars while in a dream state, a Martian says:

'The slowness of your progress is not so remarkable to us as that you make any at all, burdened as you are by a disability so crushing that if we were in your place I fear we should sit down in utter despair.'

He goes on to point out that in their exploration of outer space they have found that all other intelligent beings normally possess six senses. He then says:

'... it is conceivable that the remoter parts of the universe may harbor other blind races like your own; but it certainly seems unlikely that so strange and lamentable a spectacle should be duplicated. One such illustration of the extraordinary deprivations under which a rational existence may still be possible ought to suffice for the universe...'

The parallels between these attitudes and those of the 'fivesense' majority toward the blind, 'four-sense' minority in our society are certainly very striking." (Monbeck 1996, pp. 64-65).

What has been achieved?

Can we speak of a substantial, a real progress in education, employment and income of visually impaired people? Of course, it will be impossible to give a general answer to that question valid for the whole world. What about the United States of America?

Education, employment and income of visually impaired people today - United States of America as an example

Today there are many types of general education for blind people. There has really been a great progress in providing general and special education appropriate to the needs of the individual. And again the author feels the impact of history, sitting in the Research Library at Perkins writing this after a lunch together with deaf-blind students in a cottage: Today many blind children live at home and go to school as every other child. This goal of integration was fundamental for Howe. Not only was he the first director at Perkins, he is the mental father of many schools for the blind in the United States. More than that: In the 1860s, when many blind children - if they received any education at all - lived in institutional settings, in dormitories, Howe had the idea that if it was necessary for blind children to leave their own homes, they should live in fosterhomes. This was never adopted, and at the convention of the American Association of Instructors of the Blind (AAIB), in 1871, he described and advocated a cottage-family-based system of education. This idea was adopted at several schools in the beginning of the twentieth century. Allen, the director at Perkins, took the idea with him from the Overbrook School, and in 1912 this system of cottages, or living units like those in a large family-house, came into existence at Perkins.

Kirchner and Simon express the opinion that strong evidence exists of steady growth over past decades in the number and proportion of blind/visually handicapped youngsters obtaining post-high school education (Kirchner, Simon 1988, p. 142). They emphasize that the data to which they refer - about *institutions* - do

not reveal the degrees sought by *individuals*. Nevertheless, the data imply that fewer of the blind/visually handicapped (B/VH) than of the non-handicapped will obtain higher degrees (Kirchner, Simon 1988a, p. 147). They point out:

"Clearly, pursuit of 'higher' education is not a uniform course - one must ask 'How high?' The answer usually is a good predictor of later career chances, i.e. levels of work challenge, prestige, and income.

Some of the institutional features we examined seem good measures of that predictor, i.e. degree-level; its correlates - length and type of program; and admissions selectivity. On those items, B/VH students fell short of Non-H, but not by much." (Kirchner, Simon 1988a, p. 152-153).

However, the author fully agrees with Kirchner and Simon, when they are telling that an overall judgement about whether the gaps found between blind/visually handicapped and non-handicapped student's settings are major or minor, may simply reveal one's personal tendency towards optimism or pessimism. They lean towards emphasizing how small the differences seem (Kirchner, Simon 1988a, p. 153).

What about employment and income then?

Kirchner and Peterson tell that blind and low vision individuals are successfully employed at every occupational level - for example, as scientists, engineers, secretaries, teachers, managers of businesses, labourers, and household workers. Nevertheless, as a group, they are at a disadvantage in the labour market. Recent national statistics show, they continue, that this disadvantage does not result, as one might assume, in much higher rates of unemployment¹⁰⁸ than in the general population (R.Th.E.: that is a matter of definition, of course!), but rather in much lower rates of participation in the labour force¹⁰⁹ (Kirchner, Peterson 1988, p. 169). Kirchner and Peterson present two very interesting tables.¹¹⁰ One is a study of labour force participation and employment of working-age persons with visual loss, compared to the U.S. population, by sex; the other is the distribution by oc-

¹⁰⁸Definitions of employed and unemployed:

Employed - Persons who were "working" in the survey's specified period, and "persons with jobs but not at work" during that period.

Unemployed - Persons not employed, but who were "looking for work" in the previous four weeks.

¹⁰⁹Definition:

In the Labour Force - All persons who had jobs or were looking for jobs.

¹¹⁰ They compare two sources. However, for our purpose one is enough, since they do not remarkably differ. The source is:

"Survey of Income and Education", 1976, U.S. Bureau of the Census, national sample interview survey of the noninstitutionalized, civilian population. Abbr. SIE.

The other source was:

"Health Interview Survey", 1977, U.S. National Center for Health Statistics, national sample interview survey of the noninstitutionalized, civilian U.S. population. Abbr. NCHS-HIS.

In the SIE random sample survey of about 170,000 households, covering about 440,000 individuals, persons who answered (or for whom a proxy respondent answered) "Yes" to the question of whether they have "a health condition [that] limits the kind or amount of work (or 'school work' or 'work around the house') they can do", were *then* asked to identify the "health condition". They selected conditions from a list that included "serious difficulty seeing or blind". Up to three conditions were recorded: respondents were not asked which condition was the major cause of limitation in activities. Therefore, the estimated number of working-age persons (18-64) who were limited in work and who reported "serious difficulty seeing or blind", includes an unknown number whose work limitation was mainly due to another impairment. On the other hand, a blind person might not be included in SIE's estimate *if* he or she was *not* "limited in amount or kind of work", i.e. not handicapped in work (Kirchner, Peterson 1988, p. 170).

cupational category of visually handicapped persons compared with the U.S. population.

**Study of labour force participation and employment of working age persons with visual loss, compared with the U.S. population, by sex
1976**

	Total - Both sexes		Males		Females	
	With visual loss	U.S. population*	With visual loss	U.S. population	With visual loss	U.S. population
A. Labour force participation (LFP)						
% who are in the labour force	31%**	72%	43%	87%	20%	58%
(Base number)	(776,000)	(123,851,000)	(386,000)	(60,102,000)	(390,000)	(63,749,000)
B. Employment status of persons who are in the labour force						
% who are employed	83%**	93%	81%	94%	87%	91%
(Base number)	(242,000)	(89,134,000)	(164,000)	(52,400,000)	(78,000)	(37,022,000)

*The figures for the U.S. population are taken from SIE, after subtracting the group of visually-disabled.

**The base number for each subgroup is considered as 100%. Therefore, by subtracting the percentage shown from 100%, one can easily calculate the percentage of each subgroup who are not in the labour force (part A) or who are unemployed (part B). For example, among persons of both sexes with visual loss, 69% were not in the labour force (100% minus 31%); and of those in the labour force, 17% were unemployed (100% minus 83%). One can then calculate the actual numbers in those categories. To continue the example, 534,000 persons of both sexes, with visual loss, were not in the labour force (69% of 776,000), and 39,000 were unemployed (17% of 242,000) (Kirchner, Peterson, p. 171).

The figures are very clear and do not need a long explanation.¹¹¹ Looking at *males*, we see that a minority of males with visual loss is in the labour force (43%) while a great majority of U.S. male population is (87%). Only 20% of the females with visual loss are in the labour force compared to 58% of U.S. female population. As said above about education, whether the differences demonstrated by the table are major or minor may be a matter of one's personal tendency towards optimism or pessimism.

Then a table meant to reflect the prestige ranking, from high to low:

¹¹¹However, a comment on the terminology: the expression "U.S. population" (following Kirchner, Peterson's definition) should rather be termed as "U.S. population without the group of visually-disabled".

Percentage distribution by occupational category of visually handicapped persons compared with the U.S. population, 1976 according to the Survey of Income and Education (SIE)

Occupational categories	Visually Handicapped		U.S. Population	
	%	%	%	%
Professional, technical, managerial		17		25
a. Professional, Technical	9		15	
b. Managerial	8		10	
Clerical sales		17		25
a. Clerical	13		19	
b. Sales	4		6	
Craft and operatives		33		29
a. Craft and kindred	13		12	
b. Operatives	20		17	
Labourers and service non-farm		29		19
a. Non-farm labourers	8		5	
b. Service workers	21		14	
Farmers		5		2
a. Farmers and farm managers	2		1	
b. Farm labourers and supervisors	3		1	
Total all occupations		101		100
(Base numbers)		(438,000)		104,900,000

(Kirchner, Peterson 1988, p. 173)

Kirchner and Peterson draw the conclusion from the table that visually disabled persons are disadvantaged in attaining higher prestige (generally, higher income) occupations. In the two top categories and in each of their subdivisions, which correspond generally to "white collar" occupations, visually disabled persons are underrepresented compared to the rest of the U.S. population. In the remaining "blue collar" categories, visually disabled persons are overrepresented (Kirchner, Peterson 1988, p. 173). The visually handicapped also work a fewer number of weeks during a year than sighted people. The difference between visually handicapped and other U.S. workers (1975) is substantial: only 37% of the former worked 50-52 weeks, compared with 53% of other U.S. workers. (The latter includes persons with other physical/sensory limitations; if they were excluded the difference would be larger.) (Kirchner, Peterson 1988a, p. 181).¹¹²

The pattern of worktime can obviously also explain some of the differences found in income, but not all.

The average earnings (1975) were significantly lower for visually handicapped than other workers ("earnings" excludes disability pensions and other unear-

¹¹²Source of Kirchner and Peterson's findings: U.S. Bureau of the Census. *Survey of Income and Education*. Unpublished data.

ned income). Compared with the mean earnings of \$6,200 by visually handicapped workers (probably including some who still had normal sight on their last job), the mean for other workers was fully 50 percent higher - \$9,300. The pertinent question, according to Kirchner and Peterson, is whether that earnings difference holds among people of the same occupational status. Their data¹¹³ shows that visually handicapped workers earned less *within* every occupational stratum. Furthermore, an earnings disadvantage was found in every subcategory when both occupation and education were considered. Kirchner and Peterson conclude it appears that visually handicapped persons continue to be at a disadvantage in the work world even after they have overcome the critical hurdles in obtaining a job. Compared with sighted workers, they obtain jobs which have less permanence. Any skills and credentials they gain from higher education are less likely to bring them a pay-off in terms of occupational status. In turn, higher occupational status has less pay-off literally, i.e. in earnings. These disadvantages are interrelated and also cumulative (Kirchner, Peterson 1988a, pp. 183-186).



Reading a book printed in the Braille writing and reading system

Photo: Norges Blindforbund

¹¹³Source: U.S. Bureau of the Census (1976). Unpublished data.

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