

Education of Exceptional Learners

Second Edition



Frank M. Hewett
with Steven R. Forness

tion sheets. Homework is sent by mail to the school and returned to the student once it is graded.

Until recent years, special education services for exceptional learners primarily were provided by means of the special class. However, with more consultation and assistance currently available for regular teachers, placement in a regular classroom on a part-time basis at least is becoming an increasingly common practice. The resource room plan has also emerged as a usable and effective replacement for the self-contained special class. We shall examine several contemporary approaches for providing special education services in some detail in Chapter 17.

In this chapter we have introduced the exceptional learner as an individual whose unique functioning level is the result of the interaction between capacity and previous experience. We have also reviewed some of what we know about exceptional learners and the types of services that have been traditionally provided for them.

With this general introduction behind us, the next two chapters will be devoted to increasing our understanding of the uniqueness of eleven types of exceptional learners. Chapter 3 considers children with behavior disorders, children with learning disabilities, the economically disadvantaged and/or culturally different, the speech-handicapped, and the mildly mentally retarded. Some of these children are unique because of capacity-based deficits, but as a group, they tend to represent problems related more to range and nature of previous experience.

In Chapter 4 we shall examine children with physical and severe handicaps. These children include the visually handicapped, hearing-handicapped, children who are crippled or chronically ill, the severely emotionally disturbed, the severely mentally retarded, and the multihandicapped. Previous experience is certainly related to the functioning levels of these exceptional learners, but taken as a group their problems can be considered more the result of capacity-based handicaps. We are not altering our position stated earlier—that capacity and experience are never the sole determiners of functioning level, but rather the result of the interaction of both. We are still firmly committed to this position, but a division on the basis of major determiners will permit us to more effectively compare the similarities and differences of the children.

The residential school concept discussed here primarily applies to the deaf and blind. Institutions for the severely retarded and disturbed provide educational programs but also offer the custodial care and medical treatment necessary for these children. The rationale for applying the residential school concept to the delinquent and socially maladjusted includes protection of society and corrective treatment, as well as educational responsibility.

Hospital Instruction. When children are confined to a hospital for long periods of time when they are ill or convalescing from surgery, local or county school systems may send a teacher to the hospital to provide bedside instruction. In addition, crippled and chronically ill children who reside much of the time in convalescent homes or sanitariums may also be provided with such instruction by a visiting teacher.

Homebound Instruction. When a child is home full time and denied even contact with children with similar handicapping conditions, he or she is the most isolated of all handicapped children. School districts have traditionally sent visiting teachers to the home to work with such children three times a week for one- or two-hour tutoring sessions. Children requiring homebound instruction may be the chronically ill, who are bedridden and who will never be able to attend school; those from regular schools who are recovering from an illness or injury or convalescing from surgery; or those excluded from school because no program is available to meet their needs. Children may be excluded because of behavior disorders that the school is unable to control, but with the increase in special education programs for these children, exclusion is becoming more of an emergency, rather than a permanent, measure.

Recent technological advances have brought telephone and television instruction to children confined at home. The teaching-by-telephone technique allows a teacher to call a group of children on the telephone and conduct a lesson while they are all on the same line.

A sophisticated telephonic system has been developed for the Los Angeles Unified School District by Pacific Telephone Company. At Widney High School for the Physically Handicapped, there is a Teleclass Department that has ten consoles. Each console has nineteen outgoing lines and one for incoming calls. Students may be connected to the consoles so they can hear one another's voices and hold group discussions. Teachers are able to prevent students from hearing each other while they speak with them in private; they can also divide the class so that small groups can hold separate discussions. The class periods follow the Widney bell schedule, and teachers offer required courses for grades seven through twelve, as well as electives. Parents must come to school to pick up textbooks and instruc-

any regular school. Such schools usually serve only one type of exceptional learner. Their advantage is that the entire physical plant can be specially designed to accommodate the child. Special swimming pools, wide halls and doors, easy access to the building from the school bus, and special gymnasium and playground equipment are often features of day schools for the crippled and multihandicapped. Thus, costly facilities that are not possible to duplicate throughout a district may greatly enhance the exceptional learner's experiences in school. Such advantages may well outweigh the disadvantages of being separated from neighborhood peers and traveling a long time by bus.

Full-Time Placement in a Residential School. Historically, the oldest plan for caring for and educating exceptional learners is the boarding or residential school. The blind, deaf, and mentally retarded were the first to be provided with such facilities during the first half of the nineteenth century. The residential school traditionally became the children's home, and they spent time with their families during vacation or on weekends, depending on the distances involved between the school and their family homes. Placement of exceptional learners in residential schools has been a continuing source of controversy, particularly recently. However, there are both advantages and disadvantages related to such placement.

To begin with, a twenty-four-hour school can provide an intensive and comprehensive program, compared to a day school or special class where the child is enrolled for only six hours a day. For the deaf, such a total program may be of great value in the area of language development. Other exceptional learners may profit from the specialized educational, vocational, and recreational services available and, particularly at the secondary level, from the greater number of teachers offering special subjects. Children living in rural areas where local schools offer limited special education may receive a far better education in a residential school. In the Soviet Union, where a large percentage of the population still resides in rural areas, the residential school is the only special education plan for exceptional learners.

The major disadvantage of the residential school is that it removes children from their homes and families. It also denies them contact with non-handicapped children, although some residential schools do enroll students in nearby public schools during the day. Other disadvantages of this placement include the stigma of going to the "deaf school," the geographic isolation that makes it difficult to attract the most qualified teachers, and recent lawsuits resulting from charges that certain institutions failed to provide adequate treatment, particularly for the mentally ill.¹³

13 Cruickshank, 1975

Part-Time Placement in a Regular Classroom and Part-Time Placement in a Special Class. Here we shift the child's actual class assignment to a special classroom. In the earlier options, the child was considered a member of a regular classroom who received outside assistance. Here the child is a member of a special class who participates during scheduled activities in a regular classroom. When possible, these will be academic work periods. However, since many exceptional learners need individualized attention in academic areas, they may more often participate in regular classroom activities involving music, art, and physical education.

Full-Time Placement in a Special Class. The special self-contained class has traditionally been the most frequently used placement option for the exceptional learner. The class and its students are assigned a label. The educable mentally retarded child goes to a class for the educable mentally retarded; the child with a learning disability to a class for the learning-disabled. Children in special classes are isolated from other children in the school except during recess, lunch, after-school activities, and other total school functions. Usually only one type of exceptional learner is included in a special class, but in rural areas where the number of such children is small, separate classes for each type are not possible. Hence a special education teacher might have to work with visually and hearing-handicapped children, as well as with the mentally retarded and children with learning disabilities or behavior disorders. Needless to say, considerable demands are made on a teacher working with children with such diverse problems.

The special class has come under attack in recent years, and the mainstreaming movement is a direct result of criticism of and disenchantment with practices of isolation and segregation in special education. (We shall discuss the entire issue of special class placement versus regular classroom integration in detail in Chapter 16.)

Part-Time Placement in a Special Day School with Part-Time Placement in a Regular Classroom. Special education programs are expensive and not every school can afford a class for each type of exceptional learner. As a result, some special programs may be centralized in a single school, and children from a wide geographical area brought in daily by buses. The special day school usually is the student's primary placement. As is the case when a child is in a special class part time and in a regular classroom part time, his or her degree of participation in the regular program varies. Isolation from neighborhood classmates is one of the drawbacks of taking children from their home school to a special day school.

Pull-Time Placement in a Special Day School. This option is similar to the previous one except that the special day school is totally separate from

Full-Time Placement in a Regular Classroom with Special Education Consultation. In this option, the child is a full-time student in the regular classroom, but instead of merely providing the regular teacher with materials and equipment, a special education consultant works directly with the teacher in selecting materials and teaching strategies. The consultant also may give diagnostic tests and do tutoring and counseling with students, as well as consult with parents. Such consultants are usually experienced regular classroom teachers with advanced training in special education.

Full-Time Placement in a Regular Classroom with Special Education Tutoring. Here the child is still enrolled in the regular classroom as a full-time student. However, the focus of the special educator is on direct service to children, rather than on consultation with the teacher. This approach traditionally has been called the itinerant teacher plan. On a scheduled basis, the special educator works individually with children in whichever area they need help. In the case of the speech-handicapped, the teacher is a speech therapist. For the blind or deaf, the teacher is a specialist who aids in braille instruction or language training. This plan can be utilized in rural areas where schools are far apart and too small to have full-time special educators as staff members.

Full-Time Placement in a Regular Classroom with the Use of a Resource Room. Gradually, we are moving toward more involvement of the exceptional learner with special education in this option. While remaining a full-time student in a regular classroom, the child participates in scheduled lessons in a separate classroom or resource room. Here small-group instruction may be provided by a special educator who, in contrast to those in the earlier options, has a special classroom facility in which to offer services. The resource room teacher also acts as a consultant (as in the earlier plans) and must work closely with the regular teacher in the school.

One of the major advantages of the resource room is that it allows children with similar learning problems to receive group instruction, thereby making more efficient use of the teacher's time and also helping the children learn how to work in a group setting.

Learning how to pay attention and participate in a lesson presented by the teacher from the front of the room to the entire class is often difficult for exceptional learners enrolled in regular classrooms. The resource room teacher can help the children develop group-learning skills; he or she can repeat directions as often as needed and answer questions with less delay. Resource rooms may serve many types of exceptional learners, particularly those with learning disabilities and other learning and behavior disorders.

because of their fear that "maniacs" would run loose and terrorize the community. It was no small task to counter this opposition and build the institute on schedule. Today the issue no longer exists, and the earlier fears have never been justified. We are in an era that is challenging Plato's and history's contention that the handicapped should be hidden away. This is reflected in institutional programs for those who need custodial care and treatment and in special education in the public school.

When we survey the types of special education programs available for exceptional learners, we can conceive of them along a continuum of integration to segregation—of mainstreaming to isolation from the regular classroom program. This continuum has been described in various models that have appeared in the special education literature.^{11 12} It begins with full-time placement of exceptional learners in the regular classroom and ends with their total isolation and home instruction. We shall consider this continuum in the following discussion.

Full-Time Placement in a Regular Classroom. Despite the existence of the special class, special education has never removed all exceptional learners from the regular class program. Regular teachers often react to the announcement that mildly retarded, disturbed, and learning-disabled children are going to be mainstreamed into their classrooms with a remark such as, "So what else is new? I've always had children with learning and behavior problems in my classroom." Such a reaction reveals that mainstreaming as a concept is certainly not new. What is new is a systematic effort to provide the opportunity for as many exceptional learners as possible to broaden the range and nature of their experiences in school.

Placement of an exceptional learner on a full-time basis in a regular classroom usually involves providing the teacher with a wider range of individualized instructional materials so that, particularly during academic lessons, these children will have work appropriate for their functioning-levels. Speech-handicapped children are usually full-time students in regular classrooms, and seldom need such materials. However, for the mildly retarded and for children with behavior disorders or learning disabilities, remedial programs that stress fundamentals and that have high interest levels are necessary. Some visually handicapped learners who work well independently with brailled texts (copies of regular texts), braille-written texts (specifically prepared for the blind), or talking books also can be full-time students, as can the partially hearing whose hearing loss can be compensated for with a hearing aid. Many crippled children could be full-time students in regular classrooms if doors were widened for wheelchairs and ramps and lifts were available in place of stairs.

11. Deno, 1970 12. Dunn, 1973a

TABLE 2-4
Comparison of Educational Costs for Normal and Exceptional Children

	<i>Cost Index per Pupil</i>	<i>Special Education Cost per Pupil</i>	<i>Marginal Cost</i>
Mildly retarded	1.87	\$1225	\$ 570
Severely retarded	2.10	1376	721
Emotionally disturbed	2.83	1854	1199
Learning-disabled	2.16	1415	760
Speech-handicapped	1.18	773	118
Visually handicapped	2.97	1945	1290
Hearing-handicapped	2.99	1958	1303
Crippled	3.64	2384	1729
Multihandicapped	2.73	1788	1133

From Rossmiller, R. A.; Hale, J. A.; & Frohreich, L. E. Educational programs for exceptional children: Resource configurations and costs. *National Educational Finance Project, Special Studies No. 2*. Madison, Wisconsin: Department of Educational Administration, The University of Wisconsin, 1970.

personnel required to assist them; and to the specialized equipment and materials necessary for such a program. The speech-handicapped are usually full-time members of a regular classroom program, and additional costs relate to the salary of a speech therapist who may work with them for scheduled periods each week. Hence, special education costs are the lowest for this group.

What Types of Services Has Special Education Traditionally Provided for Exceptional Learners?

The current concerns with mainstreaming exceptional learners into regular education whenever possible contrasts sharply with the historical practice of segregating them. Over two thousand years ago Plato specified, "If any one is insane, let him not be seen openly in the city." Commenting on treatment of handicapped children at birth, he stated, "Those of inferior parents and any children of the rest that are born defective will be hidden away, in some appropriate manner, that must be kept secret." Following this philosophy, custodial-care institutions were built apart from major cities even up to recent times, and the earliest educational plans for exceptional learners placed them in self-contained classrooms, removed from their normal peers.

The author recalls the furor created in the mid-1950s by the announcement that a neuropsychiatric institute would be built on the campus of the University of California at Los Angeles to hospitalize one hundred and fifty mentally ill children, adolescents, and adults. Property owners, businessmen, and other concerned citizens united to try to stop the plans

Estimates of the number of handicapped children by type of handicap, also based on figures supplied by state education agencies, are shown in Table 2-3.

The estimates in Table 2-3 reveal that half of the nation's school-age exceptional learners were receiving services in the schools in 1972 to 1973. For some types of exceptional learners, there has been a marked increase in services since 1969. For example, in 1969, 48 percent of the mentally retarded were unserved,¹⁰ while in 1972 to 1973 this figure had dropped to 17 percent. Forty-nine percent of speech-handicapped children were reported unserved in 1969, with only 19 percent unserved in 1972 to 1973. Figures for the crippled and chronically ill dropped from 67 percent unserved in 1969 to 28 percent in 1972 to 1973. The multihandicapped also received more service in 1972 to 1973 (67 percent unserved) as compared with 1969 (85 percent unserved). Visually handicapped children gained in service from 66 percent unserved in 1969 to 41 percent unserved in 1972 to 1973. For the emotionally disturbed child and the child with a learning disability, however, the percentages unserved in 1972 to 1973 were approximately the same as those in 1969. This was also true of the hearing-handicapped. Again, there may be some question as to whether special-education services are actually required for many exceptional learners.

How Do Special Education Program Costs Compare with Expenditures for Regular Education?

Using a median figure of \$655 per normal-pupil expenditure in regular-education programs, cost indices for providing special education for exceptional learners have been estimated (*see* Table 2-4). The cost index reflects the increased expenditure required for special-education services. Thus, according to Table 2-4, if such an index is 2.10 for the severely retarded, then expenditures necessary for providing a special-education program for this group are slightly greater than twice the normal-pupil expenditures of \$655, or \$1,376. Marginal costs reflect additional per-pupil costs for special-education programs.

Table 2-4 shows that special education per-pupil costs are from approximately two to three and one-half times greater than expenditures for regular education. When these additional costs are added to the marginal costs required to provide a special program, special education emerges as an expensive enterprise. Costs relate directly to amount of time children must be provided a program separate from the regular classroom; to the

¹⁰ Annual Report. United States Office of Education. Bureau for Education of the Handicapped, 1969.

What Is the Extent of Services Available for
Exceptional Learners?

Table 2-2 reports the incidence of handicapped children and adolescents being served during the fall and winter of 1975, based on data from state education agencies.

TABLE 2-2
Number of Handicapped Being Served in 1975, by Age Group

Age	Served	Unservd*	Total		
			Unservd	Served	Unservd
0-19	3,947,000	3,939,000	7,886,000	50%	50%
6-19	3,687,000	3,062,000	6,749,000	55	45
0-5	260,000	927,000	1,187,000	22	78

United States Office of Education, Bureau for Education of the Handicapped, March 4, 1975
The term "unserved" refers to children who are receiving inadequate services or no services at all.

TABLE 2-3
Number of Handicapped Being Served in 1972-73, by Type of Handicap

	Served	Unservd*	Total		
			Unservd	% Served	% Unservd
Emotionally Disturbed	230,000	1,080,000	1,310,000	18%	82%
Learning Disabled	235,000	1,731,000	1,966,000	12	88
Speech Handicapped	1,850,000	443,000	2,293,000	81	19
Mentally Retarded	1,250,000	257,000	1,507,000	83	17
Visually Handicapped	39,000	27,000	66,000	59	41
Deaf	35,000	14,000	49,000	71	29
Hard of Hearing	60,000	268,000	328,000	18	82
Crippled and Chronically Ill	235,000	93,000	328,000	72	28
Deaf-Blind and other Multi-handicapped	13,000	27,000	40,000	33	67

United States Office of Education, Bureau for Education of the Handicapped, March 4, 1975
The term "unserved" refers to children who are receiving inadequate services or no services at all

Not all of the children included in the 12 percent estimate require extensive special education services. It has been estimated that only 1 1/2 percent are severely disabled and that the rest are candidates for at least part-time placement in regular educational programs.⁷ Children with speech handicaps usually remain full time in regular classes. Those who are crippled may also be in regular-class programs, provided physical facilities are furnished to meet their special needs. Many exceptional learners previously considered full-time special education students are being viewed differently and provided experience in regular-class programs when appropriate.

How Many Exceptional Learners Have More than One Handicapping Condition?

Although no comprehensive study has been done, the fact that many exceptional learners have more than one significant handicapping condition is receiving increased attention. Speech handicaps, mental retardation, and behavior disorders have been found to cut across categories more than other handicapping conditions. In a study of 195 children who were crippled or had chronic health problems, the following combinations of handicapping conditions were found:

- 37% had speech problems
- * 43% evidenced some degree of mental retardation
- 25% were considered psychologically maladjusted

The psychologist and social worker who interviewed the children's parents in this study found that some 20 percent of the families were experiencing adjustment problems as a direct result of the stress brought about by the presence of a handicapped child in the family. We shall examine such stress and its effects on both the exceptional learner and his or her family in some detail in Chapter 6

Dunn postulates that about one-half of all exceptional learners have one educationally significant disability, another quarter have two such disabilities, and the final quarter three or more." He also points out the confounding effect of such multihandicapped conditions on the determination of accurate incidence estimates. (We shall discuss the multihandicapped child in more detail in Chapter 4.)

7. Ibid

9.

Dunn, 1973a

8. Friedman & MacQueen, 1971

TABLE 2-1
Percent of Exceptional Learners in School-Age Population*

<i>Exceptional Learner</i>	<i>% of School-Age Children</i>
Emotionally disturbed	2.00
Mentally retarded	2.30
Learning disabled	3.00
Speech handicapped	3.50
Visually handicapped	0.10
Deaf	0.075
Hard of hearing	0.50
Crippled and health-impaired	0.50
Deaf-blind & other multihandicapped	0.06

United States Office of Education, Bureau for Education of the Handicapped, 1975. Data based on estimates from various sources, including national agencies and organizations, state and local directors of special education, and population estimates of the Bureau of Census, as of July 1, 1974.

*The terms "incidence" and "prevalence" are both utilized in relation to estimates of the number of percentage of handicapped children. The term "incidence" is considered by some to be more strictly related to the rate of occurrence of a condition in a population over time, while the term "prevalence" is considered to be more strictly related to the actual rate of occurrence of a condition in a population at a given point in time. We shall not be concerned with strictness of definition but shall use the term "incidence" as it was used on the document provided by the Bureau for Education of the Handicapped, from which these figures were taken.

of severity constitute the criteria for placement in the multihandicapped category?

Variations in definitions of behavior disorders and emotional disturbance also confound the incidence issue. A child rated "disturbed" by one teacher might merely be seen as "strong-willed" or "pensive" by another. Also, such disorders are often transient and disappear over time as do speech handicaps. Thus, we are not always dealing with stable handicapping conditions when compiling incidence figures. Geographic differences also present problems. The mildly retarded are found in greater numbers in the inner-city as compared with the suburbs, while the reverse is true for the gifted. While not included as an Office of Education category, social and economic disadvantagedness is also a geographically specific problem. Finally, separate estimates at preschool, elementary school, and high school levels may be more meaningful since actual incidence figures and needs for special education services may vary among levels.⁶

6 Dunn, 1973a

aspects of experience that facilitate strengths, rather than those that facilitate weakness.

Now that we have focused on the interactions of capacity and experience as the determiners of a child's functioning level at any given time, let us define the exceptional learner:

An exceptional learner is an individual who, because of uniqueness in sensory, physical, neurological, temperamental, or intellectual capacity and/or in the nature or range of previous experience, requires an adaptation of the regular school program in order to maximize his or her functioning level.

All of the children traditionally labeled as exceptional fall under this definition. The use of the term "uniqueness in" rather than "limitations in" allows us to include the gifted learner in this definition. (As stated earlier, we shall discuss this group of children, whose uniqueness in capacity is enhancing rather than restricting, separately in Chapter 15.)

WHAT DO WE KNOW ABOUT EXCEPTIONAL LEARNERS?

How many exceptional learners are there? What types of services have been provided for them? In this section we will consider these and other questions that relate to basic background information in special education.

How Many Exceptional Learners Are There?

The incidence figures in Table 2-1 reflect the percentages of school-age children falling into traditional special education categories.

The percentages in Table 2-1 estimate that approximately 12 percent of children from ages six to nineteen and 6 percent of all children from infancy to age five are handicapped. However, interpreting such incidence figures with finality or actually considering some 12 percent of the nation's school children as requiring special educational services may be wrong. To begin with, since many exceptional learners have more than one handicapping condition, how do we account for these in specifying incidence figures? Suppose a child is mentally retarded, has a speech handicap, and also manifests a behavior disorder? Which is the primary handicap for this child? Do we only count the primary handicap or are all three to be counted separately? Or do we consider such a child multi-handicapped? If so, how many handicapping conditions of what degree

nation to be self-sufficient. How different the outcome of the story might have been if the "vegetable" prognosis had been accepted and the parents had considered the boy totally lacking in the capacity necessary for attaining self-sufficiency. The parents' determination to maximize their son's functioning level through training and stimulation and their conviction that he could learn to participate in many normal activities of childhood and adolescence made the difference.

A type of child who seems to defy the interactional paradigm of capacity and experience recently has received increasing attention by child psychologists: the "invulnerable" child who thrives despite genetic, psychological, or environmental disadvantages. Invulnerable children have been studied at the University of Minnesota by Professor Norman Garmezy.⁶ Typical of such children was one boy, age ten, with a schizophrenic mother who has been in and out of institutions, a father who is in prison, and an older sister confined to a home for the mentally retarded. Although from the day he was born, this boy has only known poverty and chaos at home and should have turned out to be a delinquent, schizophrenic, or worse, he is described by teachers as charming, bright, a good student, a natural leader, and loved by everyone in the school. Eleanor Roosevelt has been identified as an invulnerable child. She had great stress in her childhood and was extremely shy. Her father was an alcoholic and her mother rejected her. When her parents died she went to live with her grandmother in considerable isolation. Yet in her adult life she demonstrated an unusual sensitivity to the needs of others and courage and strength that was the admiration of many.

Among; some 300 to 400 children in one school who were studied, almost 10 percent were identified as invulnerable by a variety of tests, interviews, and investigations. They were not always bright children, although most tended to be. The invulnerable has been found to show good problem-solving ability and the ability to focus attention on a task to the almost total exclusion of distracting stimuli. They tend to be unusually well liked and friendly and able to learn, and seem to have a sense of their own power rather than a feeling of powerlessness. They do not blame others for their problems and work actively to find their own solutions. From where the source of such invulnerability stems is not clearly understood. It may be superior capacity overcoming environmental adversity, or it may be that adversity itself actually leads to the development of courage and a survival orientation. The concept of invulnerability is a complicated and subtle one. In the past we have concerned ourselves far more with what makes people vulnerable rather than invulnerable. It may be that as we learn more about children who demonstrate invulnerability we will refocus on

5. Los Angeles Times, Feb 16,1976

authors comment, however, that there were no problem behaviors in the one area where her parents had been consistent—safety rules.

The boy had achieved a somewhat marginal but adaptive functioning level as a result of the consistent and patient nature of experience provided by his parents who understood and accepted their son's uniqueness and gave him support. The girl had steadily developed a behavior disorder as the result of the inconsistent and rejecting nature of experiences provided by her parents. No one can say that had the boy been raised by the girl's parents and the girl by the boy's parents, the boy would have developed the behavior disorders and the girl would be making a satisfactory adjustment. Sex itself is a capacity-given, and perhaps both families may have reacted differently to a child of the opposite sex.

This longitudinal example of two children's dramatic difference in functioning level at five and one-half years, contrasted to their similarity in functioning during the first two years, underscores the contribution of range and nature of experience to functioning level. Had the girl been an "easy child" from birth, her behavioral outcome would probably have been very different. It was her unique capacity from birth in interaction with her parents' expectations, attitudes, and child-rearing practices that made the difference.

Throughout this text we will stress the importance of the interaction of capacity and range and nature of experience in discussing other types of exceptional learners. We shall see that children born blind or crippled do not have a completely predestined future with respect to functioning level because of their capacity-based handicap at birth. Patience, acceptance, consistency, encouragement for independence, and exposure to a wide range of experiences on the part of the parents may result in a far different functioning level in childhood than hopelessness, impatience, rejection, inconsistency, and overprotection.

The author recalls seeing a picture and reading a newspaper account about a fifteen-year-old boy and his father who had bicycled 150 miles in two days. What made this accomplishment remarkable was the fact that the boy was blind, had epilepsy, and had been partially paralyzed. His father blew a whistle while they were riding to guide his son along the right-of-way and out of danger. The story revealed that the parents had been told by a neurologist when the boy was two years old that he would be little more than a vegetable since his capacity-based problems were so severe. Refusing to accept this, the parents placed their son in an intensive physical therapy program and provided him with as normal a range of experience as possible. As a result of the therapy, the paralysis was overcome, and medication brought the epileptic seizures under control. The boy was planning to enter a regular high school program and was described as having an excellent attitude about his handicap and a strong determi-

under two years of age, one subgroup emerged that were called "difficult children" by the more formal of the researchers, and "mother killers" by the more informal. This group was found to be distinctly different from the other children in the study. They had irregularity of biological functions (sleeping, eating, eliminating), negative reactions to new stimuli, slowness in adapting to change, high frequency of negative moods, and a predominance of intense reactions. Two other subgroups were also identified as "easy children" and "slow to warm up children," each with a characteristic temperamental pattern that was unique.

We can assume that the difficult children at this young age were manifesting temperamental behaviors that were primarily the result of capacity and that were present at birth, although during the two years when the actual patterns were identified, experience was already at work influencing the children. Two children were described by the authors as showing similar temperament characteristics in the early years. One was a girl, the other a boy, and both exhibited irregular sleep patterns, constipation and painful evacuation at times, slow acceptance of new foods, lengthy adjustment periods to new routines, and frequent and loud periods of crying. The two children also had a difficult time adjusting to nursery school when they were four years of age.

However, while the temperamental characteristics of the two were similar, the nature of their experience differed greatly. The girl's father was impatient and angry with his daughter. He spent little time with her and was often punitive in response to her problem behavior. The girl's mother exhibited concern for the child and was more understanding and permissive but quite inconsistent. The one area in which there was consistency between the two sets of parents related to regard for rules of safety. The boy's parents were seen as unusually tolerant and consistent. His problems with adjustment were accepted in a calm manner. When friction arose between the boy and his siblings, it was dealt with good-humoredly. The parents waited out his negative moods without getting angry themselves. They were very permissive but set safety limits and consistently pointed out to their son the needs and rights of his peers when he was playing.

At the age of five and one-half years, these two children, who had been so similar in early life, became remarkably dissimilar in their behavior. The boy had experienced initial difficulties in nursery school, but these had disappeared, and he was now an accepted and constructive member of his class and had a group of friends. He also functioned smoothly in most areas of his daily life. The girl had developed a number of symptoms of increasing severity. She was given to explosive anger, negativism, fear of the dark, encopresis (lack of bowel control), thumb-sucking, excessive demands for toys and sweets, poor peer relationships, and lying. The

Here *genotype* represents the sum total of the individual's hereditary properties. The interaction of the genotype with the environment results in the *phenotype*, or "all external and internal structures of the organism."² Our use of the terms capacity-experience-functioning level, instead of such terms as nature-nurture, heredity-environment, or genotype-environment-phenotype allows us to apply the equation to the educational and adjustment problems of the exceptional individual in a simpler and more direct manner.

Thomas, Chess, and Birch have investigated the relationship between temperament in infants and young children and the development of behavior disorders in later childhood. A visitor to a maternity ward nursery may be struck by the individual differences among young infants even hours after birth. Some are active, intense, and responsive, while others appear passive, lethargic, and unresponsive. These differences are the result of the individual uniqueness in temperamental capacity of the infants. From observations of infants and young children and interviews with parents about their children's behaviors during the first months and years of life, a number of temperamental characteristics were identified that were typical of the children in this study. We will not present the study in its entirety but will draw from it an important example for stressing that *interaction between capacity and experience*, not capacity or experience, is the determiner of functioning level at any time in life.

Three of the temperamental characteristics identified in the study (with examples of parent comments) were 1) *activity level* ("He moves a great deal in his sleep" versus "I don't think he moves at all during the night"); 2) *rhythmicity or regularity of basic biological functions* ("He never naps the same time any day" versus "He always naps the same time every day," or "He eats about the same time" versus "He eats at times that differ widely day to day"); and 3) *approach or withdrawal* ("He always smiles at strangers" versus "Whenever he sees a stranger, he cries"). Children are born with these characteristics and others, defined by the Thomas, Chess, and Birch studies. The characteristic of temperament, however, is not considered immutable. Like any other characteristic of the organism (i.e., height, weight, intelligence), it "may be relatively unchanged by environmental influence, or it may be reinforced and heightened, diminished, or otherwise modified during the developmental course."⁴ In this text we shall refer to temperament as a capacity-based characteristic, as compared to one acquired as the result of experience. Its actual source (i.e., genetic, prenatal, or perinatal), however, is not known.

While the children in the Thomas, Chess, and Birch study were still

2. Dobzhansky, 1950, p. 161

4 Ibid.,p 4-5

3. Thomas, Chess, & Bitch, 1969

Thus, in an effort to describe what Ms. Thompson sees as she works with Henry, Mark, and Susan, we can speak of capacity differences among them and of differences with respect to range and nature of experience. Ms. Thompson cannot see Henry's capacity or pin down Mark's and Susan's previous experience specifically. What she sees is each of the children's functioning level. Henry's continual slowness, Mark's lack of preparation, and Susan's inattentiveness represent their functioning levels in the classroom during the arithmetic lesson. But can we state with finality that Henry's functioning level is due to lack of capacity, Mark's to lack of experience, and Susan's to nature of previous experience? We cannot.

Consider Henry. Whatever limitations he may have in intellectual capacity, his previous experience may contribute to understanding and explaining his present functioning level. His range of experience may have been limited in arithmetic because previous teachers considered him too slow for academic work and gave him pictures to color during arithmetic lessons, rather than basic number tasks that he could do successfully. His nature of previous experience may also be a determiner of his low functioning level. Unable to do some of the assignments given him, he may have been called "stupid" by the other children and have received exasperated looks from the teacher. Such negative experiences can hardly be conceived as maximizing Henry's capacity for learning.

What about Mark and Susan? Their functioning levels appear basically the result of previous experiences. But perhaps Mark has missed school a great deal, partly because of his poor vision. Susan could have a slight hearing impairment that has never been identified; perhaps part of the reason she drifts off during class lessons is that she has difficulty hearing the teacher's voice. Susan might also exhibit a range-of-experience problem due to her frequent withdrawal and Mark a nature-of-experience problem related to missing school, getting behind, and experiencing ridicule because of his thick glasses.

The point that our example of Henry, Mark, and Susan aims at is this:

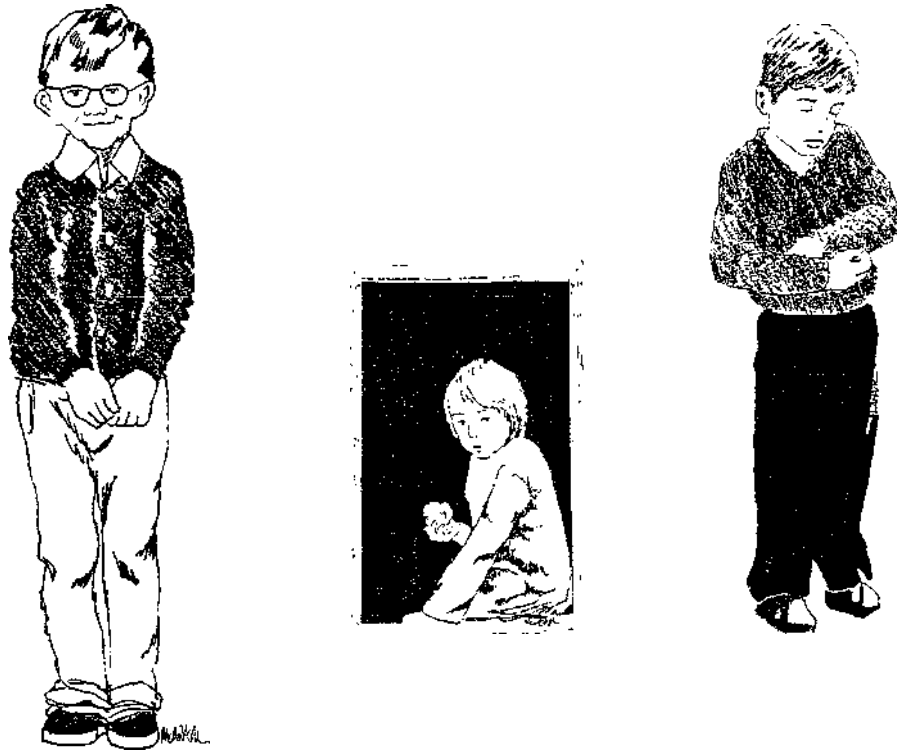
No matter what the child's capacity or the range and nature of previous experience, the child's present observed functioning level represents a complex interaction of both capacity and experience—not the singular effect of either one.

This relationship can be expressed in the following equation:

$$\text{capacity X experience} = \text{functioning level}$$

This equation essentially expresses the same relationship between heredity and environment presented in the more formal statement:

$$\text{genotype X environment} = \text{phenotype}$$



tunity the individual has had for learning about the physical properties and social expectations of the environment and for development of motor, language, and intellectual skills.

Susan's problem may also relate to previous experience rather than to capacity, but whereas Mark suffers from a limited range of experience, her behavior may reflect nature of experience. Continued frustration and failure in the school setting or negative family relationships could have resulted in Susan's seeking escape through excessive daydreaming and withdrawal. *Nature of experience* refers to the qualitative (or positive versus negative) aspects of the events in a child's life. Thus, it is not only important to consider the range of experience the child has had, but also whether or not that experience was supportive or suppressive, enhancing or restrictive, rewarding or punishing.

CAPACITY AND EXPERIENCE: THE DETERMINERS OF DIFFERENCE

The difference of opinion about Victor's potential for training illustrated by the positions of Pinel and Itard continues to be expressed within fields concerned with human development. In their day, Pinel and the "nativists" believed that human potential for development was largely fixed at birth and, as individuals matured, their level of functioning represented an unfolding of a basic capacity. Itard and the "sensationalists" believed the mind was a blank tablet at birth, waiting to be written upon by the individual's sensory experience as he or she grew and developed. Since that time the issue has been represented as *nature* versus *nurture* or *heredity* versus *environment*. Even to the present day, some explanations of individual human differences will stress one as the basic determiner to the virtual exclusion of the other.

In order to establish the orientation of this text with respect to the heredity and environment issue, let us return to Ms. Thompson's classroom and observe an arithmetic lesson.

As Ms. Thompson surveys the group before her, she singles out three children who do not appear to have profited from the lesson on fractions she has just presented to the class. First, there is Henry who does not seem to grasp even basic number concepts. Ms. Thompson questions whether Henry really has the ability to keep up with the academic expectations of the third grade. Then there is Mark, who has moved three times over the past two school years and arrived in Ms. Thompson's class with almost no preparation for fractions. Susan was looking out the window, apparently daydreaming, and despite several reminders to "pay attention," she was continually distracted from the lesson.

Henry, Mark, and Susan are unique individuals with respect to what they bring to Ms. Thompson's classroom. Henry may be an ineffective learner because he lacks the intellectual *capacity* for keeping up with third-grade work. There is no question that children vary with respect to their potential for learning in school. But attributing Henry's slowness only to lack of capacity may be a serious oversimplification. In terms of capacity, children also vary in temperament and in their basic potential for receiving sensory stimuli, perceiving it accurately, and eliciting motor and verbal responses. These potentials may be largely determined at birth, but injury and illness can alter them throughout an individual's lifetime.

Mark may well possess the capacity necessary for learning at the third-grade level, but since he has moved so frequently and missed so much school, he has a limited range of experience with respect to preparation for Ms. Thompson's lesson. *Range of experience* can be defined as the oppor-

of the Bicetre have lived in the world of humans and yet did not learn. The savage has known only the world of animals for most of his life.

PINEL: NO matter. He, like them, lacks the capacity for learning human ways.

ITARD: But what if the savage is simply untaught and behaves as he does because of his lack of experience in the human world?

PINEL: Dr. Itard, are you suggesting that this idiot can be taught?

ITARD: It is possible that given the proper training he could learn to live in a human world and acquire human ways such as caring for himself, developing skills; reading, writing, and speaking.

PINEL: Reading, writing, speaking! Perhaps you will come to the Bicetre and make scholars out of all the hopeless idiots there.

ITARD: NO, they are different. Don't you see? With the savage we do not know if he lacks capacity, because he has never had the opportunity to learn.

PINEL: You propose to train him then?

ITARD: I have been thinking a great deal about the savage. Perhaps by impinging on his primitive, undeveloped senses through rigorous training, we could provide the opportunity to learn that he has never had.

PINEL: I doubt if anything you might do will make any difference.

ITARD: I would like to petition the authorities for permission to remove him from the School for Deaf-Mutes here in Paris and take him to my house. My housekeeper, Madame Geurin, will care for him, and I will train him.

PINEL: Dr. Itard, I admire your optimism, but you will see. The savage is defective. His lack of capacity will thwart your every effort to train him.

ITARD: Perhaps my training will reveal that he has the capacity for learning human ways after all.

PINEL: We shall see, Dr. Itard.

ITARD: Yes, Dr. Pinel, we shall see.

As history records, both Pinel and Itard were partly right. Pinel's conviction that Victor's capacity would preclude his learning human ways was borne out to the extent that Victor did not acquire social independence or language. However, Itard's belief that he could train the boy was certainly supported by the remarkable change he brought about in Victor's behavior as a result of the five-year program. Pinel was wrong in believing Itard could not make an important difference in Victor's functioning level. Itard was wrong in believing he would completely normalize the boy. Thus, while experience is necessary for learning to take place, capacity sets the limits for the extent and complexity of that learning.

into educationally relevant concepts and terms. As stated earlier, such a translation is what this text is all about.

The question again: "Who is the exceptional learner?" This time in an effort to begin our answer, let us return to 1798, when Itard and Pinel first examined the wild boy who later would be known as Victor. Through the exercise of literary license, let us suppose we are listening to a conversation between these two physicians regarding the boy's future.

ITARD: What is your opinion of the young savage, Dr. Pinel?

PINEL: It is obvious. He is a hopeless idiot, abandoned by his family and left to die in the forest because he was clearly defective. He is deaf, you know. When I slammed the door behind him he did not react in the slightest.

ITARD: But when I cracked an acorn behind him, he reacted instantly. It was a sound familiar to him. He has not heard slamming doors before.

PINEL: Probably pure chance, but why are you so interested in this idiot, Dr. Itard? Come to our institution, the Bicetre, and I will show you other hopeless idiots like him. Your young savage, however, will be more helpless and more like an animal than most of them.

ITARD: But he has never had the opportunity to learn human ways. The inmates



have not been impressive in the past. This separation of the gifted learner from exceptional learners who are handicapped is consistent with the position taken in the California Master Plan for Special Education, which states that the needs of the gifted "can best be met by separating the programs for mentally gifted children from programs for the handicapped."¹ Economic disadvantagedness is one of history's most prevalent and long-standing handicapping conditions, although it has not traditionally represented a category of exceptionality in special education. We include the economically disadvantaged and/or culturally different as exceptional learners in this text because of the conviction that as special education becomes less categorical and more closely linked with regular education, these children will profit from many of the methods and approaches of the special educator. The issue of considering these children "exceptional" will be discussed further in the next chapter. The problem of a combination of handicapping conditions or the multihandicapped individual will also receive our attention later in the text.

From a categorical viewpoint, exceptional learners have been given the following labels:

- Children with behavior disorders
- Children with learning disabilities
- Economically disadvantaged and/or culturally different children
- Speech-handicapped children
- Mildly mentally retarded children
- Visually handicapped children
- Hearing-handicapped children
- Crippled and chronically ill children
- Severely emotionally disturbed children
- Severely mentally retarded children
- Multihandicapped children

WHO IS THE EXCEPTIONAL LEARNER?

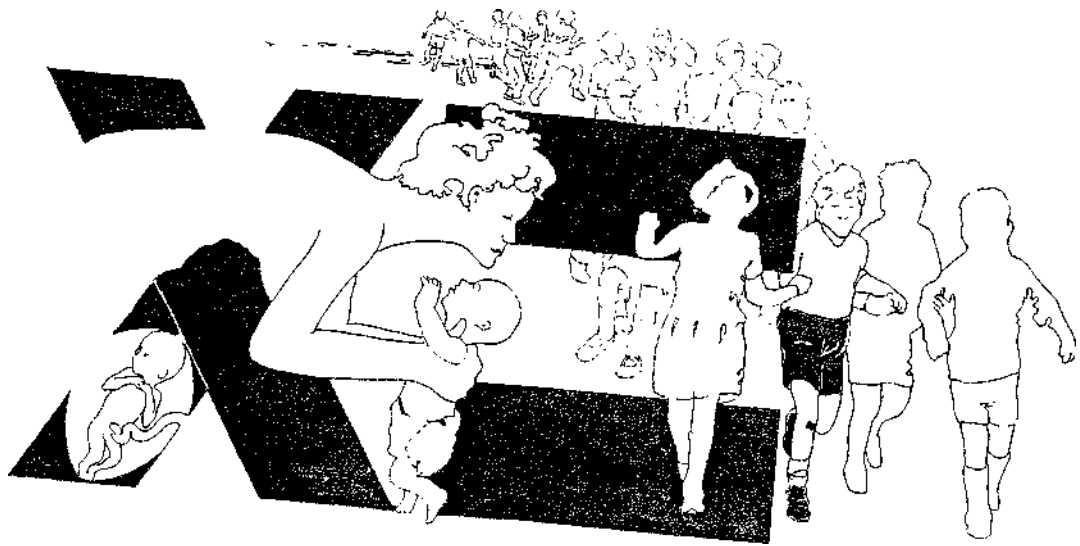
In answer to this question, we might present the traditional list of categories above and be done with it. This would have been a common practice in the 1950s and even early 1960s. But such an answer is no longer acceptable today. Why? Because it has become increasingly clear that understanding the meaning of exceptionality and its implications for teaching and learning requires a translation of medical and disability terminology

1. California Master Plan for Special Education, 1974, p. 5

Our historical journey in Chapter 1 introduced us to many descriptive terms and labels that have been applied to individuals whose appearance and behavior differed from the majority of those around them. We found the mentally handicapped described as having mania or melancholia, as insane, as idiots, imbeciles, simpletons, witches, sorcerers, madmen, infants of God, sots, and morons. Categories such as the weak, odd, and poor would cover the full range of exceptional individuals who suffered rather uniformly throughout most of history.

As our concern with the treatment, training, and education of the handicapped has markedly increased during the past century, a set of more specific categories has emerged. Historically, the more severe and visible the handicap, the more readily it was identified and elicited a reaction from others. Hence, the visually handicapped and the crippled were among the first recognized categories and the first to receive care. Although deafness is not a visible handicap, the behavior of the hearing handicapped and their problems in communication also resulted in their early identification and care. Severely mentally retarded and emotionally disturbed individuals were also recognized, but due to superstition and prejudice they were delayed in receiving even custodial care, much less treatment or education. The mildly disturbed, or those with behavior disorders, and the mildly retarded were largely absorbed into the less complicated family and community environments of earlier historical periods. Speech problems have always existed, but only in recent history have therapeutic approaches been developed to alleviate them. The newest category to emerge in special education is specific learning disabilities. This category reflects concern with the efficiency and accuracy with which an individual of normal intelligence learns in school; it was established as individual differences related to learning were identified and more closely studied in the past forty years.

In our efforts to focus on a collective consideration of exceptional learners, we shall exclude the gifted in the major portion of the text; this category will be treated separately in Chapter 13. Gifted individuals have certainly made their mark in every society throughout history. However, widespread efforts in the United States to provide the gifted with the exceptional education necessary to take full advantage of their uniqueness



2. The Exceptional Learner

to learn something and only secondarily handicapped by conditions that limit learning. With this historical journey behind us, we turn to the present. In Chapter 2 we will present a general introduction to the exceptional learner and in Chapters 3 and 4 consider more specifically eleven types of exceptionality.

ican institutions. The work of Itard and Seguin in the nineteenth century reflected not only a dedication to educate the handicapped, but also an enthusiasm and optimism that every child, no matter how extreme his or her problem, could be taught "something." With their work began an era of creative individualization of instructional materials and techniques that can be considered the true beginning of the field of special education. This optimism diminished at the turn of the century with the alarmist eugenics movement and the notion of fixed intelligence, but it appeared again in the 1960s with a national commitment to handicapped children and youth.

Special schools for exceptional children began to appear in 1818; by 1890, state responsibility for the care of the retarded was accepted. Special classes were established in public schools for the mentally retarded in Germany in 1860 and appeared in America toward the turn of the century; classes for other exceptional children appeared as early as 1869 in the United States.

The twentieth century has seen improved and increased services to the handicapped in this country. Freudian psychology contributed to the understanding of the psychological basis for mental illness and to the emphasis on early experience in the development of the child. In the early 1900s, Binet's testing movement revealed thousands of mildly retarded persons who had previously been overlooked, and state institutions that had isolated individuals were modified to include work colonies. Gifted children were provided with enriched programs. After World War II, a gradual but steadily increasing delivery of services to handicapped individuals occurred. With President Kennedy's efforts on behalf of the retarded in the early 1960s, special education entered an accelerated period of growth in research, training, and programs. The decade of the mid-1960s to the mid-1970s has been a period of unprecedented challenge and change in relation to educational rights and needs of the handicapped.

As we look back, it is apparent that handicapped individuals' chances for survival, the enlightened understanding of their problems, the scientific contributions to their welfare and development, and the range of services available to help them to develop and utilize their true potential exist in greater measure today than ever before. We have recaptured some of Itard's and Seguin's enthusiasm and optimism regarding the parts that education and training can play in improving the functioning level of the handicapped, particularly the retarded. Our present level of optimism does not naively assume that the mentally retarded can be cured through training procedures, but we are firmly convinced that special education can make an important difference in their lives and the lives of all handicapped children. Such optimism is reflected in the philosophy of this book—that all exceptional children are, first and foremost, learners, ready at all times

some, but punishment with hunger and chains was seen as necessary by others. Some gifted blind individuals achieved prominence as musicians and scholars in Egypt, Rome, and Greece, but most were rejected and mistreated. A rare exception was the issuance of pensions to handicapped citizens in Athens.

The influence of Christianity during the centuries after the Greek and Roman periods brought about commiseration, solicitude, and care for some of the handicapped. But mentally defectives were still exploited as court fools or jesters, and the mentally ill were subjected to religious rites of exorcism, rejection, torture, and even death. In some cases, monasteries were places of refuge for the deranged, and kindness and attempts at primitive medical treatment were provided. Gheel, Belgium, stands out as testimony to the variable nature of human beings at all times throughout the ages. Here an entire community accepted the mentally sick into its homes as a natural course of events, and pilgrims from all parts of the civilized world came to the shrine established there.

In the sixteenth century, treatment of the mentally ill was influenced by the almost universal hysteria generated by belief in witchcraft, and extremely cruel and inhumane treatment was seen as a justifiable means of driving out the devil. Once again, however, voices of reason spoke out, if only softly and briefly, for compassion in treating the mentally ill and for removal of chains and force. However, bloodletting, twirling on stools, and ducking under water were advocated by some as treatment methods. Custodial care for the mentally ill was initiated in London at St. Mary of Bethlehem (Bedlam), but little treatment was offered.

The seventeenth century saw the beginnings of the development of special instructional techniques for the blind and deaf and attempts to describe mental retardation and mental illness from psychological and educational points of view.

During the eighteenth century, children suffered from shockingly high mortality rates and abuses in factories and were sentenced to harshly run prisons if they broke the law. Their lot improved, as did the fate of many of the weak and handicapped, with the French Revolution and the dramatic awakening it created with regard to human individuality and rights. Pinel struck off the chains of the mentally ill in France, Tuke established a humanitarian retreat for them in England, and Rush brought about more humane treatment in the United States. Schools for the blind and deaf appeared by the end of the eighteenth century, but little was done for the physically handicapped, retarded, or disturbed until the nineteenth century.

Reform in the treatment of the mentally ill was a major issue during the 1800s. Dorothea Dix attacked the deplorable conditions in Amer-

medical advancement of the Greek and Roman period came to a halt, and science was clearly overshadowed by superstition for more than a thousand years.

During the Middle Ages, when physical illness gradually came to be considered the result of natural causes, mental illness was still largely viewed as the result of possession by demons and spirits. By the eighteenth century, the physician returned to the tradition of Hippocrates and left questions of separating mind and body and the influence of evil spirits to the theologian and philosopher.

During the nineteenth century, psychiatry emerged as a study separate from medicine, and the physical disease framework for explaining mental illness adhered to by the physician of the eighteenth century was gradually extended to include the role of psychological factors. In the educational realm, Itard's documentation of his work with Victor, the "wild boy," was the beginning of the development of special-education procedures based on observation and study, which had far-reaching effects.

The early twentieth century saw scientific approaches applied to the measurement of individual differences by Binet, the formulation of theories of learning by Pavlov, Watson and others', and medical investigation of genetic and biochemical factors in mental retardation. Freudian psychology affirmed the importance of early experience in the development of human personality. Generally, our historical journey describes the human struggle with natural and supernatural explanations of physical and mental phenomena. The rapid emergence of scientific enlightenment during the past two centuries has greatly contributed to positioning our pendulum more and more toward science and service in relation to handicapped individuals.

Service

Our summary of historical trends is not complete without consideration of the treatment and service that handicapped individuals have eventually come to receive. In primitive days, the physically defective were ignored or killed. The mentally ill were targets for worship or rejection, since they were viewed as possessed by good or evil demons. The earliest belief in the ideal of individual human worth may have emerged in the Orient, where kindness to the mentally ill and concern for the employment of the blind is recorded early in history.

During the Greek period, Plato advocated family care for the mentally ill and isolation for other defectives. The wealthy Romans exploited certain retarded individuals as buffoons and objects of amusement. Humane understanding and treatment of the mentally ill was advocated by

of the fate of mentally handicapped individuals historically. The superstitious beliefs generated over the centuries stand as testimony to the almost limitless human imagination and desperation in the face of the unknown. Primitive individuals thought deranged behavior was caused by good and evil spirits, which they revered, worshipped, and appeased.

As ancient civilizations developed, elaborate demonological concepts appeared in most societies, and rites of exorcism and measures for protection against evil spirits are described in great detail in some of the earliest writings, which have been handed down from both pagan and early Judeo-Christian sources. Greek mythology provided a complex system for conceptualizing and treating mental illness. Despite the bold, naturalistic position of Hippocrates, the metaphysical and moralistic continued to dominate Greek thought.

With the onset of the Middle Ages in the fifth century, human beings were plunged into an era of darkness and demonology, in large measure the result of the polarization by early Christians of the good and evil components of human nature. The mentally retarded, exploited as court fools or jesters, seem to have been viewed by some as enjoying the favor of God. The mentally ill, with their bizarre behavior, strange utterances, and distorted beliefs, were often considered possessed by Satan himself and thus were targets for cruel and inhumane treatment inflicted by God-fearing, righteous individuals. A thousand years later, such treatment was to culminate in the mass persecution of witches, many of whom were mentally ill, but some of whom were probably individuals with beliefs and behavior that were simply out of step with church, state, and community expectations. These thousand years or so did not pass without a dissenting voice about the inhumanity of such persecutions and pleas for more rational, scientific understanding of mental illness, but such voices were not to achieve prominence until near the end of the eighteenth century.

Science

Science has stood through the centuries in opposition to the irrational and superstitious and has attempted a lawful explanation of natural events and man's behavior through observation, study, and experimentation. Four centuries before Christ, Hippocrates considered mental illness a disease brought on by natural causes, rather than by the anger of the gods. Although his medical explanation for the ills of the mind and body was based on intuition and clinical observation and not on fact, he was the first to attempt separating medicine from demonology, religion, and philosophy. The conflict between natural versus supernatural causes for mental and physical illness continued for centuries. In the second century AD, the

suits occurred in courts throughout the country. These suits led to the schools being assigned the responsibility for educating all children, regardless of their functioning level or degree of handicap. (We shall trace some of the critical events of this period in Chapter 16.) In addition, a growing network of ten federally funded mental retardation research centers and some forty university-affiliated facilities for training professionals in mental retardation has resulted in both new knowledge and trained personnel to combat the problems of mental retardation at all levels.¹¹¹

Thus, in a little more than a century and a half, the flame kindled by countless individuals and events over the course of history and fanned by the optimism and dedication of Itard, Seguin, and others in the 1800s and early 1900s came to burn brightly on behalf of the handicapped in the United States by the 1970s. Never before had so many agents and resources contributed to movement of the pendulum toward the positive end of our historical determiner dimension.

Looking back over the course of history briefly traced in this chapter in relation to events and individuals that have influenced attitudes toward and treatment of handicapped individuals, we can summarize our discussion in terms of the four major historical determiners: *survival*, *superstition*, *science*, and *service*.

Survival

Throughout most of history, the demand for survival was a primary determiner of the fate of the physically infirm in the days of primitive man. During Greek and Roman periods, the practice of exposure and infanticide further threatened their existence. War, poverty, barbarism, and disease continued to take their toll through the Middle Ages, and, as late as the eighteenth century, more than half the children born in London died before reaching age ten. Thus, few physically handicapped children survived. As for the poor among the survivors, we can imagine their plight as paupers and street beggars. The broad categories of exceptionality—weak, odd, and poor—suffice to describe the handicapped through much of history. The chances for survival for individuals falling in these categories were indeed meager.

Superstition

The human fascination with and fear of the unexplained, whether in the natural world or in human behavior, was perhaps the primary determiner

111. Luckey & Neman, 1975

fortunate. It is a key to its future. Both wisdom and humanity dictate a deep interest in the physically handicapped, the mentally ill, and the mentally retarded. Yet, although we have made considerable progress in the treatment of physical handicaps, although we have attacked on a broad front the problems of mental illness, although we have made great strides in the battle against disease, we as a nation have for too long postponed an intensive search for solutions to the problems of the mentally retarded. That failure should be corrected.¹¹⁰

President Kennedy's mandate established a President's Committee on Mental Retardation made up of leading professionals in a variety of fields related to special education. The Committee surveyed the national scene with regard to the problems of the mentally retarded and the need for increased services. Its recommendations, as well as the impetus of the surging special education movement, were reflected in Public Law 88-164, which allocated federal funds for training professional personnel to work with the handicapped and for supporting research and demonstration projects in special education. In 1967, a Bureau for Education of the Handicapped was established in the United States Office of Education to administer research, educational, and training programs supported by the federal government across the country.

Since 1961, when the President's Committee was appointed, the problem of mental retardation has continued to receive attention throughout the nation. During the mid-1960s, there were a number of dramatic and shocking exposes of dehumanizing conditions in large residential institutions. These exposes led to the formation of national organizations for the administration of state and residential facilities and to the issuance of position statements on care and treatment of the retarded. The subject of institutional conditions was discussed in national and international conferences. There has also been a movement toward accreditation of residential and community facilities, and the courts have affirmed the right of those in institutions to treatment, not only custodial care. New approaches to residential service delivery systems were developed and implemented in Connecticut and Nebraska. The principle of normalization, or involving the mentally retarded with as many experiences in the community as possible, was increasingly accepted.

In the late 1960s the relationship between poverty and mental retardation received growing attention, and the traditional classification and placement practices for the retarded in schools became a target for much controversy. A growing sensitivity to legal and human rights led to establishment of legal and citizen advocacy programs, and landmark education

110. President's Committee on Mental Retardation, 1962

functioning on a largely self-sustained basis in colonies, on parole, or on leave. In New York City, the Vocational Adjustment Bureau was established as a private agency to locate employment for mentally retarded, disturbed, or delinquent girls. Beginning in the 1930s, placement of the retarded in families in the community for care and supervision was also introduced.

Also in the 1920s and 1930s, the field of medicine began investigation of brain injury at birth, Down's Syndrome (then known as mongolism), and endocrine disorders as they related to mental retardation. The Great Depression and World War II delayed progress in all fields of special education, but by the late 1940s the demands of parents, the enthusiasm of professionals, and federal, state, and private funding gave new impetus to progress in the area of mental retardation. The current developments linked to this post-war impetus include a revival of anatomical and biochemical research, advances in the study of sensory deprivation, application of principles of Freudian psychology, special interest in the problems of the severely retarded, the cerebral-palsied, and the vocationally trainable, and increasing cooperation between professional disciplines, parents, administrators, and the general public in attacking the problem of mental retardation.¹⁰⁸

As early as 1851, Howe had stressed that blind children should be educated in regular schools because of the social advantages of such a setting. But the idea was not put into effect until 1900 when Hall opened the first special class for blind children in a Chicago public school. Blind students and educators were enthusiastic, but sighted teachers were unreceptive, even though Hall had put on an impressive demonstration showing he could "braille" the poetry of Milton almost as rapidly as the lines were read to him. He also demonstrated that he could read back the material at approximately the same speed as a sighted individual. Unfortunately, the professional consensus was that he had memorized the text, and it was not until two years after his death that the placement of blind students in regular schools was widely accepted.¹⁰⁹

The 1950s began a significant era in special education in the United States when a series of federal legislative provisions established grants for research and training of personnel in education of the handicapped. In 1961, President John F. Kennedy boldly committed the country's resources to the cause of handicapped individuals in general and to the mentally retarded in particular:

The manner in which our Nation cares for its citizens and conserves its manpower resources is more than an index to its concern for the less

108. Doll, 1962 109. Ross, 1951

uality, presented in 1905, and by Beer's contention in 1908 that behavior deviations should be treated at the time of their earliest appearance; these contributions provide further evidence of the child's emergence as a unique individual and the importance of early experiences and events in later life. It was not until the 1930s, however, that consistent efforts were made to study children with severe emotional disturbances in terms of diagnosis, etiology, therapy, and prognosis. From that time on, controversy arose over whether there was one, all-inclusive type of childhood psychosis, such as suggested by Beata Rank's notion of the "atypical child," or specific types of psychotic disorders, such as Kanner's "early infantile psychosis," or Bender's three types of childhood schizophrenia—pseudodefensive, pseudo-neurotic, and pseudopsychopathic.

The scientific study of animal and human behavior also began in the twentieth century. In Russia, Ivan Pavlov, while studying the salivary response in dogs, discovered the conditioned reflex, which paved the way for a great amount of experimentation in modern psychology, including application to human learning. In the United States, John Watson combined Pavlov's conditioning principles with ideas of his own and developed a point of view called "behaviorism." Child-rearing practices of the 1920s and 1930s were influenced by Watson's view, which emphasized the effects of social stimuli on learning and behavior. Beginning in the 1940s, child-rearing practices began to reflect the influence of Freudian psychology, with its emphasis on the inner life of the child and on the critical periods of emotional development during the early years.

Both World War I and II made a positive contribution to the cause of the handicapped due to the compulsory military physical examinations and the return of injured and disabled veterans to their homes after the wars. The physical screenings revealed tens of thousands of men who were physically impaired, yet who had led normal lives. This discovery tended to contribute to greater understanding and acceptance of handicapping conditions. Disabled veterans who previously had been accepted in their communities tended to be viewed as normal when they returned, even though they had suffered physical impairment. This attitude was gradually extended to physically handicapped children and over time to other types of exceptionality.¹⁰⁷

The 1920s and 1930s saw increased study of the individual variability of the mentally retarded and of statewide coordination of a number of services for their care. At the Rome State School in New York, Bernstein continued his efforts aimed at returning the care of the mentally deficient to society, rather than the institution. He advocated more work colonies and paroles, and by 1921 he had one-third of his institutional population

107. Cruickshank, 1967

dren were assigned on the basis of psychological tests. More than any other country, Germany utilized mental measurement as a basis for special education; this has been explained as a reflection in part of Germany's lack of belief in the theory that all are born equal.¹⁰³

In the United States, two names stand out for their pioneer work for sufferers from cerebral palsy: Winthrop Phelps and Earl Carlson (who was afflicted with cerebral palsy). These physicians each approached the treatment and education of the crippled child according to his own special standpoint: Phelps from the approach of physiotherapy and the use of braces, Carlson from the study of the whole child with emphasis on understanding his psychological life. Carlson paid particular tribute to the doctors who urged his mother to concentrate on his mental development rather than on a physical cure, which was impossible.¹⁰⁴

The work of Sigmund Freud has played a large part in increasing our understanding of mental illness as a psychological phenomenon. His significant contributions to psychiatry, which broke from the organic tradition of the field of medicine in the nineteenth century, are summarized as follows:

1. Development of techniques for becoming acquainted with conscious and unconscious aspects of the mental life of the patient
2. Demonstration that abnormal mental phenomena were simply exaggerations of normal phenomena
3. Development of a therapeutic technique—psychoanalysis—for the psychological treatment of the mentally ill.¹⁰⁵

Freud must also receive recognition for aiding in establishing a view of children as unique individuals in their own right, rather than as miniature versions of adults. The nineteenth century had seen rapid change in the reduction of physical abuse and exploitation and neglect of children, but an understanding of the psychology of childhood and concern for the effects of early experiences in personality development had been slow in emerging. The nineteenth century saw increased respect for the physical and social rights of children; respect for their psychological and emotional rights increased in the twentieth century, with Freud making a major contribution.

Beginning in 1900, a number of publications described psychiatric phenomena as originating in childhood, in contrast to the historical tradition that considered mental illness a condition of the post-childhood years.¹⁰⁶ This approach was followed by Freud's theory of infantile sex-

103. Hollingworth, 1926

105. Coleman, 1972, p. 56

104. Schonell, 1956

106. Kanner, 1962

their experiment was doomed to failure. At the close of the term, the class was disbanded—the imbeciles returned to their homes, probably not much the worse for their "schooling," but the poor teacher suffered a mental collapse which necessitated a sojourn at our capital State Hospital ""

Special programs for the retarded declined during the Great Depression of the 1930s, but after World War II they increased rapidly: in 1948, there were 87,000 special programs for the retarded; in 1958, 213,000; and in 1963, 390,000.¹⁰¹

The date of initiation of special classes for those other than the retarded in the United States is presented in Table 1-2.

TABLE 1-2
Years in Which Special Classes for the Exceptional Were First Instituted

Deaf	1869	Boston
Unruly or truant boys	1874	New York City
Blind	1896 (or 1899)	Chicago
Orthopedically Handicapped	1899 (or 1900)	Chicago
Speech Defective	1908	New York
Pre-Tuberculosis or Malnourished	1908	Providence
Epileptics	1909	Baltimore
Partially sighted	1913	Roxbury (Mass.)
Hard of Hearing	1920	Lynn (Mass.)

From J E Wallin, *Education of mentally handicapped children* New York- Harper & Row, 1955, p. 18. Reprinted by permission

Systematic provision for identifying and teaching children with superior intelligence did not appear until close to the turn of the century when the Elizabeth, New Jersey, schools adopted a multiple tract system in 1886, in which pupils were grouped according to the academic pace they could maintain, with the brighter students advancing at an accelerated rate. The Cambridge Plan, developed in 1891, permitted the gifted pupil to cover the first six grades in four years. The history of special education of gifted children has been divided into three eras: 1867 to 1899—flexible promotions; 1900 to 1919—concern with child's maturity in relation to accelerated programs; and the 1920s to the present—enrichment of the curriculum.¹⁰²

Beginning in 1917 and continuing into the Hitler era, Germany experimented with educational programs for *hoffnungskinder*—"children who show promise." Special schools and classes were organized, and chil-

100. Steinbeck (cited in Goldstein, 1957)

102. Sumpton & Luecking, 1960

101. Farber, 1968

age of two years. The new category of "moron" (coined by Goddard from the Greek term for "foolish" with a deficiency in judgment, sense, or intelligence) covered the mental range of from eight to twelve years and reflected Binet's emphasis on social adequacy as the basis for intelligence.

Goddard's category of "moron" covered thousands of mildly retarded individuals among the general population who, prior to establishment of the intelligence test movement, were largely unrecognized. The more seriously retarded included in the "idiot" and "imbecile" categories had been provided with institutional care for some time, but this borderline group had been neglected and had only recently been aided by the beginnings of special classes in the public school. The identification of the "moron" group prompted a differentiation of institutional programs for the retarded, and the "colony" came into existence. A colony consisted of a number of mentally retarded individuals capable of living outside the control of an institution who, with institutional supervision, could work and support themselves with group earnings. In 1916, Bernstein organized a colony in the Rome State School in New York where boys and men in the moron category lived happier, more independent, and productive lives than they had while they were institutionalized.⁹⁸

The first special class for mentally retarded children living outside an institution was developed in Germany as early as 1860. By 1905, Saxony had enrolled 10,000 children in 492 special classes in 180 cities. The curriculum was based on the Froebelian notion of the educational value of play and on Seguin's physiological methods. In the United States, special classes for the retarded were held in Cleveland in 1875 and again in 1893. By 1905, classes had been initiated in Chicago, New York, Providence, Springfield, Philadelphia, Boston, and Portland.⁹⁰ By 1911, there were public school classes for the retarded in 99 American cities, and by 1922 some 23,000 children were enrolled across the country.

The early public school programs for the retarded in the United States often included a mixture of problem children, and the optimism and dedication of the teachers was not always matched by adequate preparation and experience. An example of this occurred in 1918 in the Cleveland, Ohio, public schools:

About 14 of the most serious cases of imbecility in the most congested quarters of the city were gathered together and a superior, conscientious teacher placed in charge. The good folk responsible for this inauguration were united in their belief that the pupils would soon become as normal children, once they were properly taught. The teacher heroically attacked the problem, but before the close of the school year, all were aware that

98. Doll, 1962 99. Ibid.

to the psychotic in all but two states, and in about two-thirds of the states to the epileptic.⁹⁵

The Binet testing movement and the belief that an intelligence test score was infallible and not subject to change also contributed to increased negative opinion. Such a belief led to the notion that the mentally retarded could not really profit from an education in the usual sense of the word. Although Binet himself had questioned Seguin's optimism regarding the educability of the retarded, he demonstrated a tempered optimism himself regarding efforts to teach them to read and write.

It has been remarked, and justly, that reading is the triumph of abstraction, and that a defective may require two years to learn to read by syllables, and very poorly even then. No matter if this is possible, even with considerable effort, such a defective ought to learn to read. This is demanded not by the state of the child's intelligence, *but by the society in which he lives*, where illiteracy would bring shame on him.⁹⁶

The Binet testing movement was criticized and attacked in the 1910s. William Healy of the Chicago Juvenile Court claimed it was necessary to increase the range and type of items for adequate diagnosis; W. E. Fernald saw the problem of borderline diagnosis as still unsolved; and in 1915 S. D. Porteus contended that the Binet test reflected previous training and that it unfairly penalized children with emotional and sensory problems. Lightner Witmer called for a broader definition of mental retardation and emphasized the role of emotional deprivation, lack of experiential stimulation, functional nervous disease, improper nutrition, sensory defects, physical illness, and improper discipline in determining intellectual functioning. In 1911 he stated:

Mental retardation is not a disease; it is not a brain defect. It is not even a condition with a definite number of assignable characteristics. It is a mental status, a stage of mental development.⁹⁷

Despite these protests, in 1916 Lewis Terman translated and revised the Binet-Simon test and restandardized it on American children. The overall impact on the field of mental retardation of Binet's test and later of the Terman adaptation was revolutionary. In 1910, the American Association on Mental Deficiency extended the traditional classification system involving "idiot" and "imbecile" to include "moron." The older categories, which had earlier been differentiated merely by the criterion of presence of speech, were now distinguished by the upper limit of a mental

95 Wallin, 1955 96. Pritchard, 1963, p. 179 97. Doll, 1962, p. 35

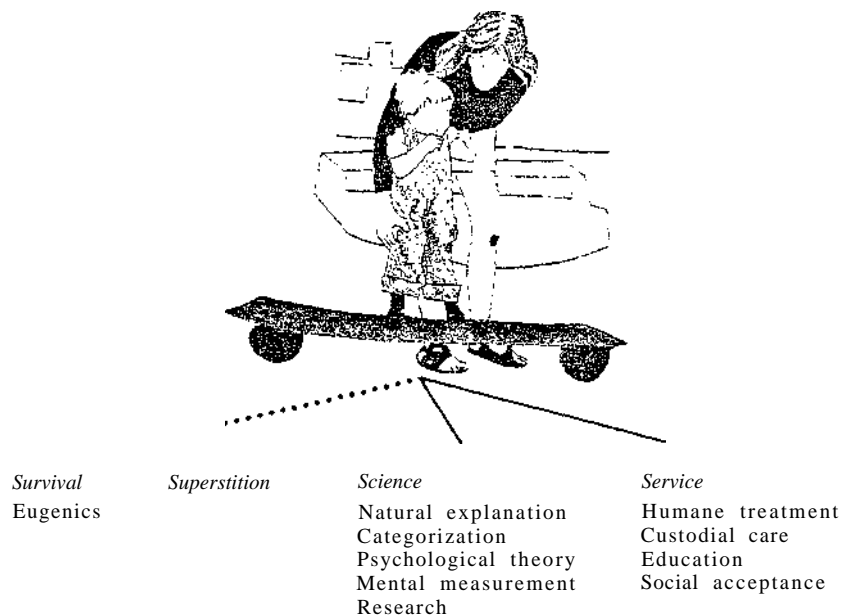


FIGURE 1-7
Twentieth Century

rising tide of negative opinion that was in marked contrast to the earlier optimism introduced at an idealized and somewhat unrealistic level by Itard, and carried along during the 1800s by Seguin. Such opinion resulted partly from the discouragement associated with Seguin's failure to cure the retarded in this country and partly from the developing study of eugenics and fears that a degeneration of the race was at hand unless segregation and sterilization of mental defectives were practiced. In the United States, Goddard and Dugdale traced the descendants of the Juke and Kallikak families in which there were identifiable mentally defective individuals and revealed that a large number of their ancestors had been criminals, prostitutes, and paupers. The eugenics movement eventually resulted in sterilization laws that presently apply to the mentally deficient in all states,

1890, state responsibility for the care of the retarded was generally accepted, and supplementary private agencies appeared. Institutional segregation on either a temporary or permanent basis was seen as most effective, but the special-class movement first to gain impetus in Germany was being considered in America as well. Educational theory reflected developmental concepts and concern with the child's total personality, and the importance of individualization of instruction was recognized. The profoundly retarded were considered in need of lifetime custodial care, but the less severely retarded were seen as candidates for some level of gainful employment.

The nineteenth century was indeed the beginning of special education. Building on fragments of knowledge and understanding accumulated over thousands of years and further dismantling centuries of cruelty, superstition, and neglect of the handicapped, the 1800s firmly established care, treatment, and education as the mandate for the twentieth century.

TWENTIETH CENTURY

As shown in Figure 1-7, the pendulum swing along our historical determiner dimension was similar to that evidenced during the nineteenth century, with the exception of a eugenics movement. The agents of movement were varied: individuals in fields of education, psychology, and medicine; social reform; war; public sentiment; and increased federal, state, and local concern.

The quest for measurement devices to identify and classify individuals according to intellectual potential began seriously at the turn of the century. Alfred Binet and his collaborator Theodore Simon made a landmark contribution by developing a scientifically reliable means for evaluating intelligence that had a significant effect on diagnosis, classification, and educational planning.⁹⁴ Binet and Simon were commissioned in 1904 by the French Ministry of Education to develop a test to determine if a child suspected of mental retardation should be transferred to a special class. The label "mentally deficient" would be applied when a child demonstrated such limited intelligence that he was unable to profit from regular-class instruction. (We shall discuss the development of Binet and Simon's test in some detail in Chapter 7.)

Binet criticized Seguin's optimism and stated that attempts to educate some retarded children were fruitless. His position was part of the

94. Ibid.

had been able to replicate Howe's accomplishments with other deaf, blind, mute children during the half century that ensued.

Anne Sullivan, who was visually handicapped, had entered the Perkins Institute for her education at the age of fourteen—the year Helen Keller was born—and graduated in 1886. As a result of a series of eye operations, she had acquired partial sight. After studying Samuel Howe's reports on Laura Bridgman for several months, Anne Sullivan departed for Tuscumbia, Alabama, and the Keller household, where she began her intensive efforts to teach Helen to understand and communicate with the world around her. By the end of the first month, Anne Sullivan had achieved a breakthrough; while pumping water over the child's hands and finger-spelling the word "water," Helen revealed that she had made the association between the physical and symbolic experiences. From that moment on, Helen's progress was remarkable. She quickly learned the names of objects and events in her environment, and by the age of ten began oral speech when she learned to say aloud, "I-am—not-dumb-now." The story of the astonishing results of Anne Sullivan's work with Helen received widespread publicity. Some considered it a miracle. Others gave complete credit to the teacher and viewed Helen as an automaton. Still others were skeptical as to whether Helen was really handicapped in the first place and accused Anne Sullivan of being a fraud.

The truth of the matter, as stated by Alexander Graham Bell, was that the combination of a gifted, intuitive teacher and an eager and very intelligent pupil had contributed to the success. There were many obvious differences between Helen Keller and Itard's Victor, but the most significant were probably Helen's nineteen months of normal experience as a child before losing her sight and hearing and her unquestionably superior intellectual potential. Helen Keller went on to graduate cum laude from Radcliffe College and to write a number of books, several of which provide us with vivid, moving accounts of her life with Anne Sullivan.⁹² The stage play and later motion picture, *The Miracle Worker*, depicts Anne Sullivan's dedicated efforts to teach Helen Keller.*

In reviewing the implications of the nineteenth century for special education, with the exception of mental testing, Freudian psychology, and biochemical techniques, almost every current point of view in the education of exceptional children had by then found some level of expression.⁹³ Between 1818 and 1894 residential institutions for the mentally retarded and other exceptional children had appeared in the United States. By

92. Keller, 1955

**The Miracle Worker*, 1962, black and white, 107 minutes Available from United Artists, UA/Sixteen, 729 Seventh Avenue, New York, New York 10019.

93. Doll, 1962

to the incapable, all men to each other, by a tie of indissoluble solidarity. The old bonds are dissolving; man is already unwilling to continue to contribute money or palaces for the support of the indolent nobility; but he is every day more ready to build palaces and give annuities for the indigent or infirm, the chosen friends of our Lord Jesus. See that cornerstone—the token of the new alliance between humanity and a class hitherto neglected—that, ladies and gentlemen, is your pride; it is the greatest joy of my life; for I, too, have labored for the poor idiot.⁸⁸

But by the end of the nineteenth century, hopes that training would normalize the retarded had faded. Despite important and significant contributions that made a difference in the lives of the retarded, Seguin's methods did not produce the sought-after miracle, and the view of residential schools as training institutions gave way to one of custodial facilities for children and adults who were hopelessly dependent.⁸⁹

In the last decade of the nineteenth century, Dr. Maria Montessori obtained a copy of Seguin's book, translated it, and modified many of the methods and materials that Seguin described.⁹⁰ She first applied her approach to the mentally retarded, but her techniques were less well received in the United States than in some countries of Europe and Asia, partly because of the pessimism which swept the country following Seguin's efforts.⁹¹ From that point, Montessori extended her methods to the teaching of normal children, thus doing what Seguin had hoped would be done in merging special education practices with the mainstream of regular education.

The beginning of the nineteenth century was particularly noteworthy in the field of special education because of the teacher-pupil relationship between Itard and Victor and the development of training procedures aimed at educating the seemingly uneducable. A striking parallel to Itard's and Victor's experience occurred in the latter part of the same century in the teacher-pupil relationship between Anne Sullivan and Helen Keller and the training program that made such a remarkable difference in the life of a young deaf and blind child. Helen Keller was born a normal child in 1880, but nineteen months later she was stricken with a still undiagnosed illness that left her deaf and blind and led to muteness. Some considered her an idiot, but her parents sought help from Alexander Graham Bell who referred them to the Perkins Institute for the Blind in Boston. As we stated previously, some fifty years earlier Samuel Howe had demonstrated that Laura Bridgman, a deaf, blind, mute child, could be taught to read and write by means of a finger alphabet and could learn to communicate with the seeing and hearing world. Yet no skilled teacher

88. Davies & Ecob, 1959, p. 21

90. Montessori, 1964

89. Dunn, 1973b

91. Dunn, 1963

the feeble-minded in Paris in 1837, where he continued his pioneering efforts on their behalf for the next ten years. In 1846, Seguin published his classic textbook, *Idiocy and Its Treatment by the Physiological Method*. It won immediate recognition from the French Academy of Science and a letter from Pope Pius IX thanking him for the service he was rendering to humanity. The success Seguin enjoyed with young mental defectives was vividly described in a letter written by George Sumner to Samuel Gridley Howe in 1847:

During the past six months, I have watched with eager interest the progress which many young idiots have made in Paris, under the direction of M. Seguin, and have seen with no less gratification than astonishment, nearly one hundred fellow-beings who, but a short time since, were shut out from all communion with mankind, and who were objects of loathing and disgust—many of whom rejected every article of clothing—others of whom, unable to stand erect, crouched themselves in corners, and gave signs of life only by piteous howls—others, in whom the faculty of speech had never been developed—and many, whose voracious and indiscriminate gluttony satisfied itself with whatever they could lay hands upon . . . these . . . I have seen properly clad, standing erect, walking, speaking, eating in an orderly manner at a common table, working quietly as carpenters, and farmers, gaining by their own labor the means of existence, storing their awakened intelligence by reading- one to another; exercising, toward their teachers and among themselves, the generous feelings of man's nature, and singing in unison songs of Thanksgiving. There is nothing either visionary or impracticable in the attempt . . . for republics, it is an imperative duty, the necessary result of the principle on which they are founded, and by which they are sustained—the principle of justice, that accords to everyone, not as a privilege, but as a right, the full development of all his faculties.⁸⁷

In 1848, Seguin emigrated to the United States due to his unhappiness with the French government of that time and at the urging of individuals such as Samuel Howe, who saw in his particular method of teaching a way of helping severely retarded individuals achieve normal functioning. Seguin assisted in setting up the first educationally oriented state residential facility for the retarded in the United States. Hopes were high that residential schools offering a strong training emphasis would literally cure the retarded. In his dedication speech at Syracuse, New York, in 1854 when the residential facility was opened, Seguin clearly expressed his deep convictions about his work:

God has scattered among us—rare as the possession of genius—the idiot, the blind, the deaf-mute, in order to bind the rich to the needy, the talented

87. Talbot, 1964, p. 66

struction of the retarded at both the Bicetre and the Salpêtrière hospitals in the 1830s when it was firmly established that the retarded could learn and be improved.⁸⁴ Itard's work led to the contributions of Edouard Seguin, who reflected the most significant thinking of previous generations and who consolidated and built a unique educational system. Seguin has been described as "perhaps the greatest teacher ever to address his attention to the mentally deficient."⁸⁵ He was Itard's protégé, and his concept of education was the promotion of the harmonious, physical, intellectual, and moral development of the child.

Seguin's place in special education and his contribution to a theory of pedagogy based on previously isolated medical, physiological, and philosophical tenets has been summarized as follows:

1. That observation of the individual child preceded and was the foundation for the child's education.
2. That education dealt with the whole child and that the things taught must likewise be kept whole.
3. That activity was the basis for and the means of learning; that sensory learning was included in activity.
4. That the child learned best and most economically from real things and that he remembered in proportion to his opportunity to compare.
5. That even the most defective child has some spark of understanding upon which learning could be built.⁸⁶

In his emphasis on the person as a whole, Seguin recognized the existence of a mind that could be taught to attend to, compare, and make judgments about sensory learnings, whereas Itard had tended to separate sensory experience as an end in itself. Seguin's "physiological method," as it was called, included the development of techniques and materials, many of which had not been directly used in teaching before. He prescribed music training to develop controlled behavior and intelligent response, use of art media for symbolic stages, and use of child-originated academic materials. The tangible teaching aids he designed included pegboards, buttoning and lacing materials, object collections, series-type tangible materials, tools for sensory experience, and visual-training devices, such as 'shutters, colored glass, silhouette slides, and a giant kaleidoscope. Seguin's contributions have extended to the entire field of education, as was his desire.

Seguin established the first successful school specifically for training

84. Doll, 1962 85. Ibid.

86. Talbot M. E. *Edouard Seguin: A study of an educational approach to the treatment of mental defective children* (New York: Teachers College Press, 1964). p. 115. Reprinted by permis-

keenly wished to teach Victor to speak, but despite painstaking training, the boy did not progress beyond the utterance of a few monosyllables and remained essentially mute.

Itard then hoped Victor's mental development would rapidly progress with the onset of puberty. But the major effect of this period was to bring out wild and uncontrollable elements in the boy. He became violent and eventually unmanageable, and Itard's experiment ended with Victor being given over to the care of his governess with whom he resided and received kindly care until his death at age forty in 1829.

Itard was bitterly disappointed over his failure to make Victor normal. He reluctantly was forced to admit that the boy was indeed mentally retarded, as Pinel had diagnosed, and is said at one point during the frustrating five-year training program to have cried out to Victor in a fit of despair:

Unfortunate! Since my pains are lost and my efforts fruitless, take yourself back to your forests and primitive tastes; or if your new wants make you dependent on society, suffer the penalty of being useless, and go to Bicetre, there to die in wretchedness.⁸¹

Despite his disappointment, Itard was praised by the French Academy of Science in its 1806 report:

The Academy acknowledges that it was impossible for the institutor to put in his lessons, exercises, and experiments more intelligence, sagacity, patience, courage; and that if it has not obtained a greater success, it must be attributed not to any lack of zeal or talent, but to the imperfection of the organs of the subject upon which he worked.⁸²

History was to add its commendation to Itard's work, for he was among the first to show that even a seriously retarded individual can be helped to improve his level of functioning through appropriate training. Itard was also perhaps the first educator to apply a completely individualized and clinical method (patterned after a medical approach) to the study, observation, and education of a pupil.⁸³ Itard's dedication, ingenuity, persistence, and optimism were to remain as a legacy for the special educator from the beginning of the nineteenth century to the present time. The French director, Francois Truffaut, made a moving and detailed film depicting Itard's work with Victor, *L'Enfant Sauvage*, or "The Wild Child."*

Itard's accomplishments were instrumental in stimulating the in-

81. Davies & Ecob, 1959, p 13 82. Ibid, p 15 83. Wallin, 1955

**The Wild Child*, 1970, black and white, 85 minutes. Available from United Artists, UA/Sixteen, 729 Seventh Avenue, New York, New York 10019.

he only had to give the wild boy the necessary training to supply the mental content that he lacked, and he would then become a normal individual. However, Itard may have only had a cursory knowledge of Locke's thesis, for he seemed to overlook the fact that while experience is necessary to produce mental development, so is a mind capable of using this experience.⁷⁹ Itard's idealistic conviction that he could completely normalize or cure the boy was unfortunate.

During a five-year period of intensive training, Itard certainly made a difference in the life of this boy, whom he called Victor. In two reports published in 1801 and 1806, Itard described his program, designed to develop the senses, the intellectual functions, and the emotional faculties of the boy. There were five principal aims: 1) to make him social through gradual transition from the life he had led in the forest; 2) to arouse his nervous sensibilities by intense stimulation; 3) to give him knowledge of ideas through environmental interaction; 4) to assist him in learning to speak through imitation; and 5) to channel mental activity associated with meeting physical needs into the educational process.

The first nine months of the program, covered in the 1801 report, resulted in the boy's developing normal habits of sleeping, eating, and personal hygiene. He also became more sensitive to touch, taste, and smell and displayed affection for and dependence on his governess. Even though speech was not attained, he learned to voice certain monosyllables such as *lait* ("milk") and *O Dieu*, and finally acquired the vowel sounds as well as the sounds of *d* and *l*. Victor also learned to place objects together in proper order, such as arranging the letters of the alphabet to spell *lait*.

With these evidences of progress, Itard launched into four more years of training, which were described in the 1806 report. First, greater attention was given to development of the senses. By blindfolding Victor so that hearing would not be distracted by sight, Itard taught him to distinguish gross difference in sounds, such as that between a drum and a bell. Gradually he taught him to respond to the varying tones of his teacher's voice. After much work, Victor was able to visually identify various written words without understanding their meaning and to distinguish colors. The sense of touch was developed by teaching the boy to distinguish between chestnuts and acorns hidden in a bag. He also learned to select certain block letters by touch alone. Victor's sense of taste was likewise developed, and he learned to differentiate between sweet and tart.

Itard expected mental development to rapidly follow increased sensory development. Victor was trained to connect an object with its name and use. He also learned to distinguish between action verbs written on a blackboard and later was able to carry out the action indicated. Itard

79. Pritchard, 1963 80. Ibid.

It was also noted that "wherever he was, he would answer the calls of nature and had no idea of modesty."^{78*}

Itard obtained permission to care for the boy; he was convinced that with proper training in the ways of civilized man, the boy could become normal. Thus the stage was set for an extremely significant event in the history of special education. It involved more than an ambitious training program, for it was to embody an idealism and optimism that would have far-reaching effects even to our present time. Itard reflected the post-French Revolutionary belief in the individuality and dignity of every human being and the right and potential of all people to rise above any obstacle. He also reflected the belief that environmental experience—education and training—could alter the seemingly unalterable. The significance of such beliefs increases immeasurably as we look back over the centuries of oppression, superstition, and fear that preceded the nineteenth century and that fostered pessimism and a sense of hopelessness. However, Itard's confidence was not shared by all of his colleagues. Leading medical authorities of the day, such as Pinel, considered the boy a "hopeless idiot" and saw very little to be gained by Itard's efforts.

Itard, on the other hand, considered the boy simply wild and untaught. Much interest focused on Itard's training efforts because of a philosophical controversy of the day between the nativists and the sensationalists. The nativist theory assumed the individual is born with innate ideas that gradually unfold as the mind develops. Itard subscribed to the sensationist theory, which was based on the work of John Locke. This theory considered the mind a *tabula rasa*, or blank tablet, waiting to receive all of its impressions from sensory experience. Thus, the two theories differed in emphasis on heredity and environment and predated current theories of human development that differ in a similar manner. Itard reasoned that

78. Itard, 1962, p. 4

•Throughout the years, there has been a great deal of interest in wolf or feral children believed to have been abandoned to the forest or jungle by their families at an early age, yet who survived to live among wild animals who some say actually raised them as their own (see Dennis, 1951). In the case of the wild boy found in France in 1799, a physical examination revealed a scar across his throat that had evidently been made by a knife when the boy was much younger. It was hypothesized that the boy had been unwanted by his family, taken to the forest, had his throat slit and been left to die. A recent discovery of a so-called ape boy occurred in Africa near Lake Tanganyika (see *People*, Feb. 9, 1976). A tiny boy, coveted with thick body hair and apparently about four years old, was found climbing the trees with a band of apes. He was caught, and it was believed he was one of the survivors of a tribe that had been massacred. The boy was placed in a mental hospital for adults for three years and then taken to a Catholic orphanage where he was named John for John the Baptist who lived in the hush. At age seven, he was three feet tall, sturdily built and given to scratching himself constantly and stuffing bananas into his mouth. He was frequently very destructive, hurling objects and kicking and attacking small animals. John's coordination was poor, but he did learn to rattle a small box, twist a piece of grass, and hold a ball. The thick body hair disappeared and the boy showed signs of responding to adults by hurling himself up on their laps and breaking into a smile.

and attempted to teach her in 1812. At that time there were no special schools available for the deaf in the United States. Gallaudet committed himself to the teaching of deaf children and went to Europe and to the National Institute for Deaf Mutes in Paris to learn about the manual method of communication. In 1817 he established the first residential school for the deaf at Hartford, Connecticut.^{76*}

In the latter part of the nineteenth century, Alexander Graham Bell and his invention of the telephone opened up new channels for teaching speech to the deaf. The technology of the telephone led to the development of the hearing aid, and greater emphasis was placed on using amplification of sound in teaching speech to children with severely defective hearing. Oral methods of teaching the deaf advanced as a result, and many children who had never understood speech or language were now able to do so.⁷⁷

The onset of the nineteenth century is perhaps a most visible landmark in the history of special education because of the work of Jean-Marc-Gaspard Itard, a young, ambitious physician who was medical advisor to the National Institute for Deaf-Mutes in Paris. The story of Itard and his contribution to the field begins in the forest of Aveyron in southern France in 1799, where a "wild boy" of eleven or twelve years of age was seized by hunters. The boy had apparently lived most of his life as a primitive forest creature. He was animal-like in appearance and behavior, naked, dirty, scarred, unable to speak, and selected food by smell. He was brought to Paris and placed in the National Institute for Deaf-Mutes where his presence elicited much interest and curiosity. Some of this may have stemmed from comparison of the boy to the "noble savage" described earlier by Rousseau. But Rousseau's concept of the ideal man unbound by the stifling conventions of society and free to make his own way in a natural environment was hard to accept when the revolting appearance of the boy was considered. He was a "disgustingly dirty child affected with spasmodic movements and often convulsions who swayed back and forth ceaselessly like certain animals in the menagerie, who bit and scratched those who opposed him, who showed no sort of affection for those who attended him, and who was, in short, indifferent to everything and attentive to nothing."

76 Kirk & Lord, 1974

*A statue of Gallaudet stands today in front of Gallaudet College. It is the work of the sculptor, Daniel Chester French, who also carved the marble statue of Abraham Lincoln that dominates the interior of the Lincoln Memorial in Washington, D C. French became so intrigued with the communication methods used by deaf individuals while working on the Gallaudet statue that he carved Lincoln's hands making the manual signs for Lincoln's initials. The left hand is a closed-fist for the letter "A," and the right hand has the thumb and index finger making an "L."

77. Kirk, 1972

lettering. The Braille system that used point stimuli was successful because the fingers can discriminate such stimuli far more readily than they can discern the line properties of ordinary letters.⁷⁴

Samuel Gridley Howe was one of the first physicians in the United States to develop a keen interest in the education of blind and deaf children. In Boston in 1832, he took a small number of blind children into the home of Colonel Thomas H. Perkins, who had offered his residence for what was to become the Perkins Institute for the Blind. Here Howe developed new methods for the instruction of the blind and of deaf-mutes. His phenomenal success with one of his pupils, Laura Bridgman, a deaf-blind-mute, earned him international fame. Anne Sullivan, who later became the teacher of Helen Keller, also was a pupil at the Perkins Institute.

Howe was director of the Perkins Institute until his death in 1876. During his life he worked diligently to convince others that the training and education of exceptional children was a public responsibility. As the result of a report prepared by Howe in 1848, the Commonwealth of Massachusetts allocated \$2500 per year for three years to support the teaching of ten idiotic children at the Perkins Institute. There was much public support for this but also much criticism. One circulated caricature depicted Howe and his colleague, George Sumner, as twin Don Quixotes riding a tilt against various windmills, and one critic remarked, "The doctors' report is one *for* idiots as well as one concerning them." Toward the end of the three years, the Joint Committee of Public Charitable Institutions of Massachusetts visited the Perkins Institute and reported, "the experiment seems to have succeeded entirely." As a result, an institution for the mentally retarded was incorporated by the state and opened on a permanent basis in Boston in 1855. Howe went on to convince the state authorities of New York to underwrite a similar experimental school. Oliver Wendell Holmes wrote a touching "Memorial Tribute" to Howe upon the death of this great pioneer in special education.

*He touched the eyelids of the blind,
And lo, the veil was withdrawn,
As o'er the midnight of the mind
He led the light of dawn.*

Gallaudet College for the Deaf in Washington, D.C., is the only college for the deaf in the world. It was named after Thomas Hopkins Gallaudet, a pioneer in the education for the deaf. Gallaudet's interest in the problems of the deaf began when he became acquainted with a deaf child

74. Ibid. 75. Kanner, 1960

work with Americans, whose belief in liberty would cause them to assert themselves if they were not physically restrained.

One of the most spirited voices for reform in the United States was that of Dorothea Dix, a retired school teacher described as having "staggering grit." Her mission was to have hospitals built for the mentally ill, and in a presentation to Congress in 1848 she stated that she had seen:

More than 9,000 idiots, epileptics, and insane in the United States, destitute of appropriate care and protection . . . bound with galling chains, bowed beneath fetters and heavy, iron balls attached to drag chains, lacerated with ropes, scourged by rods and terrified beneath storms of cruel blows; now subject to jibes and scorn and torturing tricks; now abandoned to the most outrageous violations.⁷⁰

Dorothea Dix believed the deplorable conditions in American institutions "were due to an antiquated, ignorant, and callous system of public policy based upon theories and practice which must be revolutionized out of respect to Christianity and advancing civilization."⁷¹ Between 1841 and 1881, she established 32 modern mental hospitals. In England, Daniel Tuke wrote extensively on the subject of reform, but society at large was slow to rid itself of the impulse to shut out the criminal and the mentally ill rather than to treat and rehabilitate them.⁷²

Louis Braille was the single most important figure in the history of work for the blind.⁷³ Before he was four years old, Braille accidentally blinded himself in one eye while playing with an awl. The sight of the other eye was soon lost as well. In 1819, he entered the school for the blind established by Valentine Huay; ten years later as a member of its faculty, he began to develop a revolutionary system of reading and writing for the blind. This method was based on a discovery of Charles Barbier, a veteran of the Napoleonic wars. Barbier had devised a system of "nightwriting" for the exchange of secret intelligence by the military in war zones at night. He had tried to interest the Huay school in its possibilities in 1820. but the system was rejected as unworkable. Braille, however, recognized the immense potential of Barbier's technique and refined it for practical use by 1834. It was not until twenty years later (two years after Braille's death) that the Huay school finally adopted it, and by the end of the century the Braille system had become the universally accepted means of written communication for the blind. There had been earlier attempts to develop embossed printed materials for the blind, but these had involved Roman

70 Reprinted from *A History of Medical Psychology* by Gregory Zilboorg and George W. Henry, pp. 583-84. By permission of W. W. Norton & Company, Inc. Copyright © 1941 by W. W. Norton & Company, Inc. Copyright renewed 1968 by Margaret Stone Zilboorg and George W. Henry.

71 Ibid., p. 583 72 Ibid. 73 Kirtley, 1975

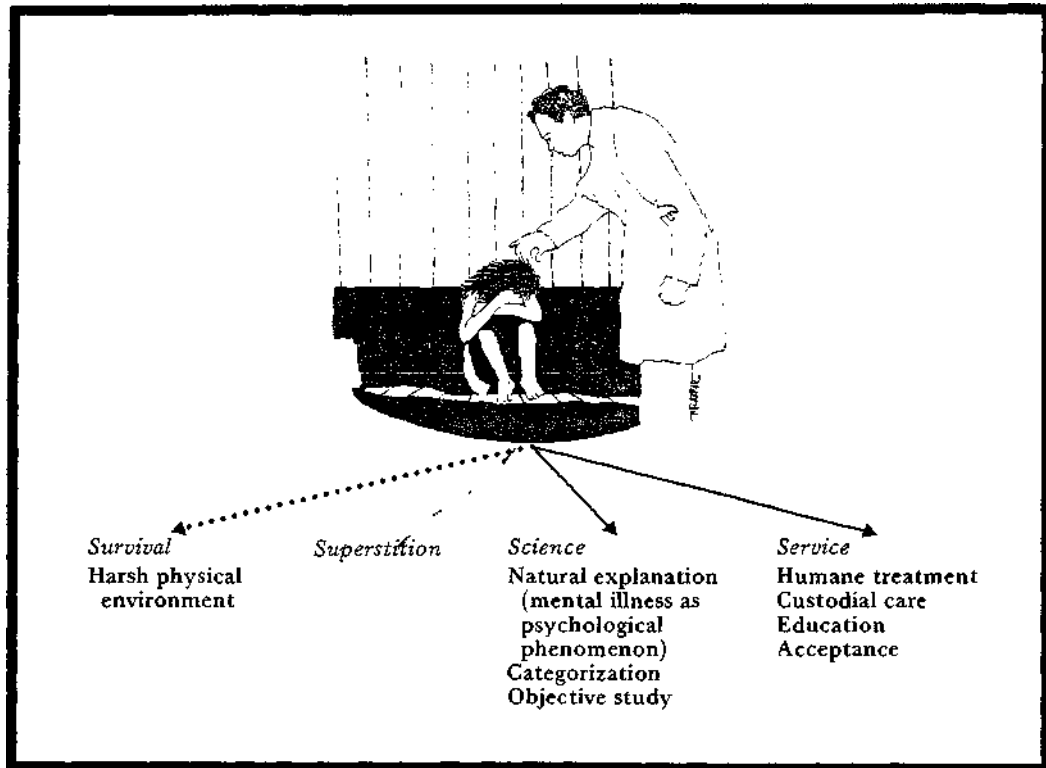


FIGURE 1-6
Nineteenth Century

prominence near the turn of the century in the contributions of Janet and Freud.⁶⁹

Given impetus by Pinel in the previous century, reform in the treatment of the mentally ill was widespread. In France, Ferrus introduced a revolutionary procedure at the Bicetre when he selected patients capable of working and assigned them to a large farm containing a dairy, animals, and workshops. But he considered non-restraint for mental patients, in general, impractical and idealistic. The issue of restraint was widely debated throughout Europe and America in the 1830s. In the United States, Isaac Ray stated that although non-restraint might be successful with Europeans, who traditionally are accustomed to obeying orders, it would not

69. Zilboorg & Henry, 1941

The role of sensory experience in learning also received increased attention during this era. Locke had asserted that all knowledge came through the senses, and Rousseau echoed the importance of using the natural curiosity of the child rather than books as a basis for learning. Rousseau's advocacy of allowing the child's capacities and interests to develop in a natural, unrestricted environment rather than in one confined by artificial social standards has been periodically reexamined and reasserted in educational practices with normal and exceptional children to this day.⁶⁷

The eighteenth century stands as a critical transitional period for all mankind, including the handicapped. The dignity of the individual, including the child, was established, and fear, superstition, and hostility toward those who were different began to give way to attempts at rational understanding, humanitarian care, and education. Thus the climate for the true emergence of special education in the nineteenth century came into existence.

NINETEENTH CENTURY

During the nineteenth century, the pendulum swing was within the most restricted range in history. The range was predominantly at the positive end of our historical determiner dimension, and the agents of pendulum movement were individuals—physicians and educators—who carried the momentum of the late 1700s into a remarkable period of reform and service for the exceptional individual.

The early nineteenth century underscored the need for care and education of the handicapped, including child paupers. Street begging was widespread in England and elsewhere, and children were exhibited by their parents in an effort to arouse pity because of their rags and deliberately induced sores. The blind and physically handicapped were particularly vulnerable to such abuses. Mentally defective children of the poor were often placed in workhouses if the parents could not pay for institutionalization in an asylum.⁶⁸

The physician of the eighteenth century was still preoccupied with anatomy and physiology, and mental illness continued to be viewed as the result of a disease of the brain. Thus medical men were strongly opposed to psychotherapy and psychological explanations of mental illness. In the work of Charcot and Bernheim in France, however, a greater understanding emerged of the role of psychological factors and the mentally ill patient's inner life. This psychological viewpoint was finally to achieve

67. Pritchard, 1963 68. Ibid.

to sell it to him. They did, however, agree to sell him their collection of specimens. On his return to Russia in 1718, Peter issued a formal decree directing his people to bring to the attention of government authorities any deformed animal or human specimen so that they might be gathered and studied. The actual decree is translated as follows:

As is known, it sometimes happens in the human race, as it does among beasts and birds, that monsters are born, which monsters, that is, freaks, have always been collected as rarities in all states, concerning which a decree was issued several years ago ordering that these be turned in and promising payment for such, and some have indeed been turned in.

However in a huge country such as ours, there may be more of these monsters, but ignorant people are concealing them, believing that such monsters are born in consequence of diabolical acts effected by means of witchcraft and the evil eye, which is not possible; but it does come about as the result of internal injuries to the mother, or in consequence of her fright and notions during pregnancy, and there are many examples of a child bearing the marks of whatever frightened the mother; the same can happen if the mother gets hurt or ill, and so forth.

Hence this decree is being renewed and reissued to the effect that such monsters, whether they be human, cattle, beast, or bird, be brought to the commandant of the town, for which payment will be made, specifically, for dead monsters, ten rubles apiece for humans, five for cattle and beast, three for birds, and for live monsters, one hundred rubles for humans, fifteen for cattle and beasts, and seven for birds; and if a monster is unusually strange, then the payment will be more; on the other hand if the abnormality is slight, the payment will be less.

The following is added, that should the parents be of nobility and should they be unwilling to bring a monster in out of shame, then this method is to be used: he who brings the monster in is not obligated to say whose it is and the commandant must not ask, but on accepting this monster must pay the money and allow the person to go.

And should anyone try to obstruct this law, he must be exposed; and should anyone be proven guilty, he will be fined ten times the price set for the monsters, and money should not be given to informers.*

This attempt by Peter the Great to introduce the scientific study of physical deformity in Russia may well be one of the early landmarks in the development of what is called the field of "defectology," or special education, in the Soviet Union today.

*The author is indebted to Ms. Collette Schulman of the Johnson Foundation, Racine, Wisconsin, for the translation of this decree.

tine Huay introduced embossed print for use by the blind. Dedicated to proving that the blind could and should be educated, he opened a school in France. In a 1747 paper entitled "Letter on the Blind for the Use of Those Who See," Diderot stated that our ideas of right and wrong are not derived from God but from our sensory experience. He also suggested that the blind might be taught to read by touch.⁶⁴

The 1600s saw development in communication techniques for the deaf. Bonet published a system of teaching based on finger spelling, which was elaborated by Pereira in the next century. Pereira also is credited with devising the lip-reading method. In 1760, Abbe de l'Epee opened the first public school for handicapped children who were deaf and poor, the National Institute for Deaf-Mutes in Paris. In this school Itard met and worked with Victor, the "wild boy," at the beginning of the nineteenth century. (This meeting will be described in detail in the next section.) Abbe de l'Epee was convinced that speech was not necessary in educating the deaf. In Germany, however, Samuel Heinicke believed that precise thought was possible only if speech were present and stressed that the deaf must develop language. The controversy surrounding the relation of speech and language to intelligence and to the education of the deaf still exists, as we shall see.

Thus, by the close of the eighteenth century, schools for blind and deaf children had appeared, but little was done for the child with a physical or mental handicap. Public sympathy was more readily aroused by blindness and deafness than by physical deformity, mental retardation, or deviant behavior.⁶⁵ Children with physical handicaps were often repulsive to look at and, along with retarded and disturbed children, were sometimes considered examples of divine displeasure and chastisement of the parents. In addition, the borderline retarded individual was not noticeably backward in a day when few could read and write. It was only as education became general that the problem of backwardness became widespread.⁶⁶

One interesting historical reference relating to the beginnings of scientific concerns with physical deformity in Russia came to light during a visit the author made to Leningrad. In the city's Museum of Scientific Curiosities is a collection of large glass jars containing malformed fetuses and infants preserved in a formaldehyde solution. This collection was purchased from the Dutch by Peter the Great during one of his visits to Amsterdam in the early 1700s. Peter the Great was one of the few Russian rulers who maintained a deep interest in the affairs of the West; he was convinced Russia could greatly profit from the scientific advances being made in other countries. He attempted to buy the formula for formaldehyde, which was unknown in Russia, from the Dutch, but they refused

64 Duranlt & Durant, 1965 65 Pritchard, 1963 66. Ibid

She was placed in the custody of a minister known for his rigid orthodoxy. The minister, who saw in her ways the machination of a "baneful and infernal" power, used a number of would-be therapeutic devices. He laid her on a bench and beat her with a cat-o-nine-tails. He locked her in a dark pantry. He subjected her to a period of starvation. He clothed her in a frock of burlap. Under these circumstances, the child did not last long. She died altera few months, and everybody felt relieved. The minister was amply rewarded for his efforts by Emerentia's parents.⁶¹

We come now to an event that had far-reaching effects on the movement of the pendulum. The French Revolution awakened the sense of an individual's social responsibility and, even more importantly, the sense of the community's responsibility toward its members, including children. French medical men were among the first to reflect this awakening in their approach to the treatment of the mentally ill. Noteworthy were the contributions of Phillippe Pinel who arrived in Paris some eleven years before the French Revolution and served as physician-in-chief of two major hospitals for the mentally ill, the Bicetre and the Salpetriere, during this critical period of social upheaval.

To the revolutionaries, Pinel appeared a "madman" engaged in the liberation of animals when he sought and received permission to remove the chains of the mentally ill in the Bicetre. He reorganized the administration, retrained the personnel of the hospitals, and collected perhaps the earliest psychiatric case histories. Pinel was driven by the conviction that "the mentally sick, far from being guilty people deserving of punishment, are sick people whose miserable state deserves all the consideration that is due to suffering humanity. One should try with the most simple methods to restore their reason." He classified mental diseases simply as mania, melancholia, dementia, and idiocy and was opposed to bloodletting, ducking patients in water, and the use of drugs.⁶²

While Pinel's reform was taking place in France, William Tuke established the York Retreat in England where mental patients lived, worked, and rested in a kindly, religious atmosphere. In the United States, Benjamin Rush assumed direction of the Pennsylvania Hospital, where he brought about more humane treatment of the mentally ill and wrote the first comprehensive volume on psychiatry in this country.⁶³

During this period of dramatic change in the treatment of the mentally ill, the role of the humanitarian teacher or special educator was also established. In 1651, Harsdorffer in Germany had produced wax tablets on which the blind could write, and Bernouilli in Switzerland had invented a frame for guiding a pencil on paper. In the eighteenth century, Valen-

61. Kanncr, 1962, p 98 62. Zilboorg & Henry, 1941, pp. 323-324 63. Coleman, 1972

nately killed at one of the factories before he could have known the revealed will of God.

A few individuals of conscience spoke out about the exploitation of child labor, but since conservatives of the day frowned on universal education (because it might lead to a surplus of scholars and a dearth of manual laborers), sending children to work instead of to school was not considered evil. Child labor diminished not because individuals became humane but because machines became more complex. The cost of supporting orphans and paupers was in large part borne by the church, and parish authorities were often glad to farm out large numbers of children to industrialists in lots of 50, 80, or 100 children. It is recorded that in some cases the church stipulated that the employer should take "one idiot to every twenty children."

Discipline was harsh for children in the home and community as well as in the factories. Some religious fanatics considered it permissible for a father to kill a disobedient child since Calvin had written that: "The Lord commands all those who are disobedient to their parents to be put to death," although his scriptural reference for such a pronouncement actually stated that parents had the right to accuse their son before the "elder of the city." Children considered "incurable" might be sent to prison or to reform schools where they became part of a group of criminals, mentally ill individuals, epileptics, and beggars. In 1723, Mandeville commented that "Men who are to remain and end their days in a Laborious, Tiresome, and Painful station in Life, the sooner they are put upon it first, the more patiently they'll submit to it forever after."⁹

The mentally ill were increasingly looked upon as "sick" individuals, although the causes of mental illness, so recently attributed solely to possession by the devil, were just beginning to be explored." Disturbed behavior demonstrated by children, however, was poorly understood. In 1713, Gotfried Keller tragically records the treatment of what was probably a childhood psychosis of that time:

This seven year old girl, the offspring of an aristocratic family, whose father remarried after an unhappy first matrimony, offended her "noble and God fearing" stepmother by her peculiar behavior. Worst of all, she would not join in the prayers and was panic stricken when taken to the black-robed preacher in the dark and gloomy chapel. She avoided contact with the people by hiding in closets or running away from home. The local physician had nothing to offer beyond declaring that she might be insane.

56 Pritchard, 1963, p 7

59 Despen, 1965, p. 96

57 Durant & Durant, 1965 60 Zilboorg & Henry, 194)

58. Ibid

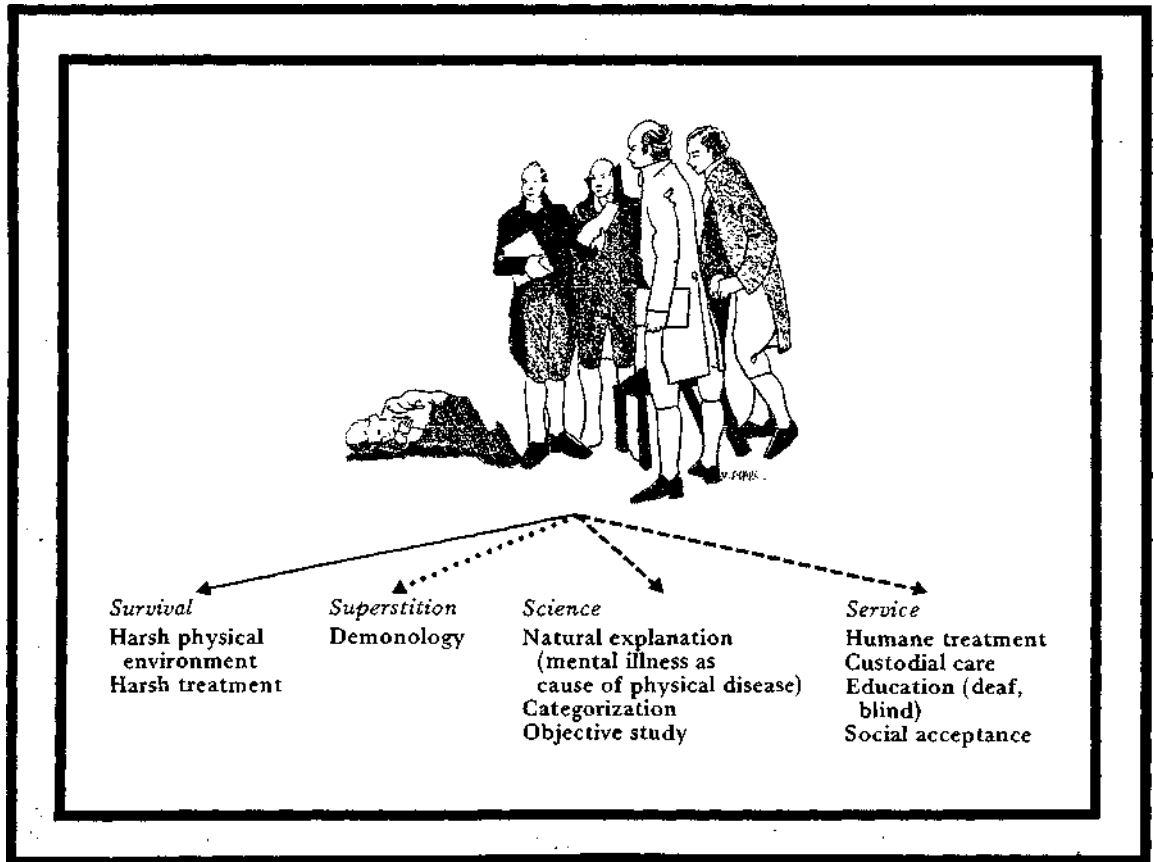


FIGURE 1-5
Eighteenth Century

to the Paris Foundling Hospital at the rate of 89 per day. It is reported that 80 percent of these children died before completing their first year. Voltaire estimated that the average longevity of human life during his time was only twenty-two years.

The Industrial Revolution brought many women and children into factories as unskilled laborers. There were no safeguards for children's welfare or their lives, and work demands were often extreme. Discipline in the factories was maintained by blows and kicks. Many children were deformed as a result of heavy labor or accidents, and some even killed themselves.⁵⁵ The Ulster Institution for the Deaf and Dumb in Belfast recorded that "a little mute in his eighth year, a day scholar, was unfortu-

55. Durant & Durant, 1965

I have been assured that a young, healthy child well nursed, is, at a year old, a most delicious, nourishing, and wholesome food, whether stewed, roasted, baked, or boiled; and I make no doubt that it will equally serve in a fricasee or ragout. I do therefore humbly offer it to public consideration, that of the hundred and twenty thousand children already computed, twenty thousand may be reserved for breed, whereof only one-fourth part to be males. . . .

Some persons of desponding spirit are in great concern about the vast number of poor people who are aged, diseased, or maimed; and I have been desired to employ my thoughts what course may be taken to ease the nation of so grievous an encumbrance. But I am not in the least pain upon that matter; because it is very well known that they are every day dying and rotting, by cold and famine, and filth and vermin, as fast as can be reasonably expected.⁵⁴

Although irrational and mystical beliefs were so deeply ingrained that the pendulum never left positions of witch burning, demonology, exploitation, and neglect, the sixteenth and seventeenth centuries saw an emerging trend toward scientific explanation, humanitarianism, concern on the part of the state for the welfare of the individual, and care and education. These trends become more apparent as we move into the eighteenth century.

EIGHTEENTH CENTURY

The pendulum made much wider swings toward positions of acceptance of exceptional individuals during the eighteenth century. Witch burning finally ceased, and the world of demons was gradually overshadowed by a concern for human rights. The agents of movement were rationalism and enlightenment on the one hand and violent revolution on the other. Also, the contributions of certain bold individuals continued to exert influence on the positions of the pendulum.

The plight of children in the eighteenth century deserves special mention. Fifty-nine percent of all children born in London during this time died before reaching the age of five; 64 percent were dead before age ten. Many babies were abandoned at birth; those who were rescued and who survived were given to nurses at public expense and later placed in workhouses. Carelessness of midwives and mothers caused a large number of physical deformities. From 1771 to 1777, 32,000 children were admitted

54. Durant & Durant, 1963, p. 361

nor what for his loss. But if he hath understanding, that he know and understand his letters, and do read by teaching or information of another man, then it seemeth he is not a sot nor a natural idiot.⁴⁸

In 1690, John Locke attempted to distinguish mental retardation from mental it

Herein seems to lie the difference between idiots and madmen; that madmen put wrong ideas together and reason from them; but idiots made very few or no propositions and reason scarce at all.⁴⁹

In 1591, Swinburne proposed a number of tests to diagnose mental retardation, such as asking an individual to measure a yard of cloth and name the days of the week.⁵⁰

Evidence that efforts were made to teach the mentally retarded in Japan in the mid-seventeenth century is provided by the records kept by a teacher named Nakae-Toju.

Repeating about two hundred times, from ten in the morning to four in the afternoon, learned only a few phrases. But after supper, forgot. Repeating a hundred times again, memorized.⁵¹

During the sixteenth century, Suleiman the Magnificent searched the Turkish Empire for gifted Christian youth to provide with education in the Moslem faith and in war, art, science, and philosophy. He conducted regular surveys and educated many superior individuals. Within a generation after the start of this widespread educational program for the gifted, the Ottoman empire became a great power in art, science, culture, and war and even attempted to conquer all of Europe.⁵²

In 1601, the Elizabethan Poor Law began to separate the poor, afflicted, and unemployed or unemployable from the community and segregated them in workhouses. The result was an increasing isolation of the mentally retarded from contact with normal life and a growing lack of understanding of their problems by the community that banished them.⁵³ Jonathan Swift, a literary voice of the seventeenth and eighteenth centuries, was shocked by the number of child beggars on the streets of Dublin, and in 1729 wrote a satirical paper on the tragic poverty of his time: *A Modest Proposal for Prescribing the Children of Poor People from Being a Burden to Their Parents or Country*.

48. Hilliard, 1965, pp. 2-3

51. Kaku & Watkins, 1954, p. 168

49. Doll, 1962, p. 23

52. Sumption & Luecking, 1960

50. Hilliard, 1965

53. Hilliard, 1965

ularly in the blood and brain, was the basic cause of mental illness, and bloodletting was the treatment of choice. During this period, Herman Boerhaave wrote:

If melancholy increases so far that from the great Motion of the Liquid of the Brain, the Patient be thrown into a wild Fury, it is called Madness. The greatest Remedy for it is to throw the Patient unwarily into the Sea and to keep him under Water as long as he can possibly bear without being quite stifled.⁴⁶

A special twirling stool also was used to spin the patient into unconsciousness and thus supposedly rearrange the brain and restore normalcy.

But the treatment of most mentally ill individuals had changed little since Celsus had recommended chains as a useful form of restraint some two thousand years before. Until the close of the eighteenth century, there were no real hospitals for the mentally ill. Custodial quarters, such as St. Mary of Bethlehem (Bedlam) in London, existed in 1547, but little actual treatment was provided. The most violent patients were put on public display for one penny a look; the more harmless inmates were allowed to seek charity on the streets.⁴⁷ Many mentally ill individuals wandered through the countryside seeking shelter in stables and pigsties. They were mocked and beaten and, if apprehended, were placed with murderers and other criminals in chains; the criminal served his term and was released, but the mentally sick might never be set free.

In the sixteenth and early seventeenth centuries, special educators of the deaf appeared. Pedro Ponce de Leon taught reading, writing, arithmetic, astronomy, Spanish, Latin, and Greek to several deaf pupils from noble families. He apparently used an oral method of instruction. In 1620, Juan Bonet published a system of instruction for the deaf based on finger spelling, which was the precursor of later manual alphabets. Also during this time, attempts were made to describe mental retardation and mental illness from a more psychological and educational point of view. In Fitz-Herbert's *New Nature Brevium*, a mental retardate is defined as follows:

And he who shall be said to be a sot [i.e., simpleton] and idiot from his birth is such a person who cannot account or remember 20 pence, nor can tell who was his father or mother, nor how old he is, etc so as it may appear that he hath no understanding or reason of what shall be for his profit

46 Reprinted from *A History of Medical Psychology* by Gregory Zilboorg and George W. Henry, p. 298. By permission of W. W. Norton & Company, Inc. Copyright © 1941 by W. W. Norton & Company, Inc. Copyright renewed 1968 by Margaret Stone Zilboorg and George W. Henry.

47 Coleman, 1972.

heresy and witchcraft. People were required by an "edict of faith" to inform against their neighbors, friends, and relatives. Torture was often used to establish guilt where evidence was uncertain. Girls of thirteen and women of eighty were subjected to torture on the rack, and the ultimate punishment was burning at the stake where crowds showed little sympathy and often hostility toward the victims.⁴²

In such an atmosphere of almost total suspicion and superstition, it is remarkable that any dissenting voice spoke out. But Reginald Scot, who wrote a book entitled *Discovery of Witchcraft*, published in 1584, daringly denied the existence of demons, devils, and evil spirits as the cause of mental disorders:

You must know that the effects of sickness on men, and still more on women, are almost unbelievable. Some of these persons imagine, confess, and maintain that they are witches and are capable of performing extraordinary miracles through the arts of witchcraft; others, due to the same mental disorders, imagine strange and impossible things.⁴³

King James I of England, however, personally condemned Scot's position and prolonged the influence of demonology by ordering the book seized and burned. Unfortunately, Scot's work had little effect as a result.⁴⁴

The tradition of the *Malleus Maleficarum* did not die easily or quietly. The Puritans carried it into the Commonwealth of Massachusetts, and, although the last witch in Germany was beheaded in 1775 and the last in Switzerland in 1782, as late as the twentieth century (1928) a Reverend Montagne Summers, who translated the *Malleus Maleficarum*, supported its doctrine:

There can be no doubt that had this most excellent tribunal continued to enjoy its full prerogative and the full exercise of its salutary powers, the world at large would be in a far happier and far more orderly position today.⁴⁵

During the seventeenth and much of the eighteenth centuries, science and medicine gave up preoccupation with the human mind and left it to the theologian and philosopher. Since the demonological tradition still existed, the physician avoided the perplexing problem of separating body and mind or relating them in attempts to explain mental illness. It was generally believed that a faulty functioning of the body juices, partic-

42. Durant, 1957 43. Castiglioni, 1946, p. 253 44. Coleman, 1972

45. Reprinted from *A History of Medical Psychology* by Gregory Zilboorg and George W. Henry, p. 154. By permission of W. W. Norton & Company, Inc. Copyright © 1941 by W. W. Norton & Company, Inc. Copyright renewed 1968 by Margaret Stone Zilboorg and George W. Henry.

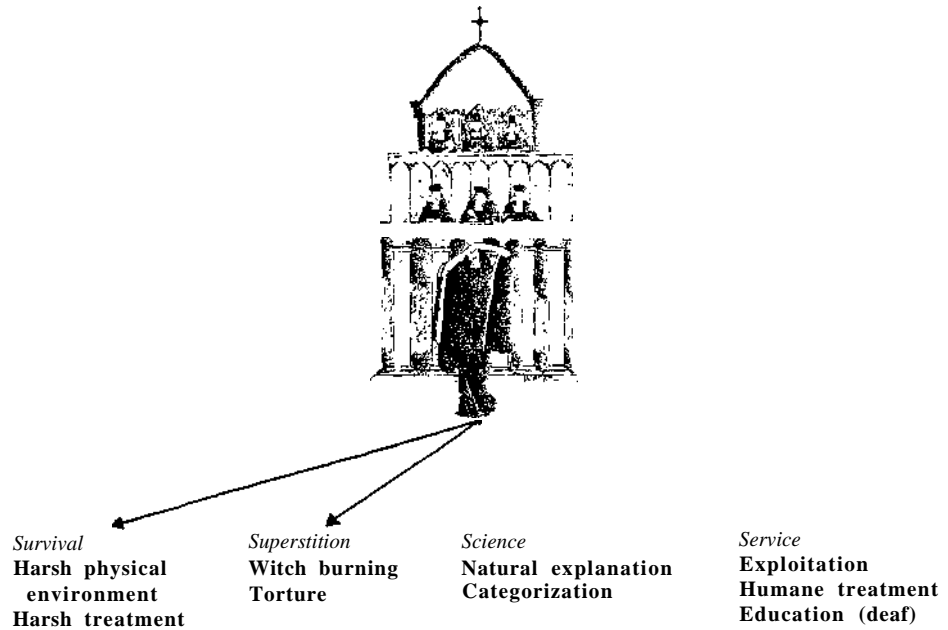


FIGURE 1-4
 Sixteenth and Seventeenth Centuries

Although not all who were accused of heresy under the provisions of the *Malleus* were mentally ill, hundreds of thousands of deranged individuals fell victim to accusations of being witches, sorceresses, or bewitched. There were few arguments that could hold up against the book. Individuals were viewed as responsible for whatever they did. If they succumbed to an illness that perverted their perception, imagination, and intellectual functions, they did so of their own free will. Individuals chose to succumb to the devil and must be held responsible for their choice. They must be punished, eliminated, and their souls set free again. Their bodies must be burned.⁴¹

The Spanish Inquisition was a well-organized, widespread attack on

41. Zilboorg & Henry, 1941

In Belgium in the fifteenth century a shrine was established at Gheel where pilgrims came from every part of the civilized world to receive treatment for mental illness. Many of the pilgrims remained in Gheel and lived with the inhabitants, who came to consider it a natural thing to accept them into their community and homes.⁴⁰

However, as theological beliefs concerning the cause of mental illness became more fully developed throughout most of Western Europe, mildness and gentle treatment gave way to extreme measures of flogging, starving, chaining, immersion in hot water, and torture, all designed to punish the devil residing within the deranged individual.

Thus, the stage was set for the cruel persecution of not only those who were deranged or who differed in religious belief but also those who were different in any way—those who looked differently, acted differently, or thought differently. The pendulum swing back toward harsh treatment that began in the Middle Ages was to reach its most devastating positions during a portion of the next period.

SIXTEENTH AND SEVENTEENTH CENTURIES

The pendulum continued to swing during the next two centuries, beginning with a backward movement but moving in time to positions of humanitarianism, reform, and education. The agents of movement were more varied during this period. Initially moving in a climate of religious persecution, the pendulum gradually fell more and more under the control of enlightened individuals whose increase in number resulted in the beginnings of more lasting hope and understanding for the exceptional individual.

In 1484, Pope Innocent VIII appointed two Dominican brothers, Johann Spreager and Heinrich Kraemer, as "Inquisitors of Heretical Depravities." Their charge was to investigate all persons considered heretics, without regard to rank or high estate. To bolster their position, the priests authored a text on witchcraft, *Malleus Maleficarum* (*The Witches' Hammer*), which declared that anyone who did not believe in witches was either in honest error or polluted with heresy. The text described various types of witches and how they might be identified, and presented legal procedures for examining and sentencing witches. Published sometime between 1487 and 1489, the book went through nineteen editions during the next three hundred years. It served as the keynote of the law for over two centuries, and otherwise enlightened individuals endorsed its doctrine.

40. Coleman, 1972

flesh." Finally . . . he would eat nothing. . . . Avicenna was persuaded to take the case. First of all he sent a message to the patient bidding him be of good cheer because the butcher was coming to slaughter him, whereat . . . the sick man rejoiced. Some time afterwards, Avicenna holding a knife in his hand, entered the sickroom saying, "Where is this cow that I may kill it?" The patient lowed like a cow to indicate where he was. By Avicenna's orders he was laid on the ground, bound hand and foot. Avicenna then felt him all over and said, "He is too lean and not ready to be killed; he must be fattened." Then they offered him suitable food of which he now partook eagerly, and gradually he gained strength, got rid of his delusion, and was completely cured.³⁶

Also in the eleventh century, the blind were offered instruction in Egypt at Cairo's University of Al-Azhar. The educational program extended over a twelve-year period and was based on memorization. Graduates became teachers or preachers in the mosques, and many sang or recited the Koran in public and in holy places. The treatment of the blind in Islamic countries was advanced over that of Europe, and Egypt was among the first countries to produce self-supporting blind scholars.³⁷

By the close of the ninth century, the blind in Japan had access to an academy where a variety of occupations could be learned. This academy was probably the first institution of its kind for the systematic education of the blind. The blind were trained in music, literature, religion, and massage. Over time the majority the sightless in Japan were accepted into guilds that were protected and controlled by law, and they practiced vocations of music, acupuncture, shampooing, and massage. By the early seventeenth century, the blind acquired a virtual monopoly over acupuncture and massage, the training for which covered a period of four to seven years.³⁸

In 1254 King Louis IX of France founded an institution for training the blind that, according to legend, was built for blinded crusaders. Later blind women were admitted, and the institution, called Congregation and House of the Three Hundred, enjoyed the favor of both the church and the state. It was later emulated in Italy, Germany, and Spain, and in time some sighted individuals with other physical handicaps were accepted into comparable institutions in these countries. However, the majority of the sightless in Europe did not gain access to such asylums, and they remained homeless beggars. The influence of superstition that remained strong throughout the Middle Ages led many to consider blindness a punishment for a sin, often of a sexual nature. As a result, blind individuals were often barred from admission to charitable institutions.³⁹

36. Browne. 1921, pp 88-89

38. Ibid

37. Kirtley, 1975

39. Ibid.

atry became the study of the ways and means of the devil and his cohorts. St. Gregory of Tours proclaimed that he who was worthy of "celestial" cures needed no help from "terrestrial" doctors for treatment of mental illness. In order to combat the evils of the devil, it was felt that his ways must be studied and signs of his influence determined. One way to determine such a sign was the *stigmata diaboli*, established in the third century. When individuals were suspected of being under the influence of Satan, their bodies would be pricked with a needle by inquisitors who hoped to find the insensitive area that was thought to be a vulnerable entry point for the devil and proof of his influence.

In Western Europe from the sixth to the eleventh centuries, the medieval mind was filled with superstitious beliefs involving trolls, elves, giants, fairies, goblins, gnomes, ogres, banshees, dragons, and vampires. Dead men walked the air as ghosts; men whose souls were sold to the devil roamed the woods as werewolves; and the souls of children who died before baptism haunted the marshes as "will-o'-the-wisps." Herbs, stones, amulets, rings, and gems were worn as protection against devils, and belief in witchcraft was next to universal.³³

Although the mentally ill were considered possessed by evil spirits, widespread torture and mass executions of "witches" and "sorceresses" did not appear for some time.³⁴ Initially, prayer and religious ceremonies were seen as the logical curative approach. Gradually the beliefs that physical illnesses were natural and that mental illnesses were mostly supernatural began to gain acceptance. To effect differential diagnosis, a passage from the Bible might be shouted into the ear of a patient having convulsions. A response was considered proof that the illness was the result of demoniacal possession because the holy words had frightened the demon. If, however, the patient remained unaffected, the illness was seen as natural.³⁵

Treatment of the mentally ill, many of whom were abandoned by their families, was left largely to priests, and monasteries became refuges for many deranged individuals. There they were often treated with kindness and mild forms of exorcism such as "laying on of hands."

The Arab world had inherited predominantly Greek scientific thought; in the eleventh century Avicenna stands as one of the rare enlightened individuals of this era who approached mental illness in a rational and remarkably creative manner. The case below shows his unique treatment of a mental patient.

A certain prince . . . was afflicted with melancholia, and suffered from the delusion that he was a cow . . . he would low like a cow, causing annoyance to everyone, . . . crying, "Kill me so that a good stew may be made of my

33. Durant, 1950

34. Zilboorg & Henry, 1941

35. Ibid.

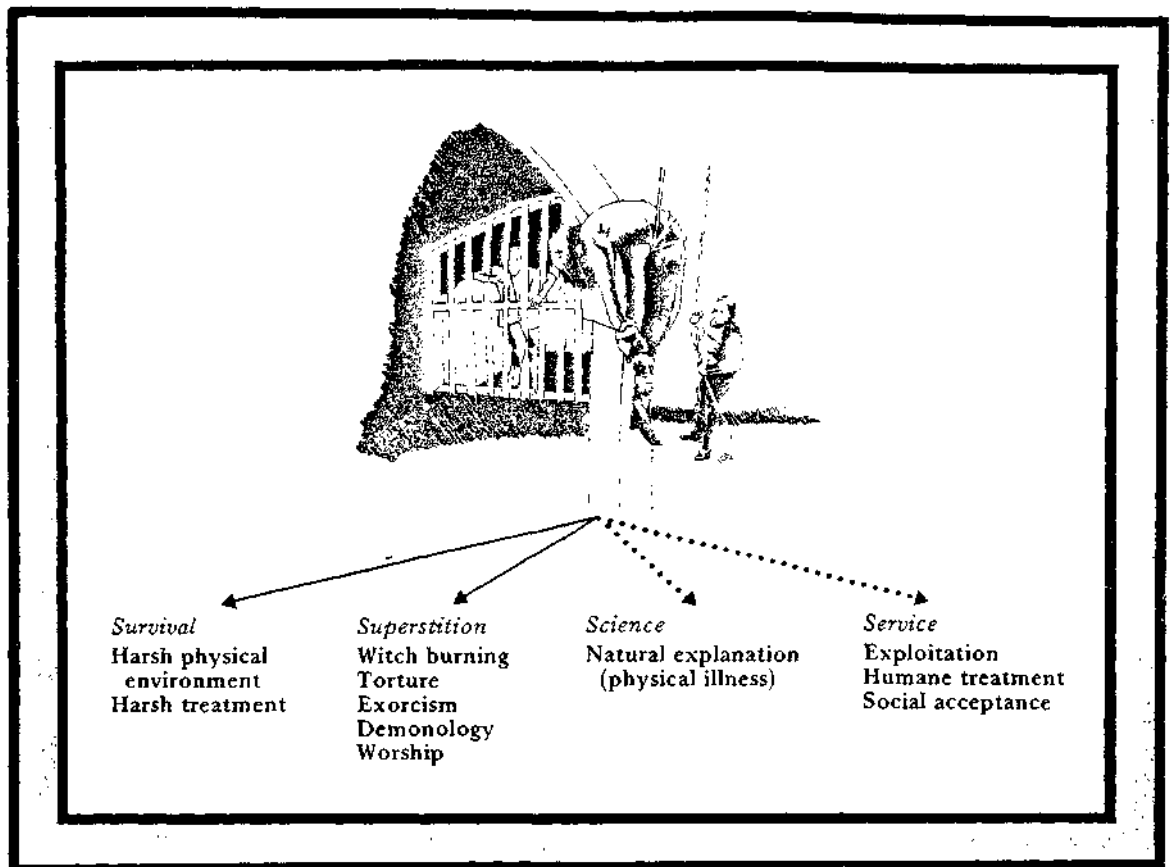


FIGURE 1-3

Middle Ages

only infants" or "infants of the good God" who enjoyed the special favor of the Almighty and whose jabberings were regarded as heavenly communication. The house in which a mentally defective was born was considered divinely blessed, and in Europe such individuals were often accorded special privileges and allowed to roam unmolested.³¹ During the course of the Middle Ages, however, the treatment of the mentally defective varied; they were favored as "innocents," tolerated as fools, or persecuted as witches.⁸²

On the other hand, the mentally ill suffered uniformly from the new theology and the inevitable return to demonology and the many ancient superstitions that accompanied it. Hostility to science grew intense; psychi-

31. Wallin, 1955 32. Doll, 1962

slightly better reprimand and an explanation of the advantage derived from proper conduct.²⁸

In his therapeutic procedure, Soranus reported that the sound of falling water often induced sleep and that warm sponges applied to the eyelids might induce relaxation. He also described an incipient type of psychotherapy in which laborers should be engaged in conversation about cultivation of the field and sailors in discussions of navigation.²⁹

In the work of Aretaeus and Soranus we see a remarkable advancement in understanding and treating the mentally ill, but it did not persist or gain permanent acceptance. The Greek and Roman period is well suited to our pendulum-swinging analogy. During this time almost the full range of attitudes toward and treatment of the mentally ill was apparent. The striking but unfortunately brief positions of naturalism and humanitarianism achieved by the Greeks and Romans were in marked contrast to the demonological traditions that were maintained. These traditions were to overshadow and dominate as agents of movement of the pendulum during the period of the Middle Ages.

MIDDLE AGES

During the Middle Ages, the pendulum range again covers the extremes of our historical determiner dimension. With the rise of deep religious conviction throughout the world, the feeble-minded and physically handicapped received more humanitarian care, but the causes of deviant behavior were increasingly linked to the influence of Satan himself. Thus, religion and religious beliefs become the major agents for movement of the pendulum during this period.

The agonies brought about by war, poverty, and barbarism turned individuals toward seeking the hope of happiness beyond the grave and away from the thousand years of rationalism that had been developing. In the early fifth century AD, St. Augustine was a representative spokesman for the time. He believed that from birth human will was inclined to evil and could only be turned to good by a gratuitous act of God.³⁰

The influence of Christianity introduced commiseration, solicitude, and care for many handicapped individuals. The mentally defective often gained prestige as court fools or jesters. They were even exalted as "heav-

28. Reprinted from *A History of Medical Psychology* by Gregory Zilboorg and George W. Henry, pp. 81-82. By permission of W. W. Norton & Company, Inc. Copyright © 1941 by W. W. Norton & Company, Inc. Copyright renewed 1968 by Margaret Stone Zilboorg and George W. Henry.

29. *Ibid.* 30. Durant, 1950

welfare approach to the blind and for providing the blind with gainful employment so that they could lead independent lives. However, neither the Roman army nor the emperor had any appreciable effect on the treatment of the ordinary blind in Rome.²²

History suggests that at least four Roman rulers were mentally ill: Nero, Commodus, Elerabulus, and Caligula.²³ Commodus was known to periodically gather crippled individuals together and use them for target practice with a bow and arrow.²⁴

While the movement of the pendulum toward scientific understanding initiated by the Greeks continued in the days of the Roman Empire, new and original contributions from the Romans did not appear until the middle of the first century BC. At that time, Asclepiades advocated humane treatment of the mentally ill, including prescriptions of hydrotherapy, massage, sunshine, exercise, and abstinence from meat. He also violently objected to bleeding and placement of the deranged in dark cells and dungeons.²⁵²⁶ In contrast, Celsus recommended harsh measures for controlling and treating the mentally ill individual.

When he has said or done anything wrong, he must be chastised by hunger, chains and fetters. He must be made to attend and to learn something that he may remember, for thus it will happen that by degrees he will be led to consider what he is doing.²⁷

Celsus also advocated keeping some patients in total darkness, shaving their heads, anointing them with rose oil, and using bleeding and morphine-like medications.

In the first century AD, Aretaeus was perhaps two thousand years ahead of his time when, in describing various disturbed mental states, he paid particular attention to what patients thought and felt. In the second century AD, Soranus also considered the thoughts and feelings of the mentally ill important. He attacked those who placed patients in darkness, deprived them of food and water, and treated them as "ferocious beasts." His methods of treatment are handed down to us in detail:

Maniacs must be placed in a moderately lighted room which is of moderate temperature and where tranquility is not disturbed by any noise, No paintings should adorn the walls. . . . Much tact and discretion should be employed in directing attention to their faults; sometimes misbehavior should be overlooked or met with indulgence; at other times it requires a

22. Kirdly, 1975

23. Wallin, 1955

24. Durant, 1944

25. Zilboorg & Henry, 1941

26. Durant, 1944

27. Zilboorg & Henry, 1941, p 70

case with other ancient peoples, it was regarded as the worst possible affliction. But the common people often attributed supernatural powers to the gifted blind, and their extraordinary abilities were viewed as compensatory gifts of the gods. Some talented blind individuals gained acceptance as musicians, and the blind bard with his boy-guide reciting heroic verse to the accompaniment of his lyre was a fairly common sight in towns and villages. The legendary Homer was such a wanderer. The status of the blind was more favorable in Greece than in Rome, for Athens actually awarded subsistence pensions to its needy citizens, not on the basis of charity, but as a right of citizenship.¹⁹

Despite such concern for the blind and the efforts of Hippocrates and Aristotle to introduce naturalistic explanations for mental illness, powerful forces lingering from the past and the belief in demons were destined to periodically exert a dominant influence on the movement of the pendulum. Thus, the conflict over natural versus supernatural causes for physical and mental disorders continued for almost two thousand years.

Roman Attitudes and Practices. The Roman practice of infanticide permitted the father to expose to death any child who was deformed or female. Eight days after birth, the child formally became a member of the most basic Roman institution, the patriarchal family, by means of a solemn ceremony. The father, however, had continuing power over his children of life, death, and sale into slavery. Abandonment of children was a widespread practice; Seneca records that professional beggars often collected such children, deliberately maimed them, and then used them to solicit alms from charitable passersby.²⁰ If this practice was truly profitable, it suggests that a compassionate attitude toward deformity must have existed among some of the Roman populace. The well-to-do Romans also began the practice of accepting "natural fools" or imbeciles into their homes, where they functioned as buffoons or objects of amusement at social gatherings.²¹

In Rome there were a limited number of blind musicians, poets, lawyers, and scholars. Cicero was tutored in philosophy and geometry by a blind scholar. But most of the sightless were rejected and lived in extreme poverty. Blind boys were often trained to beg or sold as galley slaves, while blind girls were frequently forced into prostitution. Unlike Athens, Rome provided no official state aid for the unfortunate, and humanitarianism was not fostered by either religion or philosophy. Yet history does record that the Roman army administered aid to its blinded veterans and that the emperor, Hadrian, praised the Egyptians for their

19. Kirtley, 1975

21. Wallin, 1955

20. Barclay, 1959

It thus appears to me to be in no way more divine, nor more sacred than other diseases, but has a natural cause from which it originates like other affections. . . . If you cut open the head, you will find the brain humid, full of sweat, and smelling badly. And in this way you may see that it is not a god which injures the body but disease.¹³

Plato a contemporary of Hippocrates, suggested that the care of the mentally ill be assumed by the family:

If anyone is insane, let him not be seen openly in the city, but let the relatives of such a person watch over him in the best manner they know of; and if they are negligent, let them pay a fine.¹⁴

Plato also supported the practice of eugenics in his *Republic*.

As soon as children are born, they will be taken in charge by officers, appointed for the purpose. The children of the better parents they will carry to the creche to be reared in the care of nurses living apart in a certain quarter of the city. Those of inferior parents and any children of the rest that are born defective will be hidden away, in some appropriate manner, that must be kept secret.

Plato also advocated identifying children with superior intelligence at an early age and providing specialized instruction in science, philosophy, and metaphysics for them. These most intelligent and knowledgeable citizens would become leaders of the state; Plato felt survival of Greek democracy was contingent on the selection and education of gifted individuals for leadership.¹⁶

Infanticide continued to be practiced in Athens; infants who were of doubtful parentage or who were weak or deformed were left in large earthenware vessels near a temple where they would either perish from exposure or animal attack or be rescued for adoption by passersby. When a child was born, it was "laid" at the father's feet. If he acknowledged the child by lifting it up in his arms, he accepted the responsibility for retaining and nourishing it. If he did not pick it up, the child would be exposed to the elements.¹⁷

Aristotle considered mental illness as a physical disorder and rejected the notion that psychological factors such as frustration and conflict could cause mental disorders.¹⁸ Among the Greeks, blindness was traditionally considered divine punishment by the gods for sin and, as was the

13. Zilboorg & Henry, 1941, pp. 43-44

14. Coleman, 1972, p. 28

15. Cornford, 1945, p. 107

16. Kirk, 1972

17. Durant, 1956

18. Coleman, 1972

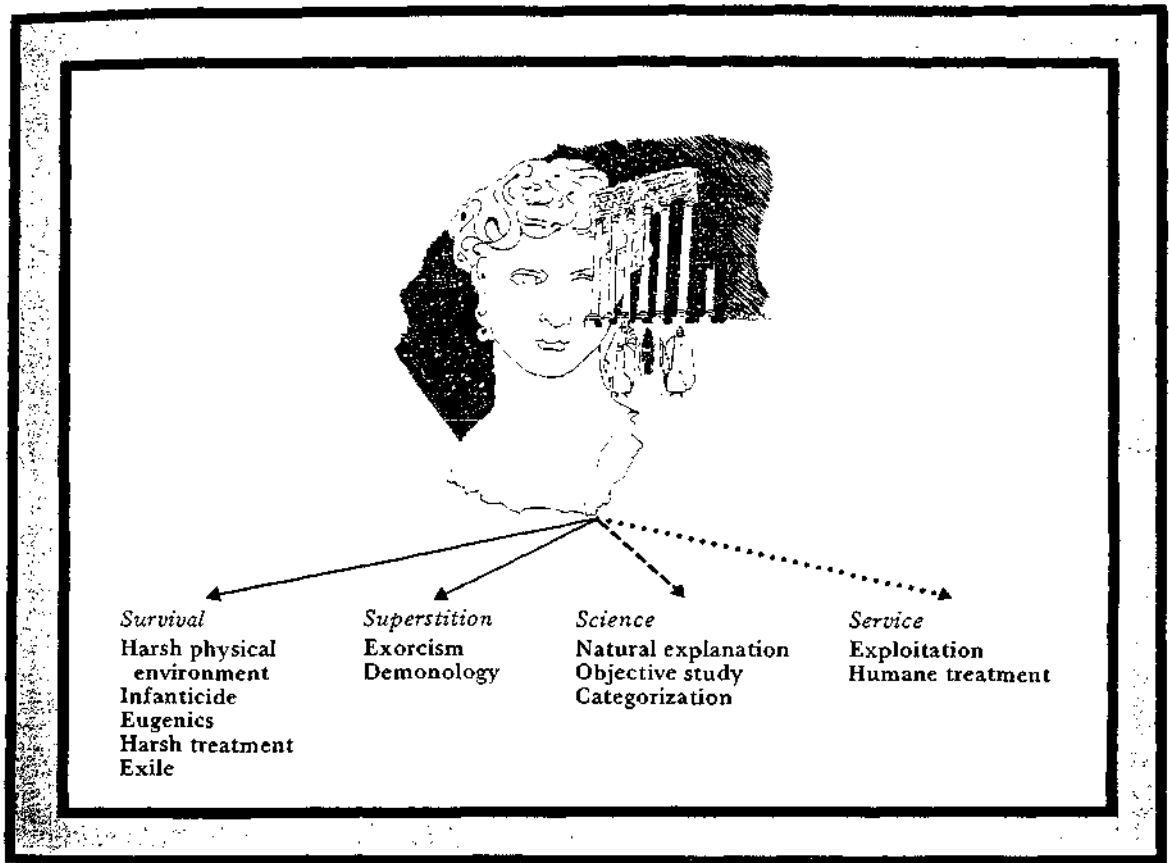


FIGURE 1-2
Greek and Roman Period

conducted calling upon the gods to appear and produce a miraculous cure.¹¹ All sickness was considered the result of possession by an alien spirit and ceremonies of purification were considered essential. From time to time homes, temples, camps, and even entire cities were "purified" by water, smoke, or fire.¹²

During the fourth and fifth centuries BC Hippocrates moved the pendulum from its position of mythology and demonology in Greece toward scientific understanding and treatment of many exceptional individuals. He challenged the belief that illness was the result of the anger of the gods. He also dismissed the notion that epilepsy, considered "the sacred disease," was divinely caused. According to Hippocrates:

11. Zilboorg & Henry, 1941 12. Durant, 1966

The Babylonian world was filled with hostile demons who might hide in strange crannies or slip through doors and pounce on their victims in the form of illness or madness when the sacred protection of the gods was absent. Giants, dwarfs, cripples, and particularly women sometimes had the power to turn "the evil eye" on their enemies who often partially protected themselves with magic amulets, talismans, and charms. Early Babylonian writings were largely devoted to describing magic formulas for eliminating demons and avoiding evil.⁷

The ancient Egyptians were unique in forbidding infanticide; Egyptian parents guilty of this crime were required to hold the dead child in their arms for three days and nights.⁸ The Egyptians also believed profoundly in immortality and often engaged the services of blind individuals as professional mourners over the dead.⁹

Thus, early peoples accepted, rejected, and even worshipped the individual who was different in appearance or behavior and developed elaborate demonological systems to explain as well as to treat such differences.

GREEK AND ROMAN PERIOD

During the Greek and Roman period, the pendulum again swung largely between survival and superstition, although attempts at scientific understanding, medical treatment, and humanitarian reform appeared for a significant, if brief, moment in history. The agents for moving the pendulum momentarily away from superstition and demonology were the scholars, philosophers, and physicians of Greece and Rome.

Greek Attitudes and Practices. Ruthless eugenics was practiced in the Greek state of Sparta. Every child was vulnerable to his father's right of infanticide and to the judgment of a state council. Infants who appeared defective were thrown from a cliff on Mount Taygetus and left to die on the jagged rocks below. The "survival of the fittest" doctrine of the state continued through early life, with Spartan infants experiencing much discomfort and exposure. At age seven, male children entered a military regiment and school where they had to endure severe punishment and discipline.¹⁰

Prior to Hippocrates, the Greeks believed that mental illness was caused by the gods taking the mind away. Treatment of the mentally ill was attempted at the Aesculapian temples where religious ceremonies were

7. Durant, 1954 9. Sigerist, 1943
8. Durant, 1966 10. Durant, 1966

mother had died during the birth process. However, children born blind may not have been destroyed since visual disability may not be recognizable at birth.¹ Infants born under unlucky circumstances might also be killed.

For children who survived, adult life began at six or eight years of age when they left the family, set up their own huts, and took wives within only a few years. The rigor of the natural environment soon eliminated the weak or infirm. Courage and physical strength were the requisites for survival, not mental agility; primitive languages reflected this in that they were largely limited to the sensual and concrete and were uniformly poor in general or abstract terms.²

In cases in which primitive individuals were physically sound but became deranged and behaved differently from members of their community, they might be feared and considered to possess supernatural power. If they were possessed by a good spirit, then they were naturally admired and revered; but if the spirit were considered evil, the individual might be indulged in order to appease the spirit and prevent its revenge. This indulgence and reverence lasted only until the notion of driving out evil spirits through ceremonial rites conducted by individuals of high station, such as priests, was conceived.³

The earliest "psychiatry" was practiced by Stone Age cave men some half-million years ago. In cases of mental illness associated with severe headaches or convulsive disorders, a crude operation called *trephining* was often performed. A circular area of the skull was chipped away with a stone instrument, thus permitting the evil spirit that was responsible to escape. Since it appears that some patients survived such treatment, the operation might have been successful and actually relieved a certain amount of pressure on the brain.

Early writings of the Chinese, Egyptians, and Greeks reflect a belief that mental disorders were the result of demons that had taken possession of an individual. Among the ancient Hebrews, such disorders were thought to represent the wrath and punishment of God. The primary treatment consisted of *exorcism*, an attempt to drive the spirit from the possessed through prayer, incantations, noisemaking, purgatives, flogging, or starving.⁴ It also appears that in some parts of China a tradition of kindness and understanding toward the mentally ill existed⁵ and that, contrary to Western belief, the ideal of individual human worth first emerged in the Orient, not the Middle East. In ancient China it was not uncommon to find blind scholars, soothsayers, storytellers, and musicians. Confucius, for example, was tutored in music by a blind musician.⁸

1. French, 1932

2. Zilboorg & Henry, 1941

3. Ibid.

4. Coleman, 1972

5. Zilboorg & Henry, 1941 —

6. Kirtley, 1975

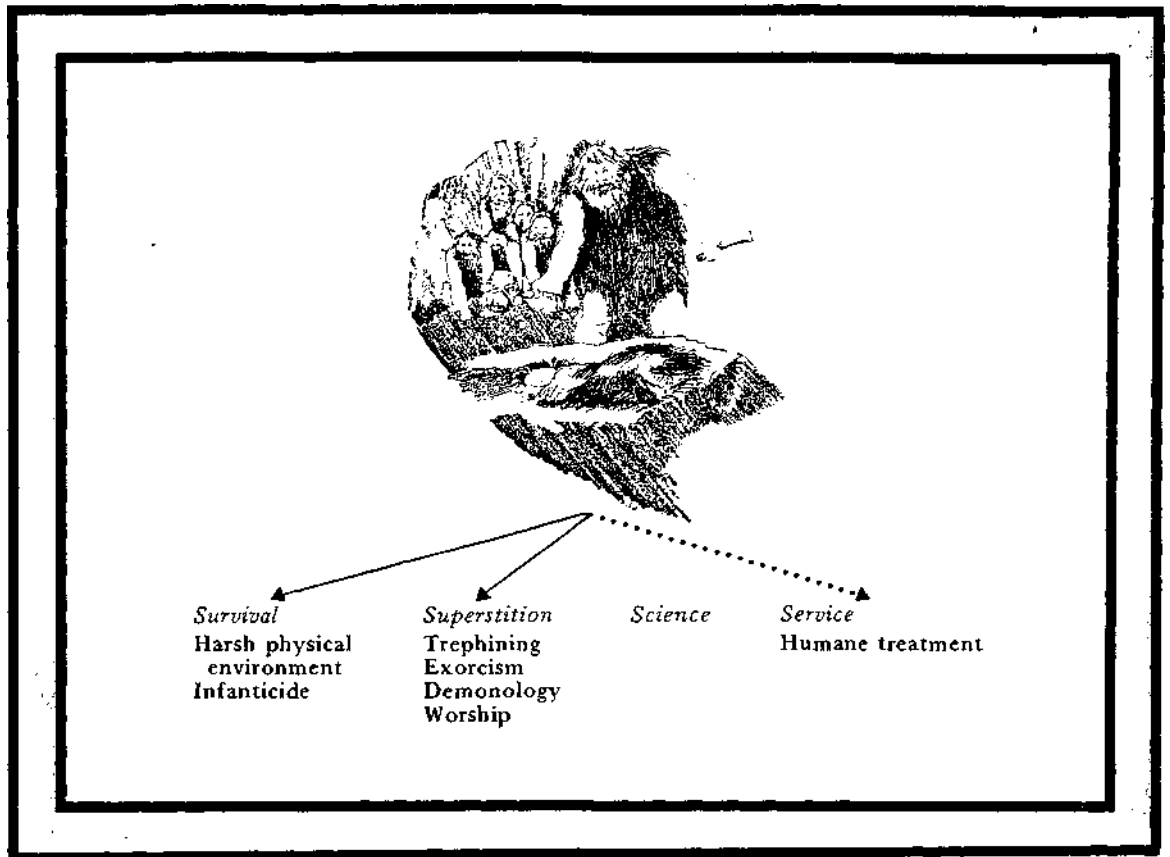


FIGURE 1-]
Primitive and Ancient Period

marked trend, a broken line a moderate trend, and a dotted line a minor trend. For each time period, we will discuss the attitudes toward, and treatment of, exceptional individuals related to the positions of the pendulum and the agents responsible for its movement.

PRIMITIVE AND ANCIENT PERIOD

During primitive and ancient times the pendulum largely resided between survival and superstition. The natural elements, demonology, and religious beliefs were the primary agents of movement. In the earliest primitive societies, physical abnormalities were not common beyond infancy because most tribes permitted the killing of a newborn if sickly or if the

TABLE 1-1
Historical Determiners of the Treatment of the Handicapped

<i>Survival</i>	<i>Superstition</i>	<i>Science</i>	<i>Service</i>
harsh physical environment	sacrifice	natural explanation	exploitation
infanticide	witchburning	categorization	humane treatment
eugenics	torture	objective study	custodial care
harsh treatment	trephining	psychological theory	education
exile	exorcism	demonology	social acceptance
	worship	mental measurement	
		research	

man period (500 BC to AD 400); *Middle Ages* (AD 400-1500); *sixteenth and seventeenth centuries* (1500-1700); *eighteenth century* (1700-1800); *nineteenth century* (1800-1900); and *twentieth century* (1900-present).

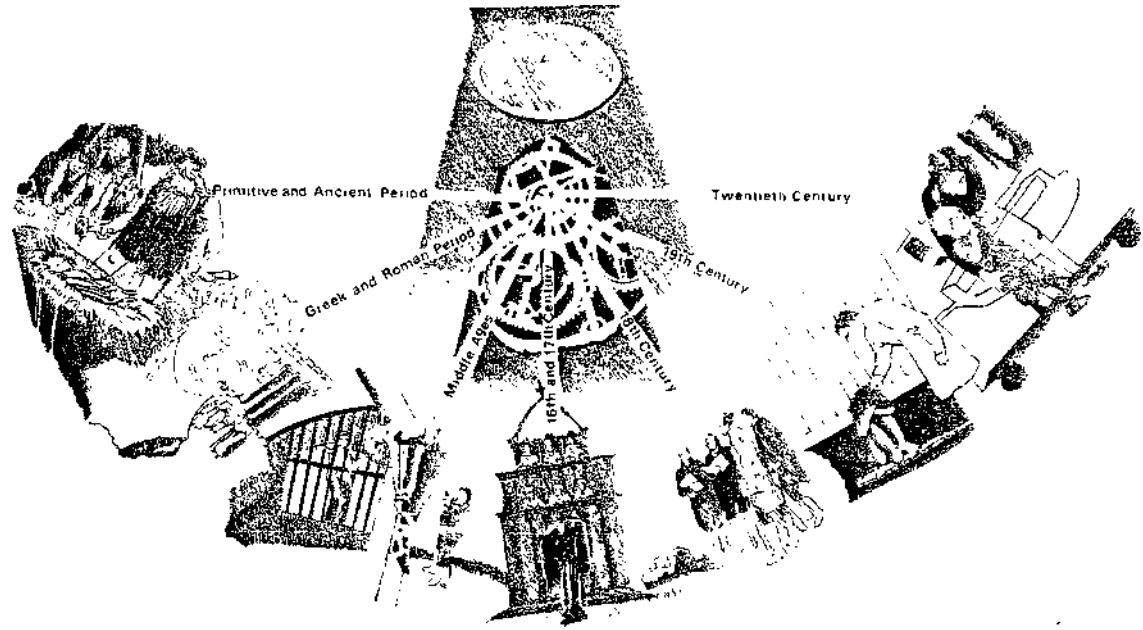
During each of these periods we shall discuss the four historical determiners of the treatment of the handicapped, using a swinging-pendulum analogy. History does not record an orderly progression of positive trends in relation to the treatment of individuals who were different; rather, it displays a highly variable and widely discrepant range of trends during most historical periods. What accounted for the movement of the pendulum during these periods? It was determined by nature, irrational and rational beliefs, social and economic conditions, religion, law, and, finally, by knowledge. It also was determined by certain individuals whose convictions and contributions during critical moments of history had far-reaching effects, some negative and some positive.

Categorization of the handicapped is a fairly recent practice. Throughout most of history, perhaps the only categories that mattered were the *weak*, the *odd*, and the *poor*. In addition, children received little special attention or consideration separate from adults. Most physically defective infants and children died early in life from either infanticide or inability to cope with the rigors of the environment. Children who were peculiar in their behavior were treated no differently than adults. As we shall see, children have only recently become individuals in their own right—physically, socially, and emotionally. Most of this chapter concerns the plight of individuals subjected to demands for survival and adaptation by the environment and judged, accepted, or rejected by others regardless of age or size.

In the following discussion, we will present the historical determiners in relation to each time period and illustrate the range of the pendulum swing that took place. In the following figures, a solid line indicates a

The roots of the field of special education can be traced to the beginnings of human existence. They can be traced to primitive times when human beings first became aware of those whose appearance and behavior differed from what was typical of the majority. Over the course of history, people have reacted to such differences in a variety of ways, ranging from the cruel to the humane. Those who were different have been destroyed, tortured, exorcised, sterilized, ignored, exiled, exploited, and even considered divine. Their problems have been crudely explained in terms of superstition and levels of scientific understanding. They have been pitied and cared for. And, finally, they have been gradually accepted and educated. But in reviewing the history of attitudes toward, and the treatment of, exceptional individuals, we must initially leave the context of "education." This represents a fairly recent consideration. Long before the handicapped were understood, protected, accepted, and given the benefits of an education, they had to cope with survival in a world where the harshness of both nature and those around them threatened their very existence. Special education in contemporary society has evolved from our basest to our highest nature, from our most irrational to our most rational behavior, and from our most ignorant to our most enlightened understanding of ourselves.

As a starting point in the transitional journey of this book, we will review the attitudes toward and treatment of the exceptional individual that are a part of the history of the past three thousand years. Our discussion will focus on four historical determiners that have been particularly relevant to the plight of the handicapped over the centuries. The first determiner is the *threat to survival* due to harsh treatment by the physical and social environment. The second determiner is *superstition*; as it related to the appearance and behavior of the handicapped, it was of major significance. The third determiner, *science*, which is directly opposed to superstition, refers to attempts to approach exceptionality in a natural, lawful, and objective manner. The fourth determiner is *service*, the direct opposite of threat to survival. This encompasses the care, humane treatment, and social acceptance afforded the handicapped. These four determiners are set forth in Table 1-1 along with major examples of each of them. Historically, we will follow a chronological order based on the following periods: *primitive and ancient* (3000 BC to 500 BC); *Greek and Ro-*



II



1. Historical Origins

Illustrations by Steve McAdam



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