Disabled Libraries: An Examination of Physical and Attitudinal Barriers to Handicapped Library Users

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The 36 million physically and mentally disabled or handicapped persons in the United States constitute our largest and most heterogeneous minority. Their problems should be of interest to us all since, potentially, anyone can become disabled; yet throughout history the handicapped have been subjected to various forms of discrimination and to a number of environmental and social barriers whenever they have attempted to lead active lives. Within the last decade this plight of the handicapped has been recognized as a national concern and steps have been taken at all levels of government to alleviate the barriers to their full participation in our society.

Section 504 of the Rehabilitation Act of 1973 is a landmark in that it represents the first Federal civil rights legislation fashioned to protect the rights of the handicapped and to end discrimination on the basis of handicap. The Act provides that "[n]o otherwise qualified handicapped individual . . . shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." This is a mandate to end discrimination and to bring the handicapped into the mainstream of American life.

This mandate represents a challenge to all elements of society which provide or should be providing service to the handicapped. Libraries are no exception. It is imperative that librarians take the steps necessary to make their libraries and services accessible to handicapped library patrons and employees. Barriers in the library environment need to be identified and action must be taken to eliminate or counter them if possible. The elimination of barriers can be a simple process requiring only common sense and a sensitivity to the problem; however, there are frequently complex political, social and economic ramifications which must be considered. Librarians must be aware of these ramifications as well as the legal, professional and practical aspects of providing access to collections and services for a large and growing segment of the population.

Laws - Regulations - Standards

The Rehabilitation Act of 1973 defines the term "handicapped individual" as "...any person who (A) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (B) has a record of such impairment or (C) is regarded as having such an impairment." The terminology of this definition has been expanded upon in regulations promulgated by the Department of Health, Education, and Welfare.

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1 Estimates of the number of handicapped persons vary from 7.2 million to 50 million, with 36 million being the most frequently utilized estimate. This diversity results from the large number of definitions of handicapped which have been used. See U.S. DEPT. OF HEALTH, EDUCATION, AND WELFARE, THE WHITE HOUSE CONFERENCE ON HANDICAPPED INDIVIDUALS: SUMMARY FINAL REPORT (1978); J. P. Northrup, Old Age, Handicapped and Vietnam - Era Antidiscrimination Legislation 70-74 (1977). For purposes of this article the terms disabled and handicapped will be used interchangeably although the author recognizes that there is a distinction. A disabled person is one with an impairment which interferes with a bodily function or activity for six months or longer. "When disability, in interaction with a specific set of environmental conditions, makes an individual unable to perform certain activities, we say that he or she is handicapped." F. Bowe, Handicapping America 16 (1978).

5 29 U.S.C. § 706(b)(1970). Since the employment of the handicapped is beyond the scope of this article, portions of the definition dealing with employment have been deleted.
6 45 C.F.R. § 84.3(j)(2) (1978). (i) "Physical or mental impairment" means (A) any physiological
This definition is quite broad and is applicable to a far greater range of persons than one might traditionally have considered to be handicapped. Both physically and mentally disabled persons are included as well as those who have a history of an impairment or are just regarded as having an impairment by others even if they do not actually have it. Included are such afflictions as drug addiction, alcoholism, heart disease, cancer, epilepsy and speech or hearing defects. Librarians must be aware of and sensitive to the needs of those individuals who are handicapped within the meaning of the above definition, for failure to provide access or to adjust programs with respect to them may place the library or its parent institution in violation of state, federal or local laws and regulations.

While there is a significant body of federal legislation dealing with the handicapped, libraries are not singled out in this legislation for special treatment or concern but much of

disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special organs; respiratory, including speech organs; cardiovascular; reproductive, digestive, genitourinary; hemic and lymphatic; skin; and endocrine; or (B) any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities. (ii) “Major life activities” means functions such as caring for one’s self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. (iii) “Has a record of such an impairment” means has a history of, or has been misclassified as having, a mental or physical impairment that substantially limits one or more major life activities. (iv) “Is regarded as having an impairment” means (A) has a physical or mental impairment that does not substantially limit major life activities but that is treated by a recipient as constituting such a limitation; (B) has a physical or mental impairment that substantially limits major life activities only as a result of the attitudes of others toward such impairment; or (C) has none of the impairments defined in paragraph (j)(2)(k) of this section but is treated by a recipient as having such an impairment.

There are more than 100 different programs for the handicapped in the federal government. Speech by President Jimmy Carter (May 23, 1977) printed at 2 U.S. DEPT. OF HEALTH, EDUCATION, AND WELFARE, WHITE HOUSE CONFERENCE ON HANDICAPPED INDIVIDUALS; FINAL REPORT, Part A, 100 (1978); see SOME FEDERAL STATUTES WHICH MANDATE ACCESSIBILITY, 3 AMicus 41 (1978). The legislation is still applicable to libraries directly or through a parent institution. Because of the great variety of types of libraries, it is possible that more than one of these federal acts could be applicable to a particular library. Clearly, any library housed or operated by the federal government is subject to the equal access legislation. In fact, libraries which have any program or activity receiving federal financial assistance are subject to the provisions of the Rehabilitation Act of 1973. This therefore includes most libraries associated with primary or secondary schools, colleges or universities, hospitals, social service agencies, or any other libraries or parent institutions which have received funds through the Department of Health, Education, and Welfare.

The Rehabilitation Act prohibits discrimination on the basis of handicap in programs and activities and in employment. As employers, libraries must make reasonable accommodation to the handicaps of present employees and job applicants unless the accommodation would result in undue hardship to the employer. As providers of services, libraries are required to make programs operated in existing facilities accessible to handicapped persons, to ensure that new facilities are constructed so as to be readily accessible and to operate library programs in a nondiscriminatory manner. Note that the key is program accessibility, not necessarily building accessibility. The regulations were carefully drawn to indicate this distinction.

The regulations make it clear that a covered library may not deny a qualified handicapped person the opportunity to participate in or

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10 Education for All Handicapped Children Act of 1975, 20 U.S.C. § 1412(b) (1976), for example would appear to be applicable to elementary and secondary public school libraries under the notion of related services offered in the least restrictive environment consistent with the needs of handicapped students. See generally U.S. DEPT. OF HEALTH, EDUCATION AND WELFARE, A SUMMARY OF SELECTED LEGISLATION RELATING TO THE HANDICAPPED: 1975-76 (1977).


13 45 C.F.R. § 84.2 (1978).


benefit from library services, or provide unequal services, or ineffective services. Different or separate aid, benefits or services to handicapped persons are acceptable, but only if necessary to provide services or programs as effectively as those provided to others. While services are required to be equally effective, they need not always result in an identical level of achievement for both the handicapped and the nonhandicapped, but they must allow for equal opportunity in the most integrated setting appropriate. Such services must be made accessible even if no impaired persons are known to live in the library's service area at the time.

Equal opportunity in the areas of library services, programs and employment may be meaningless or even impossible if library physical facilities are inaccessible to or unusable by handicapped persons. Since discrimination in programs resulting from inaccessible facilities is prohibited, librarians must be concerned with program accessibility in existing facilities and when planning for new construction or alterations.

The demands for compliance made upon existing facilities are less stringent than those for new facilities or alterations. In existing facilities, programs or activities may be viewed in their entirety to determine if they are accessible and it is not required that every part of the library be accessible to and usable by the handicapped. Structural changes need not be made in existing buildings where alternative methods are available to meet the program accessibility requirements. However, if services can be provided in a more accessible part of the library, or if home delivery of material is possible, or materials and services can be provided in an alternative accessible site, such as in a bookmobile, or if clerical or volunteer aid can be provided to reach books on high shelves, then structural changes may not be needed. In providing these alternatives, however, priority must be given to the most integrated setting appropriate.

The standards for new construction of or major alterations to a library are more stringent than for existing structures. New construction must be designed and constructed so that it is readily accessible to and usable by handicapped persons. Alterations to an existing library which affect the usability of that facility must be made to provide accessibility to the greatest extent feasible. The federal regulations have adopted by reference the American National Standards Institute accessibility standards. Design, construction or alteration of libraries in conformance with these standards constitutes compliance with all accessibility requirements for new construction.

The American National Standard Specifications for Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped are "intended to make all buildings and facilities used by the public accessible to, and functional for, the physically handicapped." These standards identify, define and describe in great detail the criteria and specifications necessary to improve the physical environment for handicapped persons. In addition, such general information as specifications for wheelchairs and the space needed to function in a wheelchair or on crutches, plus data on site development are provided. It should be noted that the standards are expressed in minimally acceptable terms and should therefore not always be the maximum provided.

State and local governments have also recognized the need to eliminate barriers to accessibility. All of the states now have laws dealing with architectural barriers to the handicapped. Many of these states have incor-

\*\*\* All buildings for which site clearance was begun after June 3, 1977 would be subject to the standards. U.S. Dept. of Health, Education, and Welfare § 504 Fact Sheet 2 (1978).
\*\*\* 45 C.F.R. § 84.23(a) (1978).
\*\*\* 45 C.F.R. § 84.23(b) (1978).
\*\*\* 45 C.F.R. § 84.23(c) (1978).
\*\*\* 45 C.F.R. § 84.23(e) (1978).
\*\*\* ANSI A 117.1-1961 (R 1971); [hereafter each standard will be referred to as ANSI and its number].
\*\*\* ANSI 1.2, supra note 31.
\*\*\* ANSI 3, 4, 5, supra note 31.
\*\*\* Steinfeld, Developing Standards for Accessibility in Barrier-Free Environments 84 (M. Bednar ed. 1977).
\*\*\* Schäfer, Removing the Hidden Barriers to Accessibility, 3 AMICUS 43 (1978); ALA CODE § 21-4-3
porated the American National Standards Institute accessibility standards into state laws, while a few states have incorporated them into their state building codes and yet other states have adopted their own standards. Local building codes and municipal ordinances may also have significance with respect to planning for accessibility, so it is imperative that librarians familiarize themselves with the laws and regulations of local as well as their particular state governments. A number of informative sources are available at the state and local level to provide guidance through this myriad of legislation and regulations. The


** See, e.g., DEPT. OF REHABILITATION STATE OF CALIFORNIA, DIGEST OF STATE LAWS RELATING TO THE

sources often provide other useful information such as addresses of agencies and bibliographies.

**Professional Responsibility**

Beyond the legal duty to provide access to programs, services and facilities, there exists a professional responsibility to meet the needs of the handicapped library patron in a non-discriminatory fashion. Surprisingly, the Library Bill of Rights does not specifically recognize this responsibility. Article 5 states that "[T]he rights of an individual to the use of a library should not be denied or abridged because of his age, race, religion, national origins, or social or political views." Nowhere is discrimination based upon handicap mentioned, nor is it mentioned in the new draft of the Library Bill of Rights dated January 11, 1979. Nevertheless, it seems clear that librarians are obligated professionally to meet the demands of library patrons having a reasonable need for their services or resources, including the handicapped.*
It is altogether too easy for a librarian to underestimate these needs by assuming that there is no demand for library services by the handicapped or that there are not a significant number of handicapped people in the community to make the effort worthwhile. The reason may be that because of encounters with various types of barriers, these potential library patrons are unable to demand services or make use of or even get to the library proper. They are invisible patrons who both need and want library service but cannot obtain it. Their needs may go unanswered because the librarian has failed to perceive the need, or the extent of the need, since the observable number of disabled is usually lower than the actual number. When accessibility is guaranteed these invisible patrons will reappear. Eliminating these barriers constitutes a professional responsibility.

Once you have recognized, as a librarian, your legal and professional responsibilities to handicapped patrons, it is necessary to identify the problem areas within your library environment which might restrict access to collections, programs or services. These barriers can be physical or attitudinal. The following discussion will identify some of the more frequently encountered barriers to library access and suggest some possible solutions.

**Physical Barriers**

Architects and engineers have generally designed and constructed buildings based upon the capabilities of an average or normal person. This person has the health, strength, mobility and capabilities of the average size, right-handed, thirty year old male. Obviously, the great majority of our population does not meet this norm and must adapt to an environment based upon it. One of the problems inherent in this design concept is that barriers resulting from use of the norm tend to be invisible to those who fit the norm. If you fit or are relatively close to the norm, you may not be aware that a door is difficult to open or that a telephone is too high to reach. Therefore, it takes a conscious effort by the librarian to identify these transparent barriers because they will not seriously impede nonhandicapped library staff or a majority of library patrons, but they can represent insurmountable barriers to the disabled.

It should be noted in this context that an interesting "side effect" or "fringe benefit" often occurs when barriers to accessibility are removed. Not only do the disabled or handicapped benefit but other nondisabled segments of our society are provided with a more accessible and usable environment. Easier access to the library for the disabled means easier access for the aged, children or pregnant women. Curb cuts in sidewalks surrounding the library eliminate not only barriers to wheelchairs, but also barriers to bicycles and baby carriages. Virtually any step taken in the library to enhance accessibility for the handicapped will benefit some other portion of the library's patron base.

To determine the usability and accessibility of a library, it can be helpful to adopt a systems approach. The systems analysis should determine if there is a barrier free continuous route of travel into and throughout the library with ready access to services, equipment and resources along that route. Accessibility problems can begin for the disabled in the parking lot and barriers can stall their progress at any point within the library. Therefore, it is necessary to have an overall view of potential problems. Each component of the library environment should also meet the criteria of being accessible, functional, safe and convenient within the framework of the overall system.

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40 F. BOWE, HANDICAPPING AMERICA 74 (1978); BEDNAR, INTRODUCTION: ON BARRIERS IN BARRIER-FREE ENVIRONMENTS 1-2 (M. Bednar ed. 1977).

41 It has been suggested that up to 160 million of our population do not meet this norm. Jeffers, BARRIER-FREE DESIGN: A LEGISLATIVE RESPONSE IN BARRIER-FREE ENVIRONMENTS 45 (M. Bednar ed. 1977).

42 Bednar, INTRODUCTION: ON BARRIERS IN BARRIER-FREE ENVIRONMENTS 2 (M. Bednar ed. 1977).
A barrier free library system requires access to the building and library proper, to the collection once in the library, to files, cabinets and equipment, and to miscellaneous incidental facilities needed for the comfort and convenience of any library patron.

Access to the building begins in the parking lot. Appropriately marked parking spaces should be reserved for the handicapped as near as possible to an accessible building entrance. A level area adjacent to the reserved parking space at least four feet wide must be provided to allow the disabled maneuvering room to get into the vehicle. There should be no barriers between the parking area and the building entrance and if possible, persons using braces or crutches or in wheelchairs should not be compelled to travel behind parked cars.

The most frequently encountered barriers between the parking area and the entrance are curbs, steps or abrupt grade changes. An eight-inch curb is an insurmountable obstacle to a person in a wheelchair, but curb cuts or curb ramps can easily solve this problem. These cuts should be adequately marked, unobstructed and have a nonslip surface. Exterior steps constitute a problem which is usually solved by the installation of ramps. Ramps should be constructed with a nonslip surface and have a slope with no greater than a one foot rise in elevation for each twelve feet of length. They should also have adequate width and be equipped with handrails. There should be level areas at the top and bottom, at 30 foot intervals and at turns. Abrupt grade changes can be dealt with by ramps or by regrading the landscape to an acceptable slope. Regrading is often more suitable, more esthetically pleasing and less expensive than a ramp.

The next barrier to accessibility is usually the building entrance. At least one primary entrance to the building must be accessible to persons in wheelchairs. This entrance must, of course, be a part of the barrier free continuous route of travel which is necessary for an accessible library. It is helpful to post at the entrance a map indicating the barrier free route of travel through the building and library. Posting the map at wheelchair eye level is helpful; while a raised, tactile map is usable by blind patrons.

All doorways must have at least a 32-inch minimum opening with the thresholds as flush with the floors as is possible. A handicapped person should be able to operate the door using a single effort with one hand and with the strength or pressure which can reasonably be expected from a disabled person. If the door seems heavy or awkward to you, there is clearly a problem. Lever or push type handles are much easier for many handicapped persons, or even persons with a load of books, to use than are door knobs. Unusual minimum of 4 1/2" and preferably 6 0" clear width to allow for two way traffic of varying types. If only sufficient space can be provided for a one way ramp, it should be a minimum of 2 8" clear width and preferably 3 0" wide. Winslow, Access to the Environment in Barrier-Free Environments 96 (M. Bednar ed. 1977).

**ANSC 5.1.4, 5.1.5, 5.1.6, 5.1.7, supra note 31; opening doors, supra note 44, at 20 has illustrations.**

**opening doors, supra note 44, at 21.**

**ANSC 5.2.1, 5.2.2, supra note 31. An accessible entrance must be at the level which allows access to the elevator.**

**Barrier Free, 8 AM. LIB. 303 (1977).**

**ANSC 5.3.1, supra note 31. Where there are a series of swinging doors, a space of about 6 0" should be provided between each to prevent people from getting trapped.** Winslow, Access to the Environment in Barrier-Free Environments 102 (M. Bednar ed. 1977). "If there are double doors, each single leaf must provide 32 inches clear width." Opening doors, supra note 44, at 21.

**ANSC 5.3.3, supra note 31.**

**Winslow, Access to the Environment in Barrier-Free Environments 102 (M. Bednar ed. 1977); opening doors, supra note 44, at 21.**

"Id."
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-tonably, automatically activated self-opening doors are the best type available for unrestricted access. Revolving doors or turnstiles constitute obviously imposing barriers to some handicapped but are frequently found in libraries. Narrow areas created by automatic book detection and other security systems can also be potential barriers at exit points.

Once inside the library, a barrier free route of travel should exist to all pertinent segments of the collection or to areas where programs or services are offered. Changes in level are accommodated by elevators or stairs. Elevators are an absolute necessity for those completely confined to a wheelchair but the elevator compartment must be large enough for both the wheelchair and an attendant and all controls must be at a reachable height. It is also helpful to provide raised or indented markings adjacent to call buttons and floor buttons for persons with visual problems. Braille may be used as an additional aid but not to replace tactile lettering. Stairs should be constructed in a manner which would reduce tripping hazards and they should have easily graspable handrails on both sides.

Consideration must also be given to library floors. Floors must be level and have a nonslip surface. Carpeting or mats should be firmly secured and excessively thick carpeting should be avoided since it creates problems for those in wheelchairs. An effort should be made to insure sufficient color differentiation between floors and walls so that the visually impaired with space perception difficulties can distinguish between them.

Collection Access and Utility

Even if a barrier free route of travel exists into and through the library, the typical library will still represent a challenge to the

serve the blind or handicapped as, for example, the Library of Congress Division for the Blind and Physically Handicapped or the Alabama Regional Library for the Blind or Physically Handicapped. See Barrier Free, 8 AM. LIT. 303, 304 (1977); Casey, Library Service to the Handicapped and Institutionalized, 20 LIB. TRENDS 350 (1971).

There are very informative diagrams and drawings which depict the spatial requirements needed by persons in wheelchairs and those using other types of mobility aids in 4 Report No. 6, at 3 (1978); 4 Report No. 5, at 3 (1979); see ANSI 3.2, 3.4, supra note 31.

ANSI 3.3, supra note 31; 4 Report No. 6, at 3 (1978) has an excellent illustration of this.


Id.


4 Report No. 6, at 3 (1978).
width requirement includes the size of the wheelchair plus room for the person's arms and maneuvering room, yet 32 inches would still be a tighter fit than is desirable.

Attention must also be given to the need for turning space for patrons in wheelchairs. Dead end, one way aisles between stacks can create problems if there is not adequate width for a turn. Stacks open at both ends are less likely to create problems if there is adequate turning space beyond the stacks. Main aisles in the library should provide sufficient space for two-way traffic. Two-way wheelchair traffic requires at least 60 inches while 48 inches is needed for a wheelchair and a walking person to pass.

A second major accessibility problem with library shelving is its height. A patron in a wheelchair just cannot reach as far or as high as a standing person, nor can he or she climb a ladder or a step stool. An adult in a wheelchair has a vertical reach of from 54 to 78 inches but the average diagonal reach to the shelf is only 48 inches from the floor. This means that for all practical purposes, any shelves beyond the first four shelves in the stacks are inaccessible to patrons in wheelchairs. Many of these patrons would be limited is reach to just the bottom three shelves.

In an ideal world, a librarian might hope that all stacks would be only three shelves high and that there be at least 36 inches between them but in this world, given the reality of economics and politics, this is not feasible for most libraries. Alternative solutions suggest themselves, such as providing library personnel to reach those high books, or in installing computerized databases, or materials in microforms to mitigate the need to be in the stacks in the first place.

In the modern library, resources are available in a variety of formats which one might assume to be accessible but which in reality are not. Microforms, audiocassettes, computerized databases and videotapes are some examples of materials which would on the surface appear to be readily accessible to the handicapped but in some instances may not live up to their promise. The features common to these materials are their need for equipment to utilize them and the need to store these materials in some form of cabinet or shelving.

Any library equipment must itself be physically available and convenient for the handicapped. Tables or carrels must be high enough so that a person in a wheelchair can work easily with the equipment. The working reach at a table for a person in a wheelchair is in the range of 28.5 to 33.2 inches, therefore the equipment and all control devices should be located near the lower end of that range if possible. Control devices should be as simple to use as possible for those having difficulty with manual dexterity. Obviously, simplified control mechanisms would benefit all library patrons not just the handicapped. When examining the equipment station, one should be aware that a permanent chair located there can represent a barrier. If possible, try to leave at least one station without a chair so that it will be more accessible to those patrons in wheelchairs.

Storage cabinets for microforms or cassettes can also create obstacles. Most such cabinets are designed with the average, standing adult in mind. It is virtually impossible for a patron in a wheelchair to see or reach the contents in the top shelves of microform cabinets. The same problem is evident when the handicapped attempt to use vertical files, and to a lesser extent, the card catalog. The card catalog's saving grace is that the drawers can usually be pulled all the way out for easier usage. Use of three-drawer filing cabinets or shorter microform cabinets can solve these problems but this admittedly can result in an underutilization of floor space.

Support equipment and facilities within the library should also be assessed to determine their accessibility. Such equipment as pencil sharpeners, photocopiers, newspaper or magazine racks and typewriters must be placed within usable reach. Electric pencil sharpeners and typewriters are easier for the handicapped and other patrons to utilize and so they should be favored over the less expensive manual alternatives.

Adequate general seating and work areas must also be provided for effective library usage and for efficient work by handicapped employees. Some tables or carrels should be

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78 ANSI 3.2, supra note 31, provides turning space requirements for a wheelchair.
79 ANSI 3.2.2, supra note 31.
80 ANSI 3.3.1, supra note 31.
81 ANSI 3.3.4, supra note 31.
82 ANSI 3.3.2, supra note 31.
their need for equipment and the need to store that equipment in a form of cabinet or cart. An equipment cart itself be self-moving, the carrello must be high enough to allow the armrest of a wheelchair to fit underneath. The height of the armrest from the floor is usually 32 inches. Chairs should not be placed at these work areas for convenience sake. Work areas, if designed to be flexible and functional, can be utilized by both disabled and nondisabled employees and patrons. Certain design features to accommodate the handicapped are often unnoticed but very helpful. Cabinets and drawers with recessed handles have no protrusions to obstruct wheelchairs. Partitions without feet are less likely to trip a person on crutches or one with visual problems. Adjustable work surfaces provide flexibility for all library patrons or employees. If edges and corners are rounded or beveled, there is less likely to be injury in those accidental confrontations between man and table or desk. Such design considerations cost little but make for a much safer and usable environment for the disabled.

Convenience and Support Facilities

The disabled have the same bodily needs as any other library users; therefore, it is imperative that support facilities be available and readily accessible. A restroom for each sex should be provided along the barrier-free route of travel on each floor if feasible. These rooms should be equipped for use by the handicapped. Consideration should be given to design of the toilet stall and to the location and usability of mirrors, shelves and dispensers. Water fountains or dispensers should have up-front spouts and controls and be hand operated or hand and foot operated. The fountains should be low enough for a person in a wheelchair to use but if this is not possible, then a paper cup dispenser should be installed.1

3. ANSI 5.6, supra note 31; Opening Doors, supra
4. Some mirrors, shelves and dispensers should be
   located no higher than 40 inches from the floor. ANSI
   5.6.4, supra note 31.
5. ANSI 5.7, supra note 31.
6. The paper cup dispenser should be no higher than
   40 inches, while 30 inches is the recommended
   height for a low fountain. Opening Doors, supra note
   44, at 26.

Telephones should be installed so that the coin slot, dial and handset are reachable by a person in a wheelchair. Volume controls on headsets are helpful for persons with certain hearing disabilities. Some telephones could be provided with braille numerals and instructions for the blind, while push button dials are easier to use for persons with manual dexterity problems. When equipment such as water fountains or telephones are found in a bank or series, it is usually permissible to modify only a set number of them depending upon your handicap patron base.

A variety of other controls and devices must also be accessible to work on or utilize the library environment. An effort should be made to eliminate barriers to such essential devices as light switches, heat or ventilation control, windows, draperies, vending machines and fire alarms and extinguishers. These devices must be accessible, low enough to reach and reasonably easy to operate. Any warning signals or alarms should be both audible and visual so as to alert both those with hearing problems and the blind.

Communication of information to handicapped library patrons is essential if they are to fully enjoy the resources and services of the library. It was noted previously that a map indicating a barrier-free route of travel through the library can be posted near the entrance to provide guidance in their use of the facility. This map can also indicate other pertinent information such as locations of restrooms, offices, parts of the collection and services.

There should also be appropriate signs to enable patrons to determine their location and to identify significant resources and services or to provide instruction in the use of equipment. The message to be imparted must be clear and uncluttered. It is important that the signs be located where they can be easily seen by patrons in wheelchairs. It is helpful to have large letters which contrast sharply with the background so that they are legible to persons with visual problems. For blind library users,
it is necessary to have signs with raised or indented letters. Braille alone is not adequate since less than ten percent of the blind are able to read braille.\(^\text{13}\) Identification of specific rooms or offices should be by raised or recessed figures on the wall to the right or left of the door at approximately five feet from the floor.\(^\text{14}\) It should be apparent that well marked facilities will be advantageous to all library users.

**Costs**

The preceding analysis indicated some of the steps that could be taken to make library facilities and services more accessible and usable for the handicapped. Underlying any decision to make such changes or to incorporate these features in a new building is the element of cost.

Designing accessibility into a new facility is a relatively inexpensive proposition when viewed against the total cost of the project. Some estimates place the cost of accessibility at as little as one cent per square foot while other estimates place the cost at from one tenth to one percent of total construction costs.\(^\text{15}\) These costs are a one time expenditure, yet once the library is made accessible it can serve disabled patrons through its useful life without additional expense.\(^\text{16}\) Remember that federal regulations mandate that new construction be readily accessible and usable by the handicapped.

Some alterations and modifications to existing buildings for the purpose of eliminating physical barriers or for enhancing usability can be very expensive. It can cost up to $15,000 to make a restroom accessible and as much as $25,000 to replace a revolving door with an accessible one.\(^\text{17}\) Ramps can cost several thousand dollars to have installed and even minor changes have some cost attached. Nevertheless, a librarian cannot allow himself or herself to be intimidated by the design criteria for accessibility because there are often alternative ways to make the library and its collection accessible which are less expensive than traditional methods but still work equally well.\(^\text{18}\) The program accessibility regulations were intentionally drawn with enough flexibility to permit librarians and others to devise ways to make their programs accessible without the necessity of extremely expensive or impractical physical changes in the facility.\(^\text{19}\)

If some imagination is applied along with common sense to a problem of accessibility or usability, then a solution can frequently be found at a greatly reduced cost. Some examples may better illustrate this point. A firm in California recognizing that its water fountains could not be used by persons in wheelchairs, solved the problem by spending $40,000 to lower all drinking fountains whereas the installation of paper cup dispensers could have solved the problem for about one dollar per fountain.\(^\text{20}\) An alternative to the concrete ramp in some instances is the regrading of the approach to the building which is often less expensive and more pleasing in appearance.\(^\text{21}\)

Alternative construction materials can also save money, such as in the substitution of a wooden ramp in place of a concrete or brick one. Signs and maps which would be very expensive if done by professionals can often be drawn at lower cost and with more flair if done by a creative library staff member. If new concrete work is needed around the building, it is often no more expensive to specify curb cuts at the time of the concrete pouring since costs are usually calculated on a straight square footage basis.\(^\text{22}\) When new equipment is being contemplated for library use, keep the handicap-
ped in mind, for equipment more suitable to their needs may be available at approximately the same price.

An additional solution to the cost problem is the development of outside sources of aid or funding. A number of federally funded programs could conceivably be tapped for aid in architectural barrier removal and in addition, the Department of Health, Education, and Welfare has stated that they are ready "at all times to provide technical assistance . . . in meeting program accessibility responsibilities" and for that purpose they have established a special technical assistance unit. Certain private libraries or their parent institutions could possibly take advantage of the federal or state income tax deduction for barrier removal of up to $25,000. Funding might also be available from state or local governments which could possibly funnel federal general revenue sharing funds into your program. Playing the grantsmanship game can also be effective in this area. Private foundations or locally based civic and service organizations can be a lucrative source of funds for barrier removal or for purchasing special equipment.

Attitudinal Barriers

Perhaps even greater than the physical barriers which are erected within our society and institutions. These attitudinal barriers are no less real than physical barriers but it takes a greater effort to identify them because they "are more subtle and implicit." It is critically important to remove attitudinal barriers because attitudes influence and underlie all our actions, yet their removal is difficult. These attitudes are bound up with the day to day appearance and functioning of a particular service or activity and they have usually been in existence for a long time and are reinforced by the environment. Attitudinal barriers in the library may be created by the library staff, by the disabled patrons themselves, or by a reaction to the physical environment of the library. The interaction between handicapped patrons and the staff or the environment, indicates to the handicapped the value which is placed upon them which in turn reflects upon how they value themselves.

The physical environment of the library communicates a message to its users and in many instances the message sent to the disabled is that they are incompetent or inferior. Take for instance the library entrance with monumental stairs which the architect felt would inspire a sense of awe or respect within the library user. Rather than the appropriate positive response, a library user in a wheelchair may have a negative psychological reaction because of his inability to reach his destination. Frustration, anger, helplessness, or a feeling of rejection may be the net result.

112 See OPENING DOORS, supra note 44, at 13; U.S. DEP'T. OF HEALTH, EDUCATION, AND WELFARE, FEDERAL ASSISTANCE FOR PROGRAMS SERVING THE HANDICAPPED, Appendix II, 311 (1977) for information on funding, fund raising and related resources.
117 Id. at 9; see also Mays, Attitudes Toward the Handicapped: The Promise, in LIBRARY SERVICES FOR THE ADULT HANDICAPPED (L. Whalen and J. Miller eds. 1978).
Such reactions can be generated by any barrier which prevents a disabled person from leading a relatively normal active life.

Consideration must also be given to the reaction to alternative methods of service or access. If the only barrier free route of access to your library is through a service entrance off the loading dock, there is a not too subtle message of inferiority transmitted.114 The message is that the disabled are not good enough to utilize the front door but must instead use the servant's entrance. This can be a humiliating experience for the disabled patron.

The attitudes of the library staff toward disabled patrons are critically important because they can possibly offset the negative message of the environment or they can create negative vibrations of their own. Negative attitudes toward the handicapped are usually a result of fear and uncertainty. These reactions are generated by the perception that the disabled are different and the more different a person is perceived to be, the more negative the attitudes toward him are.115 It is difficult for others to understand the experience of the handicapped or perhaps there is a fear of this understanding.116 This fear makes us uncomfortable, therefore resulting in a response to the handicapped which may be different from the response to a nonhandicapped library patron.

Fears and uncertainties of the staff can be overcome by providing information concerning disabilities which makes them understandable. Once the staff is aware of the nature of various disabilities and of what they should or should not do when they are servicing the disabled, they will feel more comfortable and project a more positive attitude.117 It is important that the staff develop a sensitivity to the needs of the handicapped but not a condescending attitude. Disabled adults are not children or holy innocents or objects of pity, but rather library users who deserve to be treated with respect and to be given the opportunity to succeed without always having a self-righteous or patronizing librarian offering to help.118 The staff must remember that each disabled patron is an individual with his own character, problems, needs and ambitions. A reasonable approach to library service for the handicapped therefore requires a balancing of sensitivity, common sense and respect.

Each librarian should ask what messages are transmitted by their library to the handicapped. Does the library or staff emit a subliminal message of welcome or exclusion, of first or second class citizenship? As with physical barriers, it is first necessary to recognize the existence of these attitudinal barriers before steps can be taken to eliminate them.

There are several ways in which problems can be identified and the sensitivity of the staff toward handicapped patrons can be enhanced. Role playing or role reversal is a very effective technique for creating empathy. Set up a wheelchair tour or your library starting in the parking lot. Allowing a person to experience limited mobility can produce more results or unexpected insights than merely talking about it. Similarly, a blindfolded tour of the library can suggest problems encountered by the visually impaired.119 Such tours would be of value if offered in a library school course, in continuing education classes or as part of an inhouse orientation or training program.120

A second approach is to seek out advice and comments from the handicapped library patrons themselves. They are obviously more sensitive to attitudes of the staff and to physical barriers than anyone else could possibly be.121 This client feedback can often identify problems invisible to the library staff and suggest better and sometimes less expensive alternative procedures, services or equipment. The disabled can also help in determining priorities as to which actions need immediate attention and they should always be included in any long range planning activities.122

115 F. Bowe, Handicapping America 121 (1978).
116 Id. at IX.
117 Id. at 119.
121 OPENING DOORS, supra note 44, at 14.
at each disabled patron is own character, problems. A reasonable approach for the handicapped is a blending of sensitivity, tact.

Ask what messages are important to the handicapped. As staff emit a subliminal message of exclusion, of first or second class. As with physical barriers to recognize the invisible barriers before you eliminate them.

Awareness in which problems the sensitivity of the staff can be enhanced.

Universal is a very effective tool. Set up a library tour of the library starting in the most experience. Have more results or a merely talking about the tour of the library oneself. Have each tour be of the library school course. In classes or as part of a training program to seek out advice and help to handicapped library patrons. They are obviously more of the staff and to anyone else could comment feedback can often give to the library staff. Sometimes less expensive, services or equipment also help in determining which actions need improvement they should always be range planning.

There are also a variety of other sources knowledgeable in the needs of the disabled which are pleased to provide aid and information at the national or local level. Agencies such as the Easter Seal Society or the American Council of the Blind have a high level of expertise and are a rich source of literature on the subject of the handicapped. Equally helpful would be your state's Governor's Committee on the Handicapped or the State Department of Rehabilitation or their equivalents and be sure not to disregard local organizations or voluntary groups which serve the handicapped.

Finally, an obvious source of information for any librarian would be a literature search to identify useful publications dealing with specific disabilities, barriers, programs, laws and sources of aid. The literature is quite extensive. There are several periodicals devoted strictly to the handicapped and also some bibliographies. The federal and state governments have published extensive materials as have various agencies which service the handicapped. There are also looseleaf reporting services which provide broad coverage on particular areas of the law of the handicapped.

Conclusion
It is the goal of the handicapped in the United States to be brought into the mainstream of our society. To achieve this goal, handicapped citizens and their advocates have successfully lobbied for legislation at all levels of government. The laws now exist but they are only symbolic unless a good faith effort is made by individuals to strive toward the goal of equal access and services. The alternative to voluntary compliance may well be a lawsuit or administrative action. Plans now call for coalitions of organizations for the handicapped to support teams of attorneys to bring actions in support of these demands. Will your library be one of the institutions targeted? Are you meeting your professional responsibilities to all your patrons? These questions can be answered by a self evaluation of study which should lead to a plan of action for your library. Many larger libraries or their parent institutions already have such documents but they may be unheeded or tucked away in a file cabinet. Now is the time to act; take the time to develop a plan of action or dust off the one you have and then implement it. The cost of your inaction in human terms may be inordinately high.

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Note 44, at 14.