

NATIONAL BRAILLE CLUB  
REPORT OF THE FIRST CONFERENCE  
1957

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AMERICAN FOUNDATION  
FOR THE BLIND INC.



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**THE NATIONAL BRAILLE CLUB**  
AN ORGANIZATION FOR THE ADVANCEMENT OF VOLUNTEER SERVICE FOR BLIND PEOPLE

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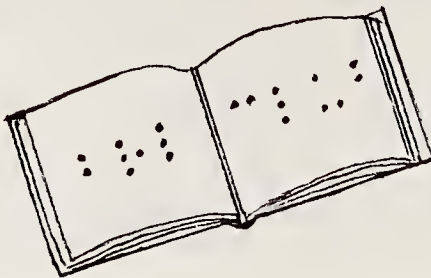
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October 14, 1957

At

New York Guild for the Jewish Blind  
1880 Broadway, New York, N.Y.

In presenting the proceedings of the First National Conference of volunteer workers, the officers and conference committee of the National Braille Club readily recognizes that all the answers to the many and varied problems of volunteer service will not be found in these pages. In spite of this, however, we must immodestly admit that this conference was an unqualified success.

Although the addresses and workshop reports do not wholly reflect the vitality and enthusiasm of the deliberations, they are replete with evidence of dedication to service and concrete, down-to-earth information and proposals which lend real substance to the overall program of far reaching services to blind people. Each of the almost 300 men and women, who were in attendance from all sections of the country, evidenced a sincere desire to learn from and to share experiences with one another. This cooperative spirit from individual to individual, from group to group, was the keystone to the outstanding success of the conference.

The prime contribution of the conference was the universal accord in the view that this first meeting provided only an opening wedge to the many problems and procedures with which volunteers are confronted in performing competent and constructive service toward the educational and recreational well being of blind people. As a firm stepping stone in the quagmire of as yet undiscovered techniques and procedures, this conference has laid a firm footing for future and broader meetings through which the already outstanding volunteer service will gain in stature and worth. To those who contributed so much through their active participation in the planning and discussions, go our sincerest appreciation.

BMK/rg

Bernard M. Krebs, Conference Chairman



The First National Conference of the National Braille Club was held in New York City at the Guild for the Jewish Blind, 1880 Broadway, New York 23, New York, on October 14, 1957. Mr. Bernard M. Krebs, Librarian, of the Guild for the Jewish Blind, and Past-President of the National Braille Club was conference chairman. To him, and to the able and devoted planning committee for this conference, we are extremely grateful. The enthusiastic response to this First National Conference has been so great, that a second conference is planned. This will be a two-day conference on October 20 and 21, 1958. Mr. Krebs

has agreed to again serve as chairman. The two-day conference will be held at the New York Association for the Blind (the Lighthouse), 111 East 59th Street, New York City. The National Braille Club sincerely appreciates the gracious hospitality afforded in the first conference by the New York Guild for the Jewish Blind. We wish to express our appreciation to Mrs. Sidney E. Pollack, Administrative Director, and the staff of the Guild for the many services provided for the National Braille Club members at the conference. It is a result of the enthusiasm of Braille Club members and the request of them, that the 1958 conference is planned on a two-day basis. We sincerely hope that you will be able to attend the 1958 conference, and we know that you will appreciate receiving the proceedings of the First National Conference.

Josephine L. Taylor, President



## P R O G R A M

### Planning Committee

Chairman: Mr. Bernard M. Krebs, Librarian, New York Guild for the Jewish Blind; Member of the Joint Uniform Braille Committee; Author of Transcriber Guide to Standard English Braille

Mr. Charles Ritter, Consultant of Technical Research Department, American Foundation for the Blind, New York, N. Y.

Mrs. Charles Seidenman, Volunteer for the New York Guild for the Jewish Blind, New York, N. Y.

Mrs. George L. Turkeltaub, Editor of The National Braille Club Bulletin; Adviser, Services for the Blind, Sisterhood of Temple Beth-El, Great Neck, N. Y.

Mrs. J. L. Maged, Chairman, Brooklyn Braille Center, Brooklyn, N. Y.

Mrs. A. B. Clark, Secretary of Braille Committee, Lydia Hayes Memorial Association for the Blind, Rockaway, N. J.

Mrs. Emil Drechsler, Financial Secretary of The National Braille Club; Chairman of Braille and Soundscribing, American Red Cross, Newark, N. J.

Mrs. Sumner C. Jacobs, Volunteer Chairman, Hand Transcribing Division of the National Braille Press, Inc., Boston, Mass.

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### General Session - 10 to 12 A.M.

#### 1. WELCOMING ADDRESSES

Mrs. Sidney E. Pollack, Administrative Director, New York Guild for the Jewish Blind

Miss Josephine L. Taylor, President of The National Braille Club; Director of Educational Services, New Jersey Commission for the Blind, Newark, New Jersey

#### 2. DYNAMICS IN VOLUNTEER SERVICE

Mr. Bernard M. Krebs, Chairman of The First National Conference; Librarian, New York Guild for the Jewish Blind; Author of the Transcribers Guide to Standard English Braille

#### 3. SIMPLE DUPLICATING BRAILLE SYSTEMS FOR PRESENTATION OF TACTUAL DATA

Mr. Charles Ritter, Consultant of Technical Research Department of American Foundation for the Blind, New York, N. Y.

#### 4. DEVELOPMENTS AND APPLICATION OF THE NEMETH MATHEMATICAL CODE

Miss Marjorie S. Hooper, Braille Editor, American Printing House for the Blind, Louisville, Kentucky

#### 5. EDUCATION OF THE BLIND CHILD IN SPECIAL CLASSES AND INTEGRATED PROGRAMS

Miss Georgie Lee Abel, Consultant in Education, American Foundation for the Blind, New York, N. Y.

#### 6. THE ITINERANT TEACHER PROGRAM FOR THE EDUCATION OF THE BLIND CHILD

Miss Josephine L. Taylor, Director of Educational Services, New Jersey Commission for the Blind, Newark, New Jersey

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### Luncheon - 12 to 1 P.M.

Buffet Luncheon at Meeting Headquarters by reservation only. Lunch can also be had at nearby restaurants.

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### Workshop Group A - 1 to 2:30 P.M.

#### 1. PROGRESS REPORT ON PROPOSED CHANGES IN THE STANDARD ENGLISH BRAILLE CODE

Chairman: Mr. Paul Langan, Chairman of the Joint Uniform Braille Committee; Field Service Counselor, American Foundation for the Overseas Blind, New York, N. Y.

Recorder: Mrs. Edwin J. Wolf, Vice-Chairman of Braille Services, American Red Cross, Baltimore, Maryland

Room: AUDITORIUM

2. BRAILLE MUSIC TRANSCRIBING  
 Chairman: Mr. Gerard Gabrielli, Music Teacher, New York Association for the Blind, New York, N. Y.  
 Recorder: Mrs. Bertha Wolf, Sisterhood of Temple Beth-El, Great Neck, New York  
 Room: LIBRARY (Second Floor)
3. TOOLS AND AIDS FOR THE PRODUCTION AND DUPLICATION OF BRAILLE MATTER  
 Chairman: Mr. Charles Ritter, Consultant of Technical Research Department, American Foundation for the Blind, New York, N. Y.  
 Recorder: Mrs. L. Alan Passmore, President, Volunteer Service to the Blind, Inc., Philadelphia, Pennsylvania  
 Room: GYMNASIUM (Second Floor)
4. BRAILLE MATERIAL FOR THE VERY YOUNG: WORKBOOKS, PRIMERS, PRE-PRIMERS, ETC.  
 Chairman: Mrs. P. R. Wexler, Clifton, New Jersey, Volunteer for New Jersey Commission for the Blind, Newark, New Jersey  
 Recorder: Miss Betty Duncan, Assistant Braille Editor, American Printing House for the Blind, Louisville, Kentucky  
 Room: LOUNGE (Second Floor)

Workshop Group B - 2:30 to 4 P.M.

5. SOUND RECORDING OF TEXT BOOKS  
 Co-Chairmen: Miss Elise R. Mueller, Librarian, New Jersey Commission for the Blind, Newark, New Jersey, and Miss Dorothea Simpson, Education Consultant, Connecticut Board of Education for the Blind, Hartford, Connecticut  
 Recorder: Mrs. Jeanette Mirrielees, Assistant Librarian, New Jersey Commission for the Blind, Newark, New Jersey  
 Room: GYMNASIUM (Second Floor)
6. PROBLEMS IN PRESENTING MATHEMATICS, CHEMISTRY, PHYSICS, ETC. THROUGH THE NEMETH CODE  
 Chairman: Miss Marjorie S. Hooper, Braille Editor, American Printing House for the Blind, Louisville, Kentucky  
 Recorder: Mrs. A. B. Clark, Secretary, Braille Committee, Hydia Hayes Memorial Association for the Blind, Rockaway, New Jersey  
 Room: LOUNGE (Second Floor)
7. SPECIFIC PROBLEMS IN THE PRESENTATION OF TEXT BOOK MATERIAL:  
 SPELLERS, GRAMMARS, DICTIONARIES, DIACRITICAL MARKS, ETC.  
 Chairman: Mr. Bernard M. Krebs, Librarian, New York Guild for the Jewish Blind, New York, N. Y.  
 Recorder: Mrs. Theodore Stone, Co-Chairman Braille Service, United Order of True Sisters, Johanna #9 Bureau for the Blind, Chicago, Illinois  
 Room: AUDITORIUM
8. BINDING TECHNIQUES FOR BRAILLE VOLUMES  
 Co-Chairmen: Sewn Binding: Mrs. Arthur Cahn and Mrs. T. R. Jacobson, Sisterhood of Temple Israel, New Rochelle, N. Y.  
Circla Metal Ring: Mrs. Aaron Levy, Co-Chairman, New York Guild for the Jewish Blind, New York, N. Y.  
Metal Looseleaf: Mrs. George L. Turkeltaub, Adviser, Services for the Blind, Sisterhood of Temple Beth-El, Great Neck, New York  
Plastic Ring: Mrs. Inez Van Vranken, Director of Volunteer Services, Industrial Home for the Blind, Brooklyn, N. Y.  
 Recorder: Mrs. Milton Steinhardt, Chairman of Five Towns Braille Joint Sisterhood Project, Long Island, New York  
 Room: LIBRARY (Second Floor)

General Assembly - 4 to 5 P.M.

9. REPORTS AND SUMMARIES BY WORKSHOP RECORDING SECRETARIES

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Dinner Meeting - 6 P.M. at MAYFLOWER HOTEL - Central Park West and 61st Street

Speaker: Mr. Finis Davis, Superintendent, American Printing House for the Blind, Louisville, Kentucky



DYNAMICS IN VOLUNTEER SERVICE

THE BLIND LEAD THE BLIND

Prisoners behind the blank, contiguous bars  
 Of sightlessness owe second sight to Braille  
 Who, himself sentenced to that inner jail,  
 Pinpricking life long night, let in six stars.

Spencer Brown, New Yorker Magazine

During the course of the past two decades, developments in medicine and science have brought about periodic fluctuations in the frequency of occurrence of blindness in adults

and children. With each phase of change in age variance of blind population, workers with and for the blind have been required to reevaluate program in terms of facilities, services, and personnel in order to meet the needs of the new clients adequately.

In the earlier period, advances in pre-natal care and the cure or control of venereal or infectious diseases resulted in a substantial decrease in the incidence of blindness among children. Concurrently, through medical and surgical discoveries, the span of life expectancy was being extended and there was a relative increase in blindness among the adult population brought on by industrial accident, eye diseases, diabetes, longevity, and so forth. In recognition of this age trend among its clients, public and private agencies for the blind took appropriate steps to realign their resources, both physical and financial, to meet the needs of adults and senior citizens.

In about 1937 a new wave of blindness from an unknown cause, which had been striking infants, was identified as retrolental fibroplasia, and year by year an ever increasing number suffered the partial or total loss of sight. Not until 1955 was it established that oxygen, which was being used so effectively in sustaining life, wrought havoc upon the retinas of premature babies when administered in excessive dosages. In thirteen years approximately 10,000 children were blinded by this cause alone. Here then were 10,000 new United States citizens who would require special care, education, and vocational training if they were to become well adjusted, productive members of society.

It is likely that schools and agencies for the blind could again have found the ways and means to absorb this great influx of clients by making substantial increases in facilities and personnel. However, many educators and professional workers were of the conviction that the blind child could best be served by immediate integration into family and community life. This course was indicated only when, after careful psychological testing and family case work investigation, the blind child was found to be normal in all other respects, and where the family grouping showed willingness and ability to cope with the educational, social, and economic factors involved. However, a dually handicapped or rejected child might be placed more effectively in the segregated environment of schools for the blind.

Two media are being used to integrate the blind child into community educational resources. First, the special class in a public school in which blind children are taught braille, are supplied with special equipment, and are assisted with general studies, and from which they emanate to join sighted students in classroom instruction. And second, the itinerant teacher program in which the blind child received its education with sighted children in the local school districts through the assistance of an itinerant teacher who furnished materials and special equipment, provides individualized instruction, supplements the work of the regular classroom teacher and gives counsel on techniques and skills.

The success of these methods of education is dependent primarily upon the availability of an adequate supply of equivalent textbook material in braille, recorded or large print form by means of which the blind child may keep astride of sighted classmates. Publishers of braille or large type textbooks provide an ample supply of study material for the concentrated needs of schools for the blind. However, textbooks, used in community schools, vary so greatly from grade to grade, from school to school, from district to district, and from state to state that publication is impracticable and costs prohibitive.

The solution to the problem of adequate textbook supply was soon discovered in the wonderful resource of the volunteer worker. Here was a great reservoir of vital, dynamic, capable and interested women and men who proved ready and eager to give of themselves, their time, and their abilities. The sole compensation for their painstaking efforts is gleaned from the heartwarming knowledge that their contribution of service is making it possible for a blind child to remain in the warmth of its family circle, to compete effectively with its sighted classmates and to climb the ladder, rung by rung to successful adjustment to community and social life.

The role of the professional worker is to guide, counsel, and direct the volunteer to those channels of service which most fruitfully utilize individual experience, interest, and abilities. Even within the general categories of transcribing, binding, reading, recording and large print typing, aptitudes and potentialities of the volunteer workers must be recognized and utilized. The volunteer and the professional worker, standing shoulder to shoulder, are the dynamic team which have and will assure success to a well rounded and effective program.

Now that the initial impact of the new wave of 10,000 blind children has been somewhat lessened by time and by the knowledge that with proper precautions no more will be blinded by the same cause, it is fitting to take stock of the progress already made and the goals yet to be won. It has already been amply demonstrated that the blind child can be integrated into the community educational and social structure through the valuable services of volunteer and professional workers. Yet, vigilance and long range planning must still be the watchwords in fully opening the opportunities for education to all blind children who are capable of taking advantage of community resources.

A noteworthy forward stride was taken in 1952 when the word "adult" was stricken from the act which provides Federal funds for the production and distribution of books for the blind thus permitting braille and talking book reading matter to be opened to children as well as to adults. It is essential that existing Federal or state laws be studied for possible modification or revision so that their provisions can be made to reflect current philosophy and changes in approach to educational and social programs for the blind.

A change in state laws is indicated to equalize the per capita allowance for the education of a blind child in public school to that now granted for the housing maintenance and instruction of a blind child in a state residential school.

Some states have squarely met the problem of education of blind children in integrated programs by providing for state-wide library, itinerant teacher, and special class facilities and services. Other states have allowed school districts or private agencies to carry forward this program and hence have provided no overall facilities or supervision. The disadvantages of this system are first, that the blind child has little prospect of being successfully integrated into the public school program unless he happens to reside in an area where district schools or private agencies have established programs; and second, that the valuable services of volunteers is sometimes wastefully expended upon reproducing a textbook which is already available but which is lying unused in a schoolroom or student's home. Since the success of the integrated program depends in large part upon the supply of equivalent textbook material, a national resource file of textbooks, whether printed, recorded or transcribed, should be maintained, and each state, or a combination of neighboring states should establish a student library through which economical and maximum use of books and materials can be provided.

Through the Congressional Act to promote the education of the blind, Federal funds are provided to the American Printing House for the Blind for the publication and supply of textbooks and special equipment. State authorities, district school superintendents and administrators of private agencies should be encouraged to take the time to serve on the Printing House Book Selection Committee so that the requirements of the integrated program of services will receive equal consideration to that of the residential school for the blind.

Through public education, adequate legislation, and full cooperation of professional and volunteer, the otherwise normal blind child can successfully hurdle the barriers in the path to integration into community and social life. Under the professional direction and guidance of trained personnel, volunteer workers in all areas of service can become the dynamic force which will give meaning and substance to a far-reaching program envisioning the normal development and integration of the blind child at school, at home, in community life.

Bernard M. Kubo, Conference Chairman



#### SIMPLE DUPLICATING BRAILLE SYSTEMS FOR PRESENTATION OF TACTUAL DATA

Ten years ago the blind person who went to college usually found discouragement--to put it mildly--if he wished to take courses in laboratory sciences. This certainly made life easier for the braille transcribers who volunteered to help put necessary textbook material into braille. Today the trend is for colleges to expect blind students to meet all the standard requirements, and a growing number of such students are electing to specialize in science. This is splendid for the students and for the nation, but it does make the transcriber's problems a bit more exacting.

That this trend is a healthy one is borne out very well indeed by the facts. Increasing numbers of chemists, engineers, physicists, biochemists, are succeeding as blind people. More physicians are continuing to practice after loss of sight. In the growing field of automation I personally have heard of eight blind physicists who are at work in programming of electronic computers. One, just six or seven years out of college, has forty sighted engineers under him.

For the transcriber, however, the problem of what to do about the material which cannot be put into words becomes a grave one. The decision as to what needs to be included of the charts, diagrams, illustrative sketches and the like can be quite vexing. Of course, the easier it becomes to reproduce such data, the less worrisome the problems become.

There are, of course, individual differences among braille readers in both interest in and ability to interpret raised line reproductions. Even with the most adept, there is a point beyond which such reproductions are either meaningless or wasteful of time. Texts, too, will vary on the extent of their own reliance on the illustrations they include. I recently went through a book on the phonograph where, clearly, the diagrams were largely after thoughts of the publisher--added to lighten the pages rather than clarify the discussion. With one or two exceptions (which were easy to put into word pictures) all the diagrammatic figures could be omitted from the transcription.



The first question to ask then is: Is this plate essential to the presentation? If not omit it.

The second question is: Can the plate be described adequately in words? If so, describe it. The third question is: What is the specific function of the plate or figure or graph? If it's a graph, for example, is it likely that the student would need to extract specific data from it? If so, the information can be converted into a table of figures. If it is to show the general trends or relationships it illustrates, a description may be adequate. On the other hand, the student should know the appearance of the type of graph employed in such presentations. The fourth question is: What are the inherent limitations of touch? In its lack of speed of scansion, it is in some ways inherently different from sight. This can be illustrated by some ingenious and laborious examples devised by a blind and sighted team for the purpose of conveying information on both form and color. One page I recall especially showed two species of birds. To the eye both could be seen at once as birds. To the fingers, the birds had first to be separated from their surroundings, then identified as birds. No doubt, with practice and training this process would be shortened--but never to nearly the time needed to read in words the same information.

We have made facsimile reproductions of blueprints. The crossmarkings, so helpful to the eye, are merely confusing to the fingers. We have reproduced music, radio wiring diagrams. Blind people can follow them with effort, but that is certainly not the easiest way to present or to receive the information. Our ultimate goal, on both sides of the fence, should be efficiency.

So much for the principles. One important fact is that few blind people with interests requiring this sort of information live in isolation. Many indeed already have one of the raised line drawing boards, which makes it easy for them to supplement whatever has been included in the braille books they read. With the drawing board, a diagram which would be unduly complicated if presented in its final form, can be readily understood if the blind person follows it step by step as it is developed.

Those of you who may have tried the board in the past as a part-way solution to the problem may well have been disappointed. The two types of plastic which were used had serious drawbacks: the first tended to develop wrinkles and the second was too easily torn. The present plastic is Mylar which seems quite free from both these faults.

It still isn't a very full solution. If used, it would have to be glued to a sheet of braille paper--perhaps with Pliobond Cement or White Casio or Elmers Glue-All.

Originally, we supplied a translucent sheet of rubber so that material could be traced. The idea was to lay the rubber sheet on a piece of glass with a light behind it, then cover it with the page bearing the sketch or diagram to be copied, with a sheet of plastic over that. Usually, however, the material, to be useful, must be enlarged and simplified, and literal reproduction is not important.

For generations, of course, the standard technique for making raised diagrams was with a spur wheel, Howe Press puts out such a wheel, as well as a spur wheel compass. Dress-maker's spur wheels may also be used, as can wheels sold to make dotted lines, in wax stencils for duplicating machines. Indeed these come in different forms, making it possible to produce lines of different texture. One can go even further at this source. Shading plates are sold for producing different effects in drawings. We once used aluminum foil with a paper backing for sketches in a biology text book. With different types of spur wheels over rubber, and with plates, we managed to get out a set of diagrams which, so far as I know, are still being circulated among the colleges in New York. In making them, we found that if the sheets were placed over one of these plates, metal up, one could draw with a pencil and lines were produced on the top. That, in fact, was the first raised line technique employed to produce the lines on the top.

When spur wheels are used, of course, you must work from the back. If you wish to copy accurately, you can place a sheet of tissue paper or draftsman's copying paper or cloth, or onion skin paper above the sketch and copy directly. You next place this over your braille paper, with a sheet of carbon paper, carbon up, behind it. Then go over the sketch, pressing hard enough to make a reversed copy on the back of the braille paper. Or you can place first a sheet of braille paper, then a sheet of carbon paper, with the carbon side down, then the tissue paper sketch, with the sketch side towards the carbon paper so that you get a reversed copy on top of the braille paper.

Whether you use the Raised Line Drawing Board, or the spur wheel, there will be occasions when you must place braille indications here and there on the sketch. Often this is not feasible in a braille writer and is quite a nuisance with a slate. That is why we have produced an upward writing braille slate. It uses a hollow stylus and has pips instead of pits so that the braille appears on the top. Remember, of course, that while it is a slate, you write from left to right and write as you would read--in other words, with dots 1-2-3 at the left edge of the windows.

Another technique which should be mentioned uses a sewing machine. Some people use Kraftsman's linen or tracing cloth and have thread in the machine. By using different

weights of thread, different line textures become possible. The same effect, however, can be secured, working with a reversed sketch, by omitting the thread and adjusting the machine for different numbers of stitches per inch. Such pierced sketches seem to hold up admirably. With the machine threader, naturally, one does not have to use a reversed sketch since the lines show equally well on both sides of the tracing cloth.

Probably, in the long run, the simplest way of securing really good raised lines is the Relievo Paint. The first person I know to have used this is Mrs. W. D. Earnest, from New Jersey. I had played with it before she was kind enough to bring samples of her work with it. Happily, she was much neater than I had been and produced excellent results.

Relievo is a plastic material supplied in tubes like artists' oil colors. It is applied through glassine cones--after the fashion of a pastry bag. It can be sprinkled, while wet, with tiny beads, or flock to form crinkly or fuzzy lines in addition to the smooth lines. Thus one can introduce more detail than would be possible with spur wheels or the raised line drawing board. Moreover, one can use existing print maps, for example, so that should the owner want additional data, he can ask a sighted friend.

While it takes just a bit of practice, it offers the greatest latitude in what can be marked. It adheres to glass, plastic, cloth, leather, paper, porcelain, and wood. It remains flexible after it has set.

At room temperature it sets slowly. It may not really set for 48 hours. This can be hastened greatly by heat. If a temperature not over 200° is employed, it will set in less than 30 minutes. If that temperature is exceeded the plastic will run. You can use an oven, an infra red lamp, or even a goose neck lamp to apply the heat. To my mind, this is the best solution to the diagram problem so far.

Still another technique that has been used--for children's books, especially, is to paste in patterns of different materials and textures, or even objects themselves when they are not too thick. My own objection to this is two-fold: it is so much work, and I sometimes wonder what the user reacts to. It sometimes looks as if the child is reacting to the love indicated by the effort. This is not, I admit, peculiar to blind children. Much of the enthusiasms around a Christmas Tree for complicated and unrewarding toys is of the same order.

So far we have spoken of single copies. We are duplicating print material in braille--but once only. If many copies are required we have another problem. The oldest approach was to solder wires to a metal plate, sandwich it with dampened braille paper between sheets of rubber and pass it through a wringer or proof press. Then the metal sheets themselves were embossed in one way or another and used the same way.

Another way was to use thermographic printing techniques. So far this hasn't proved too successful. The drawing or graph is printed with a sticky substance, then sprinkled with plastic powder which adheres to the sticky ink. The sheet is then heated to fuse the powder. This is the system used to simulate engraving of calling cards. It is currently being studied intensively by the Geography Department at the University of Washington.

Silk Screening has more promise, it seems to me, and Irving Bonderoth of New York has devised techniques for producing a very legible raised line. Here, of course, the need for screen is the draw-back. These can be hand cut, but demand considerable skill, or they can be produced photo chemically from a prepared sketch. So far as I know the method has never been used in any production situations.

The system which currently seems to me to show most promise is vacuum forming. It might be compared in complexity and speed of production with photo-stating. It will appeal to the transcriber especially as a means of producing not only diagrams and the like but braille as well. In other words, you can make copies on plastic of braille which has been hand transcribed on paper.

The equipment costs on the order of \$350.00--say the cost of four braille writers. The plastic costs somewhat more than paper. It is probably as durable, if not more so. The technique is simple. The material to be copied is laid in the machine, a piece of plastic is laid over it and clamped into place. A heater is brought over the plastic to soften it, then vacuum sucks the softened plastic down over the original. It takes perhaps 15 seconds to make a copy. You can readily see if a volume of tables has been prepared for an engineer, and another engineer wants the same material, this offers a happy and simple solution. Indeed, I can foresee some groups who may retain the original paper copy and only send out plastic duplicates.

Vacuum Forming makes possible duplication of many types of material. I have made perfectly satisfactory copies of a spur wheel diagram. I am nervous about Relievo sketches, but plan to try that this afternoon. Failing that, I suspect that Epoxy Resins

can be used like the Relievo Paint and I know they will withstand the heat. Also bas reliefs, relief maps, all sorts of other educational equipment can quickly and cheaply be reproduced in this way.

Vacuum Forming does not compete with other braille duplicating techniques to be discussed in a work shop session this afternoon. The Addressograph-Multigraph, to single out one, will make it possible to run off a hundred or a thousand copies at probably lower costs than the present investment in paper.

Charles Ritter



HISTORY OF THE ADOPTION OF THE NEMETH CODE OF  
MATHEMATICS FOR USE IN THE UNITED STATES  
AND PROBLEMS IN ITS APPLICATION

I have been asked today to present to you the history of the development and adoption of the NEMETH CODE OF BRAILLE MATHEMATICS for the embossing of mathematics works in Braille, and to discuss some of the problems in the application of the Code. Before I do this, however, I think I should point out the inherent difficulty of any code of Braille mathematics, which difficulty is shared with the regular literary code and other scientific Braille codes, such as music and science. I refer to the fact that the six-dot Braille system, because of the limitation in the number of symbols to only 63 characters, is impossible of making exact reproductions of ink-print material in Braille. The best we can do is to assign a number of different meanings to each Braille symbol, thereby necessitating adherence to strict rules of usage and the employment of devices peculiar to Braille, such as the capital and number signs, which, for want of a better name I shall call "Brailisms," in order to make clear the meaning of any particular Braille character under any given situation. We must face the fact that Braille is a shorthand system, and a very arbitrary one at that. It is this problem of "Brailisms" which accounts for much of our troubles, in the writing of both literary (or regular) Braille, as well as the scientific Braille codes, although the use of "Brailisms" becomes much more pronounced when writing mathematical Braille symbols. If we keep this fact in mind, I think you will understand better the reasons for adopting the NEMETH CODE OF BRAILLE MATHEMATICS.

Historical Review

I first became involved in the problems of Braille mathematics in about 1940, when it had become all too clear to me, as Braille Editor of the American Printing House for the Blind, that the sketchy American Revision of the English Taylor Code then in use, and available only in Braille, was completely inadequate to guide a stereotypist or transcriber in the embossing of even simple mathematics texts. About that time, Mr. Frank C. Bryan, Manager of the Howe Press, and Mr. Edward J. Waterhouse, teacher at Perkins Institution, sent to the Printing House a manuscript of a proposed revision and expansion of the Taylor Code for use in this country, with the request that it be published in both Braille and ink-print form, for the use of the teachers and children in the schools and classes for the blind. Upon looking it over, I suggested additional changes and improvements, and also sought the aid of Mr. John B. Curtis, Founder and Former Supervisor of the Chicago Public School Classes for the Blind. This material was finally published in 1942 as BRAILLE MATHEMATICAL NOTATION: SECOND AMERICAN REVISION. Please understand that this revision was compounded by Mr. Bryan, Mr. Curtis, Mr. Waterhouse, and myself without any of us being endowed with authority to do so by the AAIB, the AAWB, or any other agency. It was adopted by the Printing House simply because there was nothing better in the field, and it was a help to some extent. However, when all four of us working with the code, and we at the Printing House in particular, tried to apply it to the writing of even freshman high school algebra, we were keenly aware of its deficiencies. Not only was it full of Brailisms, but it made absolutely no provision for many of the symbols employed in modern mathematics texts at even the primary school level, and absolutely none for books in higher mathematics. This necessitated the improvising of symbols and usages every time we tried to emboss a new mathematics text, and it was clear to all of us that, as time went on, the situation would get worse, not better.

In June, 1947, under the aegis of the American Foundation for the Blind, Dr. Robert B. Irwin called a meeting in Chicago of a committee comprising the following five people:

- Mr. John B. Curtis, Chairman, Founder and Former Supervisor of the Chicago Public School Classes for the Blind, and a member of both committees which made the First and Second American adaptations of the Taylor Code.
- Mr. William J. Page, Former Assistant to Mr. Curtis in the Chicago Public School Classes for the Blind.
- Mr. Edward J. Waterhouse, Manager, Howe Memorial Press, Watertown, Massachusetts, Teacher of Mathematics at Perkins, and a member of the committee making the Second American Revision of the Taylor Code.
- Dr. Clifford M. Witcher, New York City, blind physicist and research worker for Bell Laboratories and Haskins Laboratories (later, on the staff of

the Foundation, and more recently, until his death last year, research worker for MIT).

Miss Marjorie S. Hooper, Braille Editor, APH, and member of the committee making the Second American Revision of the Taylor Code.

At this meeting of the informal committee, the following materials were presented for the consideration of the American conferees:

INTERNATIONAL CODE ON MATHEMATICS AND CHEMISTRY, approved by VII Committee, appointed by the International Braille Congress, held in Vienna in 1929.

THE SIMPLIFIED PRESENTATION OF THE INTERNATIONAL CODE FOR BRAILLE MATHEMATICS - PART I: ARITHMETIC, as submitted to the Chicago Conference by a likewise informal English Committee on Mathematics, consisting of:

R. H. Bonham, Headmaster of Mathematics at the Royal Normal College at Worcester, England.

H. M. Lochhead, Headmaster of Mathematics at the Edinburgh Royal Institution for the Blind, Edinburgh, Scotland.

The American Committee spent two days going over these materials most carefully, and submitted a detailed report to the English Committee, covering both agreements and disagreements and suggested changes. Additionally, it should be pointed out that this informal American Committee was not of the opinion that the British "SIMPLIFIED PRESENTATION OF THE INTERNATIONAL CODE FOR BRAILLE MATHEMATICS" should be recommended for adoption by the United States, even though there was some feeling towards the advisability of adopting an international Braille mathematics code.

At that time, on the international side, the situation was as follows:

"At the International Blind Congress held in Vienna in 1929, 21 committees were appointed to deal with various matters connected with the welfare of the blind. To No. VII Committee was entrusted the task of recommending, if possible, an International Braille Code of 'Mathematics and Chemistry.'

"Ten systems of transcribing mathematics into Braille and several for transcribing chemistry were submitted to the Committee. All were different, and several were incomplete, and though each system had proved sufficient for the needs of each country, there was no common basis among them - except that the signs of operation adopted in the INTERNATIONAL BRAILLE CODE OF MATHEMATICS were those in general use on the continent of Europe (but not in Great Britain).

"In view of this chaos, the Committee (International) had to decide whether (1) To construct an entirely new code; or (2) To base the new code on one of the existing national ones. The Committee decided to adopt the latter alternative. The German (Marburg) Code was selected, for two reasons: Firstly, that it was desirable to retain, at any rate, one existing system instead of scrapping all; and Secondly, because the Marburg Code was responsible for the publication (at that time) of a larger number of mathematical works than any other. At the same time, the principle was accepted that the International Code must be the same for both elementary and advanced mathematics.

"In 1934, when it was made known that the French educational authorities were not prepared to adopt an international code in place of their own (that of the Association Valentin Haüy), M. Henri felt compelled to resign his position as President of the Committee. In his place Dr. Juringius was appointed President. He was responsible for guiding the discussions of the Committee for a further three years - until agreement, by a majority, was reached in 1937. . . . in the hope that this International Code would in time take the place of all those then in use."\*

The hope that the International Code would in time take the place of all those then in use did not materialize. The French abandoned the mathematical project in 1934, and World War II put off cooperative efforts among the nations for several years. Finally, with the establishment of the World Braille Council in 1951, after due consideration, it became apparent that there was no real need for an international mathematics code, since the majority of blind people had little use for any but simple mathematics, which any national code seemed to cover adequately, and any individual student of higher mathematics had the intelligence and ability to absorb any special code needed if he wished to employ books published in other countries. Hence, at the present time, there is no recommendation for further pursuit of an international code of Braille mathematics.

Going back to the work in this country; Following submission to the British of the report of the informal committee meeting in 1947, nothing more was heard from them until the spring of 1950, at which time another meeting of the informal American Committee was

\* Letter from John B. Curtis to Dr. Robert B. Irwin, July 20, 1949.

held on May 22-23. At this time the British revision of the material reported on previously by our Committee was again reviewed - again only the material on arithmetic. The advanced part of their code was never submitted for consideration by this Committee.

In the summer of 1950, both the AAIB and the AAWB adopted identical resolutions creating the American Joint Uniform Braille Committee, appointing three representatives from each Association to the Committee. At the organizational meeting of the Joint Uniform Braille Committee, held in Louisville, Kentucky, April 27-28, 1951, an official Sub-Committee on Mathematics was appointed, comprised of the following:

Mr. Edward J. Waterhouse, Chairman;

Mr. R. W. Beath, of the Canadian National Institute for the Blind, Ontario, and Chairman of the AAWB Braille Committee;

Mr. Abraham Nemeth, blind mathematician;

Dr. Clifford J. Witcher, blind physicist; and  
myself as Secretary.

At this time, Mr. M. Robert Barnett, Executive Director of the Foundation, offered financial aid to the Sub-Committee with the understanding that it would complete its work within a period of one year. The first meeting of the Sub-Committee was held in New York on June 8, 1951. At this meeting I was able to report that the British had advised that a like official Sub-Committee on Mathematics of the newly reactivated British National Uniform Type Committee had been appointed in England.

During the two-day meeting, the Sub-Committee on mathematics gave serious study to the possibilities before it:

- a. A revision and improvement of the Taylor Code.
- b. A revision and adoption of the International Code, as simplified by the British Committee.
- c. The revision, improvement, and adoption of the Nemeth Code of Mathematics which had been devised by Mr. Nemeth.

Of the three, it was the unanimous feeling of the Sub-Committee that the Nemeth Code held the greatest promise of usefulness and effectiveness, and it was accordingly adopted for study and improvement, and recommendation to the British Sub-Committee for their adoption and endorsement.

Following this meeting, a year of intensive work by the Sub-Committee brought the NEMETH CODE to the point where it was approved for publication, which costs were paid for by the American Printing House for the Blind and the Foundation. In December, 1953, the Sub-Committee held a meeting to draw up an outline of procedure for testing the Code in the schools for the blind, the Printing House having previously, at its own expense, embossed an algebra in the Nemeth Code. At the 1954 Convention of the AAIB, the Committee met again at Batavia to review the findings of the participating schools which had used the algebra embossed in the Nemeth Code, and unanimously voted to recommend its official adoption for use in the United States and by the American Printing House for the Blind in the embossing of the mathematics texts for the schools and classes for the blind. At the Annual Meeting of the Board of Trustees on November 9, 1954, the NEMETH CODE OF BRAILLE MATHEMATICS was formally adopted by the Printing House for the writing of all works in mathematics. So much for history.

#### Application of the Nemeth Code

Since that time, the Printing House has embossed one complete set of arithmetics from the third through the eighth grades, a two-year course in algebra, plus another set of arithmetics for Grades III, IV, V, and VII, in this code. Like you transcribers of mathematics texts, we have had our troubles, and Mr. Nemeth has had to reinterpret the code many times for us. One of the results of our troubles was the revision of THE NEMETH CODE which was published in 1956, to include the additional needed explanations for the use of the code, particularly in the embossing of books for the lower grades.

Our problem and yours is to provide "the proof in the pudding." Fundamentally, it is the promise of the Sub-Committee on Mathematics that the Nemeth Code does make provision for all contingencies, particularly in the case of higher mathematics, which none of the other codes we examined did. Further, it includes fewer "Brailisms." However, because the Code was devised by a blind mathematician who is a professor of mathematics at the university level, probably not enough explanatory material has been provided for the embossing of books at the primary arithmetic level. Basically, however, the Code seems to be sound, and I think the pooling of experience will obviate much of our difficulties. I know that a transcriber working on a tight schedule is pretty much up against it at times trying to work out the correct usage for a particular situation, and I feel

that there is a real need for some central authority, easy to get to and get a reply from, to settle such transcribing problems. Additionally, I am very much opposed personally to each transcriber simply devising his or her own interpretation to fit a given situation, without regard to what might be done by someone else, so that we wind up with a hodgepodge of usages which bear no relation one to another. I do not know the complete answer to this problem, but I would like to suggest that your group make a formal recommendation to the Joint Uniform Braille Committee that some way be found to set up an authority to provide necessary guidance to transcribers of mathematics texts -- an authority which has the knowledge and the time and the finances to give the answers promptly, when needed. At present, we at the Printing House are trying to answer all questions which come our way for which we do have the answer. Additionally, we write to Mr. Nemeth for further help. Many people also write direct to Mr. Nemeth, and he has been most cooperative in sending me duplicates of his answers with a view to the Printing House compiling a compendium of information on the subject, so that the next time the problem comes up we can give a consistent answer.

The problem really boils down to one of finance, --as usual. Mr. Nemeth is a very busy man, making his living as a university professor, with all the additional work that such a position entails for a blind person. He does not have the time or the personal finances to keep up with the problem on a catch-as-catch-can basis. On the other hand, the Printing House is tied by the fact that our finances are all earmarked, and we cannot pay Mr. Nemeth to answer your questions, the answers to which we already know. As a temporary measure, I would like to suggest that all of you wishing and needing information write direct to me at the Printing House for information. If we know the answer, we can give it to you immediately. If we don't know it, we can then confer with Mr. Nemeth, and relay the information to you, keeping a copy for ourselves for future need. In this way, some orderly growth in all of our knowledge can be achieved, which can be used as a basis for a scientific revision or logical interpretation of the code for everyone. I ask your help on this basis.

Additionally, I should like to suggest that the group at this meeting interested in mathematics transcribing use the time for our workshop this afternoon to compile a list of points in the Nemeth Code which need further clarification for the benefit of transcribers and teachers of blind students. Frankly, I do not believe even Mr. Nemeth himself could offhand, in the time allotted, begin to answer your questions on how to write a particular problem or mathematical sequence, and I know that I, personally, feel uninclined to be a "lamb led to the slaughter." I believe, therefore, that the group here could do a much more constructive job if we would settle down to making some pertinent comments on individual points which need greater explanation and clarification. As a member of the Sub-Committee on Mathematics of the Joint Uniform Braille Committee, I would then be in a position to take these suggestions to our Sub-Committee and Mr. Nemeth for further consideration and possible publication as an addition to the present Nemeth Code. Please understand, however, that I shall be glad to take down the list of your questions for answer just as soon as I can return to the Printing House next week and refer them to our technical Braillists and/or Mr. Nemeth, as may be necessary.

Before closing, I should like to say that I took a good deal of your time to give you the historical background of the adoption of the Nemeth Code, so that you might know that it was not imposed on you and the blind users without a very great deal of thoughtful consideration. I firmly believe that we have the best code available, and I base this belief on the years of study of other codes so far devised. I can assure you that your problems are not nearly so great as they might be - if that be any comfort.

Marjorie S. Hooper



## THE GROWTH OF THE RESOURCE ROOM

### Introduction

The topic which has been assigned is "A Specialized Program for Blind With Sighted Children in a Public School Setting." It is recognized that there are various types of programs which make it possible for blind children to remain in their own homes and attend the nearest school which is available to them. This is indeed a fortunate situation since children have varying and individual needs, their families' problems are varied and changing in our fluctuating society, and the communities may present either meager or elaborate facilities which often can be improved and used effectively.

While there are numerous variations in the programs which are scheduled for discussion at this meeting, it is possible to consider them broadly as the Cooperative Program, the Integrated Program and the Itinerant Teacher Service Type of Program. The school administrators who are able to plan creatively for the individual and varying needs of children often are able to combine one or more of these plans in the best interest of a total and functional program for each child. This means that those who are employed in all areas of any school system must strive for a keen understanding of and respect for each of the programs as they are brought into focus for the child who is blind.

The program committee has assigned your speaker the task of discussing the first two types of programs: the Cooperative Program and the Integrated Program. The Itinerant Teacher Service Type of Program is reserved for the following speaker.

### History of the Specialized Program

The early requests for blind children to be educated with sighted children in local schools came around the turn of the century. The appeals were made by blind individuals who expressed the feeling that, if blind people were ultimately to live and work with sighted adults, the opportunity to be educated with sighted children might be an excellent way to grow in communication and participation during the important school years. The three blind persons who were most influential in the development of the early programs were John Curtis of Chicago, George Meyer of Minneapolis and New Jersey, and Robert B. Irwin of Ohio and New York. Between the years of 1900 and 1910 programs were established in Chicago, Cincinnati, Milwaukee, Racine, Cleveland, Boston, New York and Newark. For the first quarter of the century these programs were developed mostly in the larger urban areas. The greatest increase in the number of programs in all types of communities has occurred within the last twelve to fifteen years. A striking example of this growth can be seen in the fact that in 1945 there were 53 programs in 25 cities in the United States, and in 1956 there 200 programs in 86 cities, an increase in programs of 377 per cent. The most recent estimate of the number of blind children within the legal definition of blindness indicates that more than 40 per cent of them are at the present time receiving their education with sighted children in the public schools. This growth has been tremendous and, as with any change that comes rapidly, it has presented great gains for blind children and tremendous problems for those who accept the challenge of providing adequate service. This challenge is shared by the families of the children, the educational personnel at all levels of responsibility, the related agencies serving children, and by that important group of citizens, the volunteers who help with all types of service. Perhaps the most exciting and worthwhile services known to those who develop programs in the education of blind children comes from the volunteer braille transcribers and recorders who provide necessary books, reference materials and leisure time reading for these children.

The petition of the early pioneers to the local school systems has been accepted. The programs have grown and you, the volunteers, have helped immeasurably to meet the challenges. You have shown by your contributions that you have understood the philosophy. If blind children were truly accepted in all of the programs, understood by all of their teachers and sighted classmates, much of their work could not be accomplished without you. These children could not realize the sociological ideals of their predecessors without the necessary books and materials to insure their full participation in these educational programs.

### The Early Programs

It is natural that the administrators for the early programs proceeded with great caution. The blind children were assigned a special room, and now and then an additional adjoining room, where arts and crafts and some music were provided separately from the sighted children. Often those who doubted the wisdom of such programs referred to them as "little institutions." These programs were most often referred to as day school classes, special rooms for blind children, or braille classes. Psychologically, these titles were descriptive of programs which were more set apart than actually belonging to school programs for all children.

It is inspiring to note, however, that as blind children were enrolled in the programs, they were able to demonstrate their abilities, and they did the best selling job of all. As regular teachers observed the work of these children and as the specialist teachers became more skillful in helping the children to function with greater competence, there was less hesitancy to admit them to a greater variety of classes and activities in the schools.

As experience with the specialized program for blind children was shared by a greater number of systems, it became obvious that in order to provide a better educational program it was necessary to achieve greater cooperation between the specialist teacher and the regular teachers in the building. This cooperative planning through the administrative channels used by all of the teaching staff naturally suggested the title of "The Cooperative Program." As in all other areas of special education at this time, the program was thought of as being so special that the specialist teacher must assume responsibility for planning and indeed for the major part of the administration of some of the programs. The additional salary provided such teachers, and the freedom from serving on school committees and duties regularly assigned to all other teachers, tended to set apart further the specialized program. To insure the special treatment which was implied in the cooperative plan, the blind children were enrolled in the special room and attended only those activities in the regular classes which the special teacher considered desirable or productive. The special teacher spent far too much of the time in simple clerical jobs, in preparation of braille materials and in providing reader service. In addition to these duties there was the responsibility for teaching most of the subjects in the curriculum.

The Cooperative Plan has been defined in The Pine Brook Report as that plan in which the blind child is enrolled with a teacher of blind children in a special room from which

he goes to the regular classrooms for a portion of his school day. In this plan the special room becomes his home room from which his program planning stems, in cooperation with the regular classroom teachers.

It must be stated here that many of the older programs have found it administratively difficult to change their procedures with regard to the home room assignment, title of program and practices of relationship between the special teacher and the regular teachers. There are also states in which the regulations for financial reimbursement of classes have made it impossible to change some of these earlier practices. It is true, however, that with skillful interpretations, new regulations for existing laws have been drawn up which have contributed to the flexibility of practices. As more is learned about the individualized approach in dealing with children, even though they may be enrolled in large systems, greater flexibility and coordination of effort surely will be realized.

Blind children vary as much one from another as sighted children do. With this in mind, it is easy to understand that their needs to be functioning with their appropriate peer groups vary. If the purpose of this type of education is to provide the advantages of association early with children who see, it is obvious that the functions of the special teacher should be to help achieve this goal. This can only be done, however, with the full support and leadership of the administration of the school systems in which programs are located. If the opportunities and gains to both blind and sighted children are thoroughly understood by administrators, it should not be difficult to point out that all children profit from this experience, and that neither blind nor sighted children are deprived as they participate in properly developed educational programs.

### Productive Changes

Many events have occurred since the first programs for blind children were inaugurated during the early years of this century. Certain of them deserve special mention because of their relation to changes in the types of programs for the education of blind with sighted children. It has already been pointed out that the specialists gained more skill in helping blind children succeed in more complicating situations, and blind children themselves served to acquaint their educators and classmates with the fact that they could participate effectively in the total school program. It is also true that the special education programs have grown in all areas, and that communities have come to a realization that in order to provide an educational program for all children, they must include those with handicaps. Certainly there has been more attention given to teacher preparation in the area of the education of the blind as well as in the broader areas of the education of exceptional children. While problems have increased, with them has come greater stimulation to study and to experiment with new types of programs.

Those who studied these programs seriously looked at the sociological ideas which prompted this type of education in the first place, and they looked at the problems. Some of the problems seemed sociological in nature, and they related not only to the attitudes of the blind children but the sighted children and the people in general education who naturally expressed feelings of inadequacy until the necessary orientation was provided. As they looked at problems of equipment and materials, they began to see that in many of the early programs, the problems related to the purpose of the program had not really been faced.

If blind children were to associate with sighted children and really participate with them, they should have the opportunity to be enrolled in the same grades with the sighted children; they should have identical textbooks and closely related materials; and they must share in the rich educational programs which were developed by the qualified regular teachers with whom they really belonged. Thus, the blind children should be integrated into the same broad curriculum plan that was available to the sighted children. They should also receive whatever service that might be available from all of the consultative and administrative staff of the school system. Again, the result was the suggestion of a new title for a program, "The Integrated Program." This program has been described in The Pine Brook Report as one in which the blind child is enrolled in the regular classroom. Available to him and to his regular teachers is a full-time qualified teacher of blind children and also a resource room. The regular teachers turn to the teacher of blind children for assistance in planning the child's program, for guidance in adapting the classroom procedures, and for providing, as necessary, specialized instruction appropriate to the blind child's needs.

A further look at the program with all of its educational and sociological challenges prompted an even closer look at that specialist type of teacher who had been contributing so much to the previous classes.

With this newer concept, the special teacher would have to become a resource to the blind child in order that he might function more effectively with his sighted peers in his appropriate grade level or class. It was recognized that blindness presents particular problems which require the service in an educational program of a qualified teacher with specialized preparation. Experience had shown that each blind child would have both needs and potentialities which often would have to be understood by the qualified special-



ist type of teacher and interpreted to the other teachers and staff. This teacher would have to be available to these regular teachers and staff on matters which might be related to the blindness of the child as it affected the educational program. This teacher would surely have to be a resourceful person.

A brief description of the resource teacher functioning in an integrated program today would be as follows. The resource teacher serves each blind child by providing or securing materials and equipment for him, by giving enough individual instruction to permit him to function at his highest level in his own classroom, and by offering that counseling which enables him to take his rightful place among his peers. The resource teacher contributes to the overall effectiveness of the regular school staff by encouraging their commendable efforts, by interpreting any special needs the blind children might have, by lending support to creative and experimental ideas which are in the best interests of the children, and by helping personnel other than teachers understand their importance in the total program. Occasionally, the resource teacher is called upon to help the community provide better service for the children who are blind through contact with recreational, religious or social groups.

The room in which these specialized types of service would be provided for each blind child would become a resource room to which the child would return when he needed help or when there might be need for enrichment to his school program. There might also be, on occasion, problems related to the use of both his general and specialized equipment, his reader service, some related resources in the school program, or extracurricular activities outside the school.

In order that the resource teacher be free to provide the various types of service and individualized instruction that each blind child might need, it is important that the children be enrolled in their regular classes. This practice would not be followed, however, if it were not recognized that each child should learn more and have greater opportunities for all types of growth in association with other children of his approximate level. In order to insure that participation instead of visitation is occurring in the various regular classrooms, this resource teacher needs the opportunity now and then to step into the regular classrooms. This visit is for the purpose not of observing the teachers but rather seeing the child at work and knowing what some of his current problems might be. Where there are good relationships between the resource teacher and the other teachers in the building, this type of brief visiting is welcomed rather than frowned upon.

In some of the programs the regular teachers often ask the resource teacher to drop in to offer a little help in an arts and crafts period, or in certain other types of activities with which the regular teacher may feel the need of reassurance.

If the resource teacher is to be able to prepare certain short passages of reference material for a child to use in a regular classroom the next day or possibly within a couple of hours, it is important that the blind children understand why they return to the room. Is it for the purpose of receiving help with subject matter, or is it for the use of equipment? It is possible for two or three children to be working on various types of projects at a time when the teacher may be brailleing quick snatches of material, correcting braille tests, or doing various other types of tasks which make it possible for each child to function more effectively in the regular classroom.

This resource teacher, who first of all is a teacher, often has to act almost as a clinician in analyzing problems and in working with both children and adults in an atmosphere where good human relations make possible a sound program for all children. The administration can facilitate the program or retard it, depending upon an understanding of the philosophy of the individualized approach and procedures.

Many goals and problems are common to both the cooperative and the integrated program. The children vary as much today as yesterday. Some of them are able to function as superior members of their appropriate groups, needing little help beyond the specialized equipment, identical texts, sufficient related braille and recorded material, and occasional reader service. Certain others, like those who see, present problems which make it difficult for them to have productive relationships with any group of children. This may occur occasionally in cases of emotional difficulties or in cases which appear at first to be retardation. The resource teacher, like the special teacher in the earlier programs, is given the challenge of trying to know the child, of finding consultative help from the school system and elsewhere, and, after considerable study, of seeking for each child the amount of productive experience which is available to him. If this type of careful study is possible within a school system, it is then easier to determine whether or not the child is really helped by this program or whether another type of program should be found. Even though the problems relate to a child with multiple handicaps, the idea is to provide as much comfortable and meaningful functioning as is possible with those children who seem to make up a worthwhile group for this particular child.

There are those who, upon first considering the integrated program, express a feeling that more pressure would be placed upon the child who functions a great amount of time with children who see. On the contrary, as programs have been observed, it would

seem that the blind children who do not present additional handicaps and for whom a good resource teacher is available seem to function at a higher level with less help from the resource teacher. As the independence of the average and above-average children is realized, there is more time for the resource teacher to help children with additional handicaps and provide the support and increased amount of individualized instruction which often results in much greater functioning with sighted children than might have been thought possible at the beginning.

The goal of the resource type of program is to attempt to find for each child the adequate educational service which he needs, and for the resource teacher to try to help the administration of the school pool all of their efforts in behalf of the child. The very idea of the title of the resource room and the manner of functioning of the resource teacher should make it easier to realize the value of all of the personnel in general education. Also, it should make the program for blind children an integral part of the public school system and not something which is set apart and difficult to understand. It is indeed general education with specialized service available to a small group of children because of the varying types of problems that may relate to blindness.

#### Needed Services and Materials

With the rapid growth of new programs there are problems which baffle the administrators as well as gains which come to all who participate in them. It has been pointed out that the sociological and psychological gains for both blind and sighted children have been outstanding in a number of relatively recent programs. This cannot help but affect the attitudes of both blind and sighted adults of the future who should have greater communication and understanding because of the shared experiences of their school years. The length of this discussion does not permit the countless stories of growth on the part of children and people in all areas of education who now can feel differently concerning the potentialities and needs of blind children.

The needs for more service, however, are great, and the citizens of this country have much to contribute through their understanding and knowledge of the value of good legislation. If we believe that blind children should have at least comparable service to that which they would have received had they been sighted, there are certain problems which deserve special consideration in these critical times.

May we suggest that you study the library service in this country which is available to blind readers. Until quite recently, this service was available only to blind adults. This fact partially explains the dearth of books for children. A change in legislation in 1952 affecting the Library of Congress made possible the publication and distribution of books for children.

We would like to urge that you examine a forthcoming publication from the American Foundation for the Blind, entitled "Survey of Library Service for the Blind in the United States" by Francis R. St. John. It is not the purpose here to forecast the content of this publication but, since your contribution is so valuable at this conference, it would seem that there are two or three facts which might have special interest for you. The following quotes from the study will perhaps help you realize what an outstanding need there is and what a worthwhile job you are doing:

"The paucity of titles has been stressed since it seems to indicate that the blind reader has nowhere near the rich supply of knowledge in book form which is available to the sighted reader. The Library of Congress professes that the basic philosophy behind book selection is the policy that the blind citizen has the same reading needs as the adult, sighted reader. With a maximum of 7 per cent of the titles printed for distribution to sighted readers available it is obvious that the blind are not receiving the same kind of library service available to the sighted community. In addition, three quarters of the total number of titles produced in 1956 were the result of volunteer effort and not directly part of the federal program."

"Blindness is a physical and not a mental handicap and the selection of books for the blind should be practically the same as the selection of books for sighted readers."

"(Under current appropriations and with present techniques, only approximately 200 titles may be selected for Talking Book editions, 150 titles for braille edition, and 10 titles for Moon editions.)"

The problem of securing equipment with which to write braille is just as great as the problem of library service to blind readers. Groups of volunteers often find themselves mastering the braille system and feeling sure that they will be able to produce all of the books that a school system needs only to realize with a shock that after they have collected money and placed orders for braillewriters, there are none available. Likewise, school systems that set up new programs find that they have set up a program, hired a teacher, purchased other types of equipment, and blind children cannot have the use of a braillewriter purely because they are not available. This situation is surely

in need of study and it is to be hoped that the future will be brighter. Often good volunteers are lost because of the time lag between the mastery of braille and the procurement of the equipment.

There are also great needs for better and more economical duplicating devices, better standards for binding, and better circulating and distributing facilities. Certainly, the more experienced programs have much to contribute along these lines. It does seem appalling, however, to have to face the fact that for the want of good equipment which can be produced, children are deprived of necessary educational equipment and volunteer groups are denied the privilege of serving blind children.

There is still need in some of the programs for more careful orientation of the volunteers who are willing to serve the school system. The educational administration is responsible for the program, and if they do not use the excellent resources of volunteers and have the courage to point out why in some cases the service is not adequate, they are missing a valuable service and depriving blind children of both identical and comparable texts as well as leisure-time reading.

Some systems have recognized the value of having paid staff to work with volunteer groups. This arrangement assures the school system of getting work done which has value and which is accurately done, and it helps perfect cooperative relationships between the volunteers and the school system. Some of the programs with greater experience have much to contribute along these lines.

The resource teacher's role in the development of educational materials in both braille and recorded forms is important and needs to be understood by the administrative and consultative staff in the school system. The teacher is closest to the children, and as he works through administrative channels he is often the best interpreter of the educational needs of the blind children. The teacher may not be as proficient a brailist, from the standpoint of quantity of material turned out, as are many of the certified, experienced braille transcribers. However, he knows, and should know, how to develop materials which can be used most effectively by blind children, and he is the best judge of certain ways of setting up various types of materials. Skill in helping qualified braillists to follow his suggestions is a vital part of his total effectiveness.

The teacher must not become so dependent upon the volunteer braillists that he loses his own ability to braille needed materials. There will be many times when children need something prepared on very short notice, and the teacher's skill in braille should be immediately available to them.

Teacher-made materials can best be described briefly as falling into the following areas. Identical transcriptions are such items as parts of technical reference books, special interest library books, board work, chart stories for regular classroom use, parts of newspaper and magazine articles and tests for use in the classroom or by school psychologists. Adapted materials might be workbooks for young children, parts of arithmetic materials, raised maps, science experiments, and instruction for art projects. Enrichment materials might include such items as stories about the children made into short books, books about school happenings for children who may be ill, new vocabulary cards, additional stories for the child who is having difficulty with vocabulary, small books of stories containing poems, library stories with high interest level and minimum vocabulary, number games, and braille additions to equipment in the room. The teacher may also be helpful to the volunteers in providing orientation for them and steering them in developing materials for community needs as Sunday School materials, parts of Scout and other manuals for very young children who need to have materials bound in small volumes, words and music to songs used in church and elsewhere. There are also additional types of material which can challenge the initiative of both the brailist and the resource teacher in such items as school calendars, portions of children's encyclopedias, school menus, weekly announcements at the school, games for rainy days, and attractive meaningful materials to be taken home to share with the families of the children.

It is a great inspiration for those who are engaged in educational programs to observe the excellent work which is done by volunteer braillists and recorders. Some of the programs admit readily that they could not exist without this service. It would be impossible even with a tremendous budget to conceive of producing enough varied texts and reference books for all blind children in the various communities. With the coordination of the excellent work which is being done in the various local communities through the state, and hopefully some national resource, surely there will come a time when there will be less duplication of effort on the part of the braillists and greater sharing of material which is on shelves not being used after the child or children have received the benefit of specific titles.

We must recognize, however, that until the time comes when there is sufficient planning and budget, there is a great job to be done, and the volunteers deserve tremendous credit for their contributions. Blind children need books of all types, and particularly varied educational materials. Thus your service is needed. It is hard and exacting work,

but it is difficult to express in words what it means, first to the blind children, and then to the teachers and administrators who are trying to develop effective educational programs.

Georgie Lee Abel



#### THE ITINERANT TEACHING PROGRAM FOR BLIND CHILDREN

In the itinerant teaching program, the blind child is enrolled in his neighborhood school with special services brought to him.

Although the literature pertaining to the history of education of the blind gives reference to individual blind pupils who attended schools with those with normal vision, development of specific programs for this type of education extends back only about 40 years and is chiefly limited to education of blind children in the United States.

The following anecdote shows the efforts made by some residential schools for the blind to extend the facilities available to their senior high school pupils. In 1910, the superintendent of the Washington State School for the Blind reported to the staff and some of the older pupils of the school, some of the discussions that had been held at a recent convention of the American Association of Instructors of the Blind. Among these, was a description of a program that had been developed at the New York State School for the Blind, at Batavia, through which some of the more capable blind students were continuing to live at the residential school, but were receiving some of their academic program in the local high school. The school for the blind enriched their curriculum through instruction in crafts, music, athletics, etc., and provided special materials and equipment, as well as counseling services to the individual students and the public high school personnel. There was, among those in the Washington School who heard about the Batavia program, a young high school freshman by the name of George F. Meyer. Young George recognized that in the local public high school, he could receive a much broader and more stimulating experience than he could get in the school for the blind, where there were, at that time, only a handful of high school pupils. He decided that if the Batavia boys could do it, he could also. The Washington superintendent pointed out that their school was a great distance from the public high school and there was no way to transport George into town. George had walked to town before with partially-seeing boys as guides. He set out to learn the way himself. The problem of braille textbooks and reading service was brought up. The superintendent could not add this to the work of the already overburdened staff of his school. When at the end of the year the answer was still "no", young George announced that he was planning to live at home and attend his home-town high school the next year. Thus the superintendent learned a lesson which many others have since learned: When George Meyer decides that something is to be done, it will be done. He also realized that a blind student attending a local district school would receive a better education if he had the guidance of educators of the blind. George returned to the school for the blind and attended the local high school, with guidance and help from the residential school faculty. The janitor and one of the partially seeing boys read assignments to him late into the evenings in a furnace room - the only place in the school with light that late at night. They took turns dictating the Latin textbooks letter by letter since neither had studied Latin. George hand-transcribed his own books. He was valedictorian of the 1914 class of some 60 or 70 pupils of the Vancouver, Washington High School and went on to receive his Phi Beta Kappa key at the University of Washington and from there, went on to become a great leader in public school education of blind students, as well as a leader in work with blind persons of all ages. The New York State School for the Blind, in Batavia, has followed this program on a selective basis consistently throughout the years. Many residential schools have made occasional use of local public high schools for special situations. Some have made arrangements for high school students to return to their local district schools. Several have definite organized programs for students living at the residential schools to attend the local high school, with members of the residential school staff assigned the responsibility of "itinerant teacher", to provide necessary supplemental instruction, special materials and equipment and counseling service to the public high school and the students regarding their educational program and adjustment.

During the same period that the New York State School, the Washington State School and other residential schools for the blind were beginning to send some of their pupils to public high schools, some of the city school systems began programs for the education of younger blind children. These have been described by the previous speaker. Many of the graduates of these elementary school programs continued in their local secondary schools with the special teachers from the elementary programs serving as "itinerant teachers" for the secondary programs. A program for the education of blind pupils in the public schools of Newark, New Jersey, was opened on December 10, 1910. The first graduate of that class was Mary Curcio, who entered the group several months after it opened, skipped through eight years in six, and entered Southside High School, in Newark, in January, 1917. Transfer to the high school was not too difficult for Mary. During most of her grade school days, she had spent the largest part of the day in the regular classroom, returning to her special teacher for typing lessons while the others had penmanship, and

for handwork, while the others had art. Her high school Latin books were already available in press braille. Her special teacher copied the algebra and French into braille and her seeing sister, Pauline, read the other assignments to her. Pauline attended the same high school. They traveled back and forth together by trolley. Mary also graduated with honors and went on to become a member of Phi Beta Kappa at New Jersey College for Women.

Largely through the efforts of Miss Lydia Y. Hayes, the first executive director of the New Jersey Commission for the Blind, other cities throughout the northern part of the State, established special programs for blind children, pupils were graduated into their local high schools, and services expanded to them. Miss Hayes, who although blind from childhood was a trained and experienced teacher of seeing children, worked hand-in-hand with the special teachers and the high schools in counseling the students and providing special services. When one student finished a textbook, it was made available to the next. A service was soon established through which the Commission for the Blind paid a teacher in the high school to read to the student, to act as a liaison person to bring to the attention of the agency, or the special teacher, any difficulty that might arise. By the late twenties and early thirties, volunteer braillists began hand-transcribing textbooks. In 1933 a teacher was employed who relieved Miss Hayes and other members of the agency's staff of much of the work with these children. When Miss Hayes retired in 1937, the program whereby an individual blind student attended his local high school with supplementary services was so well established that it was state-wide. Pupils in parts of the state where there were no special programs for younger children attended residential schools for the blind, but came home for part, or all of their high school work.

In 1934 one more phase of local school placement of blind children in New Jersey was developed. The Arthur Sunshine Nursery for Blind Children which was located in Summit, New Jersey, established a visiting counseling service for preschool blind children and their parents. Dr. Kathryn E. Maxfield, Director of the Nursery, believed that many blind children could profit from attending their local nursery schools with seeing children. Placement of a totally blind child in a public school kindergarten followed in February, 1935. The visiting counselor made regular visits to the nursery schools and to the kindergartens, bringing special materials, working with the blind child to facilitate his adjustment, and working with the school personnel toward a better understanding of the child and ways in which they could work together for his development. This program was carried on from 1934 to 1936, at which time it was discontinued due to lack of funds and lack of children.

When Miss Hayes retired in 1937, her successor as director of the Commission, was George F. Meyer, who by then had moved eastward from the state of Washington to Minneapolis where he had been supervisor of the program for blind and partially seeing children in the local public schools. By that time, most of the larger cities in Northeastern New Jersey had programs for the education of blind children. The program for education of blind secondary students was established on a state-wide basis, but young blind children in other parts of the state had to leave their homes either to attend residential schools, or board near the larger cities maintaining special programs. A review of the total situation indicated that additional city programs would not solve the problem. The children's homes were too scattered. By 1939 a series of conferences and much correspondence was begun which ultimately developed into the employing of a trained and experienced teacher of blind children to direct the total program of the education of blind children throughout the State and to concentrate on the development of a program for the education of young blind children in their local communities. By the fall of 1943 the first first-grade child was initiated into an itinerant teacher program. By the following year, an additional teacher to give full time to the itinerant program was employed. At the present time there are 16 itinerant teachers, plus two teacher librarians and two supervisors and one director serving 106 totally blind children and several hundred others with some useful vision. Of the 800 severely visually handicapped children from kindergarten level through high school in New Jersey, 10% attend residential schools for the blind, 30% are attending special city programs for visually handicapped children and 60% are in their local school systems. Since the philosophy of the New Jersey Plan involves school placement according to the needs of the child at the particular time, most children have experience in more than one type of program in the course of their school careers. The relatively small number of itinerant teachers are able to give service to such a large number of pupils due to provision within a State School Law for employment of supplementary instructors. Through this arrangement, certified teachers who have not had special training in the area of education of the blind are employed to give up to five hours a week of individual instruction to blind or partially seeing pupils attending their local schools. These supplemental instructors work under the guidance of the itinerant teacher for the blind, thus enabling the child to have individual help for at least one hour daily if necessary. Even more important is the dedicated work of approximately 200 volunteer braille transcribers, sound recorders and bindery workers who supply the very important textbooks and other materials. If a blind child is to have a successful school experience in a class of normally sighted children, it is imperative that he have the same textbooks available to him in braille, or on records, and that he have these at the time that the class is reading the material.

This rather detailed description of the development of the itinerant teacher program in New Jersey has been given chiefly because the speaker is most familiar with that program, and also because it is probably the most extensive program of itinerant teaching of blind children at the present time. Throughout the country, there has developed a continuing increase in the number of such programs. Administrative organization for these programs is almost as varied as the number of programs in existence. However, in many cases, as in New Jersey, the development of such a program has been the result of a long, careful planning process by educators of blind children. The success of these programs depends upon the close cooperation between the local school personnel, the special educators of blind children and the volunteers who prepare the necessary additional material, the parents and community resources. In communities where more than one type of facility is available to a blind child, it is particularly important that there be good understanding and close cooperation between the various types of programs.

In the itinerant teacher program, the key person is, of course, the itinerant teacher who must supply, or arrange for "the extras" - the plus factors, the special educational needs of the blind child. Very recently, there has been published the proceedings of the National Work Session on Itinerant Teaching Service for Blind Children, which was held at Bear Mountain, New York, August 20 to 24, 1956. In this, there is a full description of the role of the itinerant teacher, as well as other basic information regarding this type of program. It is recommended that those who wish to learn more about this type of program, consult that publication, as well as the Pinebrook Report of the National Work Session on the Education of the Blind With the Sighted, and Resources for Teachers of Blind With Sighted Children, all of which have been published by the American Foundation for the Blind.

Miss Josephine Taylor



#### PROPOSED CHANGES IN THE STANDARD ENGLISH BRAILLE CODE

In the presentation of this report I beg for your indulgence and understanding. During the past, it has only been possible to give you a general progress review of the work done by the Committee as our deliberations and surveys developed in the past seven years. Most of the proposals considered during this period were entirely the result of the pulse feeling we were able to do throughout the field in trying to determine the likes and dislikes of the readers. As a result of our meeting with the British Uniform Type Committee last summer we can now offer some definite deletions, additions, alterations and changes in the basic rules of braille for your consideration. May I remind you that none of these has been officially adopted and will not be until they have been examined thoroughly both here and in England.

I think you will perhaps be interested in the so-called ground rules we set up for our discussions with the British Committee. It was important that a prior understanding on certain points be determined to avoid the loss of time and prevent constant stalemates in our work. Three major points of difference were recognized, therefore, from the outset and were eliminated from further consideration, i.e.,

1. As a result of our sampling tests in the pages of The Reader's Digest in the fall of 1955, we were able to determine definitely that it was the consensus of our readers that no change was desired or would be acceptable in our present method of capitalization. It was fortunate that we prefaced our discussions with this recommendation for the British were prepared to propose the substitution of the italics sign, dots 4 6, for our capital sign, dot 6. You can imagine what a storm of protest this would have brought about, knowing the present attitude toward the italics sign and its overuse. Instead, you will be pleased to know that definite limitations have been placed on the use of the italics which will remedy the present practice of using this sign to merely indicate a change or style of ink print type.

2. It was also agreed that we would have to recognize the British practice of using the abbreviation point in certain cases where we here in America now commonly use the period in cases of termination, stoppage and abbreviation. However, the British feel their readers are confused when encountering a period in the middle of a sentence following an abbreviation and misread it for a full stop.

3. Though the first two assumptions were somewhat in compromise -- we agreed to accept their viewpoint on the abbreviation point if they recognized our attitude towards the capital dot, -- the third ground rule was a definite demand from our group. This was our suggestion that no substitution would be accepted for any of the 1932 contractions which would in any way change the present meaning of a contraction. With the hundreds of thousands of volumes of braille in our libraries today, we felt it would be unwise to entertain any proposals which would make this material unreadable. Our Committee was firm and unanimous in their thinking on this matter and feel confident we acted in your best interests in setting forth this fundamental principle.

I would also remind you that your Committee has not been deliberately withholding information from you on the progress of this project, but rather we felt it unwise to publish

prematurely any specific details which might be misinterpreted as final or authoritative changes in the code. Actually, the Committee has made every effort possible to reach all groups interested in the basic structure of braille who could make significant and constructive contributions to our thinking on the revision. Though to date we have not had the benefit of a home teacher as a working member of our Committee, we have felt that one of our members has always given this most important group primary consideration in all of our discussions. He is well able to do this too, for his wide experience includes the publication of several manuals and magazines for home teachers. In addition, the Committee has in its membership representatives of the school field, the transcribers, the publishers, and the librarians, and I assure you from having chaired these meetings since 1950 that no proposal has ever reached our agenda which would be to the detriment of the readers or the children in school, or which would make for confusion or ambiguity for the home teacher in first presenting braille to an adult learner. This, I hope you will realize, has not been an easy approach to the problems involved. However, it has been the aim of the Committee to give full recognition to the impact of any change in the present code on all of these groups and you will find that we have made little compromise with this premise. If any proposal did not meet our formula for clarification, simplification and easy readability it was included only with reservations, awaiting further reader reaction by sampling.

With the foregoing as an introduction I shall now proceed to give you a listing of the proposed changes and a brief justification for their recommendation. It should be pointed out that none of these will so radically alter braille as to make our present material unreadable.

#### Deletions

bb; cc; dd; ff; gg; altogether; conceived; conceiving; deceive; deceiving; declare; declaring; perceive; perceiving; rejoice; rejoicing.

#### Alterations

4 5 6 ch for character; 4 5 s for less; cn for cannot; im for immediate; td for today; tm for tomorrow; tn for tonight.

#### Additions

afn for afternoon; blg for blinding; brlg for brailing; dlt for difficult; dn't for don't; er for only; 4 5 6 f for follow; fr for friend; fst for first; gh for he; hn't for haven't; ing for is; ingn't for isn't; ow for she; 5 q for question; 6 s for ities; yd for yesterday; ble for on.

Before leaving this section of the report I should like to remind you again that these are merely proposals and are in no sense definite or final adoptions and are still being given further consideration by both Committees.

It will also be appropriate here to bring to your attention a brief summary of the basic changes in the fundamental rules of braille which may serve to clarify for the reader some of the new practices recommended.

1. The use of the ar sign shall always be given preference over the use of the ea sign for the preservation of word uniformity and to avoid confusion and misinterpretation of such words as fear for fright and bear for bright.

2. Any number of lower signs may now follow one another without intervening spaces provided the sequence is in contact with a higher sign or dots 1 or 4, in actual usage readers have no trouble with these combinations our surveys have revealed.

3. Be, con, and dis may now be used medially in a word, as explained above.

4. Com may now be used at the beginning of a sentence when preceded by a capital. This has long been a desired change by readers, to maintain word uniformity.

5. The simple dot 4 is to be used for foreign accents in all general literature other than texts or books in foreign languages thus eliminating the necessity for the average reader to remember all of the foreign accent signs which occur only occasionally in English today.

6. The one cell whole word contractions may not be used as proper names, such as the W for Will, thus eliminating confusion for the reader by avoiding misreading these as words.

7. Since the contraction for less has been changed it may be used either as a word or part word.

These, then, are in brief the major points which will be of concern and interest to readers, without going into the voluminous detail of the many pages of clarification contained in the revision. And now, where do we go from here? As mentioned above, several of these proposals are still under examination by both committees and we are not entirely

satisfied with anything which might be construed here as a final code revision. To help us in our thinking on these points in question we prepared a sample reading illustration incorporating all of these additions, alterations, deletions and rule changes. I want to express here the appreciation of the Committee for the many helpful and constructive suggestions we received from those who took time to meet with us and share your observations on this matter. To carry this experiment further, we plan to ask cooperation of several braille magazines to include reprints of this article and questionnaire in the mailing of their November issues as a separate pamphlet. This will entail a cost of embossing several thousand copies of this material but we feel such a wide sampling of reader preference is essential in this most important phase of our work. We hope, therefore, that by January, 1958, we shall have tabulated a piece of research which should be acceptable proof of not just a few but of the majority of the readers throughout the country. Our actions in the future with the British in consolidating our position on these matters will have your direct guidance, therefore, and be of real value in concluding this long and difficult task.

Paul J. Langan



PROGRESS REPORT ON PROPOSED CHANGES  
IN THE STANDARD ENGLISH BRAILLE CODE

Mr. Paul Langan, Chairman of the Joint Uniform Braille Committee, gave a brief background and an explanation of the Committee's problems and work which have thus far resulted in certain proposed changes in the Standard English Braille Code. He particularly emphasized two points: Nothing is to be adopted that would make extant material unreadable, and, in forming decisions, the thinking was from the viewpoint of the reader rather than the transcriber.

Both mimeographed and braille copies of the proposed changes were given to the assembled group for questions and comments. Following are the main points raised and the answers to them as given by Mr. Krebs and Mr. Langan:

Q. Why is the symbol for "character" being changed?

A. From the reader's view, the present symbol is a scattering of dots which mean nothing.

Q. Was any consideration given to allowing abbreviated words to be used in combination in proper names?

A. This rule remains unchanged because, in studying many proper names, it was found that they are not only spelled so differently but with varied odd letter combinations which make them too confusing; e.g. the double l (little) in Lloyd and Doolittle.

Q. A touch reader objected strongly to the desire of the English Committee to use the British symbols for the abbreviation point instead of the period following abbreviations and for the capital sign. She felt it important to keep them as they are and especially to follow the inkprint.

A. There definitely will be no change in the capital or the period. A test was made with the Reader's Digest, using three types of capital omission: (1) total omission; (2) capital used only in proper names; (3) capital used only at the beginning of sentences. Since a majority wanted the capital as it now is, its use will remain unchanged.

Q. Why are "deceive, declaring," etc. being dropped?

A. Because they are used too infrequently.

Q. Since there are no substitutes for these, why not leave them in?

A. In an extensive British survey, these words were found to be used perhaps once in fifty pages. Why have to learn them if they are too seldom used?

Q. Why are the double letters being dropped?

A. So that the rule can be uniform and so that "be", "con" and "dis" can be used in the middle of a word.

Q. Why may not the contraction for Will as a proper name stand alone?

A. Because the reader must read into a sentence in order to know if it is the name or the word "will".

Q. Some of the additions are good and easily understood such as fst. But why dlt for difficult?



A. To the American Committee, the natural abbreviation was dfo. The British could not accept this because DFC, meaning Distinguished Flying Cross, appears very often in their printed matter and the British reader would be confused as to whether the abbreviation stood for "difficult" or for the Service award.

Q. Some of the proposed changes bear no relation to letter combinations, e.g. "ble" for "on". Also "gh" would seem better for "light" than for "he".

A. Many agree but compromises must be made and the majority served. The use of existing symbols instead of creating new ones and the frequency of occurrence of words influence the decisions. One reader said that after about 12 pages she became accustomed to these changes and did not find them confusing.

Q. Will you clarify the changes in the use of lower signs?

A. (1) Any number of lower signs may follow one another without a space so long as the sequence is somewhere in contact with an upper sign. En and In may be used next to anything, including the italic sign. This applies only to en and in but to nothing else. The italic sign use in conjunction with lower signs remains unchanged -- its use does not affect lower signs.

(2) Readjust -- ea is not used because the prefix re is followed by the whole word adjust. Erase and edition -- er and ed are used because the prefix e is not followed by an actual word.

Suffixes may overlap regardless, e.g. agreeable. Since the blind reader gets his understanding at the beginning of a word, it is so unnecessary to stretch it along. Contractions are not confusing at the end of a word.

Q. How much will the Committee be influenced by the comments of readers?

A. They will certainly be influenced to an extent. While IQs will not be considered, the part of the country from which the reader comes will have some bearing. Mr. Krebs has written a story containing the proposed changes. This has been sent to a number of people for their reactions. Results of the survey should be available in January. It is hoped that the proposed changes may be in effect in 1959.

Remember: Never can everyone be completely satisfied. This is especially true when British and American ideas must be considered. In making compromises with each other, the goal of the Joint Committee has been to serve the majority in the interest of the blind reader.

Respectfully Submitted - Mrs. Edwin J. Wolf, Recorder



#### MINUTES OF THE WORKSHOP ON BRAILLE MUSIC TRANSCRIBING

The music workshop conducted by Mr. Gerard Gabrielli, teacher at the Music School of the New York Association for the Blind, was informative and most interesting.

The discussion opened with an explanation of the Braille Music System.

Mr. Gabrielli feels that there should be certified proof-readers for music Braille, such as there are for literary Braille. It is really more important in music than in literary Braille, because one misplaced dot can change the whole continuity of the music. In literary Braille, the reader can usually make sense out of the material, despite a misplaced dot.

Because of the great need for transcribers, the New York Association for the Blind undertook the responsibility of conducting a class in Music Braille, last year.

Seven Brailleists were certified at the conclusion of the course, which means that they are now qualified to transcribe the simpler piano pieces.

Many Brailleists take it upon themselves to transcribe music after studying the Primer, without any guidance. This usually results in far too many inaccuracies to make a copy usable to the Blind musician.

Mr. Gabrielli pointed out the difference between transcribing music for the advanced musician, and teachers working with sighted beginners. The clef signs and the octave signs are stressed for the latter, in order to give the teacher a complete picture of the score, should any problems arise.

Several questions were asked:

Q. How does a transcriber receive a certificate from the Lighthouse, if he did not take the course there?

- A. By passing the same test given to those transcribers who have completed the course.
- Q. How much music does one have to know to take this course.
- A. You need not be a professional musician, but you should be able to read music and be familiar with the piano.
- Q. What is done with the music which the students do for home-work.
- A. Music copies which are usable, with not too many errors, are put into circulation.

The Braille Council is formulating certain changes in Music Braille in the interests of uniformity and improvement. We will be informed of these changes when they are officially adopted, and will incorporate them in our work. Plates in pressed music will be redone.

The system of Bar over Bar has been adopted officially.

The need for hand-transcribers will be largely in the fields of chamber music and concert repertoire, since the demand for this work would not warrant the expense of preparing plates for pressed copies.

Mr. Gabrielli circulated a list of Printing Houses throughout the world, from which Braille Music may be obtained. It is best to refer to their catalogues before doing any music which may be requested, as copies may be available in pressed Braille.

We hope to have another class for beginners this year, in addition to an advanced class. Anyone wishing further information should contact the New York Association for the Blind.

Respectfully Submitted - Bertha Wolf, Recorder



#### TOOLS AND AIDS FOR THE PRODUCTION AND DUPLICATION OF BRAILLE MATERIAL

There was a general discussion at the meeting of the various methods for producing literal Braille, Braille diagrams and graphs and similar material.

It was my privilege to report on the various methods employed in the multiple reproduction of Braille copy by the Volunteers Service for the Blind, Inc., and the following were considered:

1. UFORMITE: This is a plastic produced by Rohm & Haas Co. in Philadelphia, Pa., supplied to us through the good offices of Dr. Frank Glavis, one of their staff chemists. This material is compounded as follows: It is applied on the reverse or flat side of a matrix sheet with a kitchen spatula. The matrix is allowed to air-dry in a flat position for approximately two hours. Then the matrix is coated with pure shellac on the embossed side. When thoroughly dry the matrix is placed in a wringer press together with a run-off paper of White Mohawk Vellum. In producing multiple copy Braille from these uformite treated matrices, a uniform and well defined impression of dots is required. Such uniform well defined dots can be made with a duplicating stylus or a modified Braille writer, both of which are available. For the master Uformite plates, we find that 100# Spring Hill Manilla Tag with a grain cut 11" is suitable paper and for the run-off copy we use White Mohawk Vellum. This is purposeful for duplication of student work, informational data and all requests calling for a limited number of copies.

2. PRESSED BRAILLE (Metal Plates): This method employes metal plates, preferably zinc (.010 or ten thousandth of an inch). Brass and aluminum can also be used with relatively good results. A Braille stereotype machine is used to produce the metal plates. After the Braille master copies have been made, the run-off copies are produced on either a rotary or wringer press. The run-off paper is either White Mohawk Vellum or Atlantic Ledger; Atlantic Ledger yielding the best results for two sided interpoint printing. The metal plates, in our opinion, furnishes the most permanent and most efficient Braille matrix from which an unlimited number of duplication or copies can be made.

3. A proposed new method for paper matrices: The Cycloweld Cement Products Division of the Chrysler Corporation of Trenton, Michigan is in possession of a plastic which they call C-14 and with which we have been experimenting in an endeavor to produce a paper matrix capable of duplicating a considerable number of copies as compared with other treated paper plates. In the initial stage, the transcriber may use a single copy Braille, a slate and a stylus or a modified Braille to make up the raw paper matrix, after which the C-14 consisting of a resin and a catalyst is applied with a spatula on the flat or reverse side of each plate. In this method shellacing is not required. For the run-off copy we use White Mohawk Vellum.

4. VACUUM FORMING: This method, should be of interest to all attending the meeting. A cellulose acetate sheet is locked in a frame, heated, and then drawn by vacuum over a paper Braille "master." The result is a plastic sheet with the raised Braille dots permanently impressed. But if the performance is conventional, the design, and the difficulties encountered are not. One of the biggest problems was developing a satisfactory heating oven that could operate on household circuits- 120 v. and less than 2000 w.- and still be capable of providing heat over a full page of Braille. To operate the machine, the operator places a sheet of Braille, either an imprinted page or one that has been hand-blocked in heavy paper, on the manifold. Over this he places an acetate sheet and clamps it down with a simple aluminum frame. The operator then "cocks" an automatic timer and at the same time pulls the oven forward over the plastic sheet. This trips a Microswitch that starts the timer and the heater. When the timer has run out (it is usually set for about 8 sec.), a second Microswitch turns on a 1.6 hp. motor and vacuum pump. A red signal light or buzzer indicates that the sheet has been formed. Virtually any thermoplastic sheet or film can be used with the machine, but a matte-finished acetate appears to provide the best "feel." The vacuum forming machine can be purchased from Product Packaging Engineering, Culver City, California.

5. ADDRESSOGRAPH MULTIGRAPH CORP., CLEVELAND 17, OHIO: At this meeting a preview showing of a new method of duplicating Braille on a standard multigraph duplicator was demonstrated. It produced multigraph copies of completely acceptable Braille using any desired grade of Braille paper at various speeds of mechanical reproduction. Representatives of this company generously offered to be in the gymnasium of the New York Guild for the Jewish Blind after this meeting to arrange a special showing for those who were unable to attend the work shop.

#### SUMMARY:

It is clear from the above description that these, and perhaps other methods not here mentioned have their proper merit in the matter of reproducing Braille copy. The important thing to remember we think is, is that the least expense and the quickest method is the most desirable, but a balance must be struck, so that one is not attained at the sacrifice of the other.

Respectfully submitted - Mrs. L. Alan Passmore, Recorder



#### BRAILLE MATERIAL FOR THE VERY YOUNG

The purpose of our meeting was to discuss the problems encountered in setting up Braille books for young children. The problems we discussed can be classified in four general groups:

1. General format (This includes such things as position of page numbers as well as line spacing, division of lines, etc.)
2. Adaptation of Braille code to show what is shown in inkprint with different colors, underlining, circling, etc.
3. Reproduction of illustrations.
4. The use of books as expendable materials since time involved in making them is very great.

Some specific solutions were given--sometimes one to a certain problem and sometimes several--but since none were agreed upon by the group as THE SOLUTION, we can make no definite statements concerning them.\*

We can report some general recommendations that came before the group:

1. Materials should be made meaningful to the child. Keep in mind his needs.
2. If possible, get guidance from teachers.
3. Set up a committee, members of which would be chosen from the National Braille Club, to develop rules of standardization for use by hand-transcribers in planning and doing your work.

\*Since various groups have set up various rules, and have worked out their own methods for transcribing "problem" material, listing those rules mentioned in the meeting would be of no value (perhaps would even be confusing), even though the groups may question their solutions as being right. Recommendation #3 perhaps is the answer.

Miss Betty Duncan, Recorder



## SOUND RECORDING OF TEXT BOOKS

As this is a workshop whose aim is to try to come to some agreement about standardizing procedures, in a service that is rather young, we decided that each chairman would give a brief history of the establishment and development of the recording program in her state. Neither of us can cover the ground in the time allotted, so a great deal of information will be left for the discussion period; such as, cost of equipment, details of actual recording procedures now in use, and improvements in these toward which we are constantly moving.

The New Jersey recording service really had its inception more than 20 years ago, when Mr. George Meyer, the Executive Director of the New Jersey Commission for the Blind, was supervisor of Special Classes for the Blind and Partially-Seeing in the public schools of Minneapolis. He developed a system whereby textbooks were recorded on Dictaphone cylinders. After he came to Newark, work on this project lapsed for a number of years.

About 1945 a start was made, using the Soundscriber and vinylite discs. By 1948 we had 18 recorded titles - textbooks for specific high school and college students, and vocational guidance material for general use. There were then three groups in New Jersey recording for the Commission. This contrasts interestingly with 1956- 14 groups and 140 titles recorded.

There has always been great difficulty in finding a playback machine that would reproduce embossed recordings adequately. Mr. Meyer worked assiduously with the Soundscriber company and also with the Library of Congress to adapt a player that would play both Talking Book records and Soundscriber discs. At one time we hoped to be able to record at  $16 \frac{2}{3}$  rev. a minute (SS is  $33 \frac{1}{3}$ ), but there was no playback machine for this speed. But now the Government machine is adapted for  $16 \frac{2}{3}$ . It remains to find an embossing machine that will be satisfactory. The advantages, of course, would be several: twice as much material in the same space; the student would have to change records half as often; and less space on our library shelves would be required.

Over the years we have developed a fairly uniform system of recording textbooks. The rules are given to the volunteers in mimeographed form. (Samples.) However, we are constantly looking for ways of improving the service, and we hope that much help will be an outgrowth of this conference.

Elise R. Mueller



### REPORT OF WORKSHOP ON SOUND RECORDING

The Workshop on the Sound Recording of Textbooks was presided over as co-chairmen, by Miss Elise R. Mueller, Librarian of the New Jersey Commission for the Blind, and Miss Dorothea Simpson, Educational Consultant for the Connecticut Board of Education for the Blind.

Each chairman gave a brief review of the history of recording in her own state, showing the rapid growth of this means of adapting books for the use of blind and partially-seeing students from primary grades through college. It was noted that procedure varies, some Agencies recording standard texts, largely for college students, and some recording only at the request of individuals. At this point, a need was expressed for some manual of instructions which would be useful to any Agency wishing to set up a recording service.

There followed a discussion of the methods of recording, and the use of tapes versus discs. There is an increasing use of tape recording, especially for older students who own their machines. The idea that tape recording might eventually replace other types was mentioned as a definite probability. Meantime however, since the Library of Congress has only recently issued a new Talking Book machine, and since a comparatively small number of students may own tape-recording or play-back machines, it seems likely that recording on discs will be in use for some time to come, and we should work constantly toward the improvement of techniques and the fulfillment of the increasing needs of individual students.

There was also considerable discussion of the need for a central registry of recording agencies, and the titles recorded by them. The Library of Congress was thought to be the logical center for such information, and it was recommended that the National Braille Club and other Agencies and Commissions bring pressure to bear on the Library to establish such service. In the interim the Braille Club can be of great help by keeping an alphabetical, up-to-date listing of this information.

Jeanette Mirrielees



### REPORT OF MATHEMATICS SECTION OF FIRST NATIONAL CONFERENCE NATIONAL BRAILLE CLUB

WORKSHOP 6. PROBLEMS IN PRESENTING MATHEMATICS, CHEMISTRY, PHYSICS, ETC. THROUGH THE NEMETH CODE

Chairman; Miss Marjorie Hooper, Braille Editor, American Printing House for the Blind, Louisville, Kentucky

The Mathematics Workshop concentrated on assembling problems, criticisms and suggestions concerning working with the Nemeth Code without endeavoring to find definite answers at this time, with the understanding that these would later be correlated and presented to Mr. Nemeth for his answers and interpretations.

Thus, many specific questions, individual problems, new symbols needed, portions of the code requiring expansion, further explanation and interpretation were listed.

A general suggestion was made that persons transcribing Mathematics at the High School level - certainly at the College and Graduate level - should have a Mathematics background.

It was unanimously agreed that the following recommendations should be submitted:

1. Some sort of supplement or directory of symbols for quick reference should be set up and made available to transcribers.
2. An expanded code for Advanced Mathematics should be prepared; this should include new symbols not now available except as answers to specific problems requested by individuals and not available to others meeting the same difficulties.
3. A better and more readily useful index to the Code should be prepared for the sighted transcriber to obviate the present need for constant thumbing through when in need of some specific reference.
4. The need was expressed for some clearing center (in the New York area) where quicker answers to problems encountered during the course of transcribing a particular book could be made available.

Material available during the meeting listing problems, some with questions and answers already submitted to Mr. Nemeth were turned over to the Recorder to be assembled and correlated with problems listed by the Group. Miss Hooper agreed to have this submitted to Mr. Nemeth and have further code matter made available to transcribers as soon as possible.

Report submitted by - Mrs. A. B. Clark, Recorder  
Secretary, Braille Committee  
Lydia Hayes Memorial Association for the Blind  
Rockaway, New Jersey



Report on Workshop on SPECIFIC PROBLEMS IN THE ORESENTATION  
OF TEXTBOOK MATERIAL: SPELLERS, GRAMMARS, etc.

Chairman: Mr. Bernard M. Krebs

The following points were discussed and decisions made:

1. Pre-primers and all school work up to 3rd grade should be done on 9x11 paper.
2. Pre-primers and primers (1st grade) should be written with a line skipped between each line of Braille.
3. Books up to 4th grade should be bound 50 pages to the volume.
4. After 3rd grade use standard paper--11x11 $\frac{1}{2}$ . (Some variation may be permitted if it is more advantageous for arithmetics or spellers to use the smaller paper.)
5. 4th and 5th grade work should be bound 70 pages to the volume. Above that grade use 100 pages.
6. Page set up: Print page number on left hand margin, Braille page number on right hand side with book title in center of top line. The new print page number, if on the same page, should be put at the extreme right hand margin of a new line. (May be put in the center of a new line)  
OR: Write on top line, leaving at least three clear cells between text and print page number which should be put on extreme right hand margin. (second Braille page of same print page number should be numbered with an "a" following the number) New print page on same Braille page to be numbered in center of new line (or a special symbol may be introduced to mark new page in margin on right hand side) Book title in pencil on every page in right hand margin and also braille page number in pencil to facilitate binding.
7. In spellers use the contracted form of the word in one column followed by the complete spelling in another column.
8. In dictionaries do not use the contracted form of the word the first time it appears, since the dictionary usually shows the syllabification and accent in the first column.

9. For footnotes, follow the inkprint page and put them where they appear on the inkprint page.

10. It was recommended that we write the American Printing House and the Library of Congress asking that they print vocabularies for any standard foreign language texts and any standard material that appears in the appendix of text books (e.g. Declaration of Independence, Constitution of the U.S. etc.)

Mrs. Theodore Stone, Secretary



MEETING HELD IN THE LIBRARY FOR THE BINDERY REPORTS - Monday, Oct. 14th, 1957

Mrs. George Turkeltaub opened the meeting and introduced Mrs. T. Jacobson, representing Temple Israel, New Rochelle, N. Y. bindery. She spoke about the dedicated work done by the volunteers who work three days a week. The bindery is 90% supported by the Sisterhood and the remainder by contributions.

Mrs. Jacobson told us that the plastic glue now used for the books enables the volumes to stay open without holding the volume. The glue is heated and is water soluble. It is applied easily and dries immediately - it is applied with a brush that comes with the glue. The glue is called White Flexible padding glue and costs \$33 a carton or  $4\frac{1}{2}$  a pound. It is used with a water thinning and is very inexpensive in its use. It is sold by the Manhattan Adhesive Corp. 425 Greenpoint Avenue, Brooklyn, N.Y. Telephone Evergreen 3-8400.

During the year of 1955 the volunteers bound 700 volumes. In 1957 they bound between 1200 and 1300 volumes. Fifty volunteers now work in the bindery.

Mrs. Nordenschild and Mrs. Kahn were introduced as chairmen who had served the bindery in New Rochelle for many years.

The second speaker was Mrs. Aaron Levy, co-chairman of the bindery for the New York Guild for the Jewish Blind. She talked about the circular ringbinding now used by the workers in binding the books. This method is used by the Perkins School and the Louisville Printing House for many years. This operation has been used in this bindery for about the past 5 years.

Four machines are used in the bindery - one punches the paper, another locks the rings, a third rivets the backs and a fourth is used for punching the backs of the covers. It costs about \$1.10 a volume to do this work. The 4 machines cost the Guild about \$3500. The machines are serviced locally and keep in good condition.

During the past year 1200 volumes were bound by this method by the 30 volunteers. There are 30 volunteers. A book can be bound in a day. There are 3 rings to the book and 35 pages to the ring. The circular binding has proven highly satisfactory.

Miss Van Ranken spoke for the Industrial Home for the Blind bindery that uses plastic ring bindery. This too is experimental having been in existence less than two years. However, the students using the books have not mishandled them and only a very few had to be replaced.

Four years ago there were 2 children in the sighted schools in Nassau and Suffolk Counties - now there are 75 blind children in 70 schools.

750 titles are needed a year to supply the children with the books that attend the sighted school. This means keeping a step ahead of the childrens' demands.

The books must be flexible. Care of the books up to the readers.

Mrs. Turkeltaub spoke for the new bindery now being put into operation in Great Neck. Operation will begin about Nov. 1st. We have bought 3 machines -

Punching machine from General Binding Co. Chicago, Ill.	- - - - -	\$695.
Punching Drill machine for the cover from Gane Bros. 480 Canal St. New York City. (Challenge Punch Drill Machine)	- - - - -	301.
Riveting machine from Ed. B. Stimpson Co. 70 Franklin St. Brooklyn, N.Y.	- -	337.50
25,000 rivets at \$39.50 for 1000 rivets.		

The cost will be about 53¢ for the two units to be put in the books or for a smaller book half that. The cost of the volume will be about \$1.53.

The steel units have been tested for sharp edges and found to be all right. There is much interest in the Great Neck bindery since it will be the pioneer in the type of binding they are doing.

The meeting adjourned at 4:15 PM

Respectfully submitted - Lillian M. Finke - pro tem

