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# WISCONSIN BRAILLE

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## THE EVOLUTION OF THE BRAILLE EMBOSSE

BY KEVIN JONES

For decades, the only way to produce braille documents outside of something like a printing press was with a slate and stylus. Not fast, but there wasn't anything much better on the print side either; however, the invention of the manual typewriter in the 1870s probably made braille users envious enough to start scratching their heads. There were improvements, but the best one by far was the Perkins braille writer developed at the Perkins School for the Blind in Massachusetts in 1951. The adaptation of the thermoforming technique developed in 1961 by the American Thermoform Corporation allowed for the duplication of braille pages. From then on the field was, for the most part, level until the

dawning of the digital age.

The first working computer braille translator was developed at the American Printing House for the Blind during the early 1960s, and embosser development followed close behind.

Four braille embossers were shown at a computer conference in 1969; however, three of them used only paper tape. It was the BrailleEmboss, developed at MIT, that first used full sheets of braille paper. It was soon followed by Triformation Systems' BD embosser and later Enabling Technologies in 1971. The braille embosser race was on.

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## THE EVOLUTION OF BRAILLE: CAN THE PAST HELP PLAN THE FUTURE?

*FOLLOWING IS A CONDENSATION OF PART TWO OF A THREE PART ARTICLE FROM THE BRAILLE AUTHORITY OF NORTH AMERICA (BANA). PART ONE OF THIS ARTICLE [SEE WISCONSIN BRAILLE, FALL 2011] GAVE AN OVERVIEW OF THE VAST CHANGES THAT HAVE OCCURRED IN BOTH PRINT AND BRAILLE IN THE LAST FEW DECADES.*

### ***The Workings of the Braille Authority of North America***

As language changes, the need for new ways to represent things in braille continues to raise the need for new symbols and new uses of current symbols. Braille readers need access to the same information available to print readers. Making changes in braille is not easy. It is essential that BANA consider the impact of any changes on readability, "writeability" (that is, how easy it is to write the code using various tools), computability, familiarity to current braille readers, and so on. The benefits of making any change must be shown to outweigh the drawbacks.

For example, when the term and icon for the euro were adopted in Europe in 1995, a braille symbol had to be invented to repre-

sent that new print symbol. In 2007, BANA adopted new symbols for copyright and trademark; before that, the practice had been to spell out the word, even though a print symbol was used in the original text. BANA cannot ignore the changing conventions of print without putting braille readers at a significant disadvantage.

The following case provides a look into the workings of one of the BANA technical committees and the process through which decisions are weighed and made. The Literary Braille Technical Committee was working on the seemingly simple task of deciding how to show partial emphasis of a word. Partially emphasized words—that is, using

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## VISION FORWARD!

On Friday, October 28<sup>th</sup>, the merger of the Badger Association of the Blind and the Center for Blind and Visually Impaired Children became official. The merger was celebrated on local radio, as the team of Dave and Carole from Milwaukee's WKLH 96.5 FM broadcast their morning program from the site. Through interviews with staff and members, listeners gained insight and information regarding vision loss and resources available within the greater Milwaukee community. A highlight of the day was the ribbon cutting of the beautiful new preschool center, which serves children from birth through age 5. The facility includes a sensory rich playground area. Visually impaired individuals across the age spectrum, and their families, attended and enjoyed the day's festivities.

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### THE EVOLUTION OF BRAILLE (CONT.)

indicators to identify portions of words in bold or colored print or other font changes—are appearing with increasing frequency in elementary school textbooks, as well as in other materials. The committee's report to the Board in the fall of 2006 included the following informal narrative as an illustration of the process by which the committee members approached this task. Read along and follow their thinking as they attempt to solve this issue:

- First: We decide, following our principles, not to add a hyphen to signal the transition between regular print and italic or fully capitalized print, giving the braille reader more accurate information about the print text. Of course, we all want to do that.
- Second: We decide to use the termination indicator as necessary to end italics or all caps. That looks good. All is going well. This is going to be easy!
- Third: Someone points out that, following these rules, an italic indicator could come before an e, n, s, d, or t, causing confusion between the italicized letter and a contraction.
- Fourth: We then consider the letter sign to fix the problem; no, that won't work. It's not clear to the reader.
- Fifth: OK, we'll require uncontracted braille in partially emphasized words. That's consistent with the current *Braille Formats* guidelines.
- Sixth: That would solve the problem, but how is the reader going to know that this is uncontracted braille? Sometimes a contraction not used early in the word will be a tip-off. Maybe the problem contraction will be the only one. Not a perfect fix—especially in textbooks for children in elementary grades.
- What number are we on now? Well, maybe those hyphens weren't so bad after all, but we need to give the braille reader accurate information about the print. How about making a symbol meaning "uncontracted braille coming"? That would solve the problem completely! Wow! Let's do it!
- Now what symbol should we use: a. Double letter sign? We could, but then we'd have to change the non-Latin passage indicator. b. Three

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The WISCONSIN BRAILLE newsletter is published three times a year.  
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## THE EVOLUTION OF THE BRAILLE EMBOSSE (CONT.)

In 1984 Braillo of Norway introduced their Braillo 400 model. Weighing in at 528 pounds, it produced braille at 400 characters per second. The fastest industrial braille embosser still today is probably the Interpoint NV 55 from Belgium first introduced in 1991. If you thought the Perkins brailier was loud, the NV uses a separate air compressor to power the embossing head. It can produce braille at 800 characters per second, but even after 20 years has not been widely accepted as it is estimated that only 60 exist in the US today; perhaps because of its \$77,000 price tag.

The personal (micro) computer was born in 1977, and as computers began to appear in schools and homes a need arose for a braille embosser that would fit in those environments. They have become enormously beneficial in schools where once a braille document has been created many copies can be made, and the original files can be shared with other schools or saved for later use.

The first electronic desktop embosser made for personal, school, or small office use, was developed by Tim Cranmer in 1983, and sold for \$2750. Like the Perkins, each page had to be inserted individually, but it was a beginning.

The price of embossers has always been high, and Deane Blazie, founder of Maryland Computer Services, was heard to say he wished to bring a more affordable embosser to the world that more blind people could afford, and in 1989 the Braille Blazer was born. Costing \$1800 it was, and still is, the least expensive embosser ever made, though it is no longer produced. In an attempt to be more port-

able it only accepted 8.5 inch wide paper, and it included a speech synthesizer which besides talking users through their embosser settings also worked with the screen readers of the day. It embossed at a rather noisy 15 characters per second, but did wonders for me in math classes and computer labs.

When looking at the braille embosser market today, Enabling Technologies and Index will be most prominent, at least here in the States. Both companies offer two models for personal and light production use. Shakespeare may have made Romeo and Juliet household names, but it was Enabling Technologies who truly touched on their feelings. These two embossers seem to be quite popular in many homes of braille readers, as well as some schools. Their quality has been questioned from time to time, but then so have the other companies. Their current flagship model is the Juliet Pro. It embosses 55 characters per second and sells for \$4495. It is preferred by some blind computer programmers because it prints up to 56 character width lines on 15 inch wide paper.

Scandinavia has been known from the beginning to produce awesome braille embossers, and Index from Sweden is no exception. If I were in the market for an embosser, the Basic-D V4 is what I would most seriously consider. The D stands for double sided embossing. Weighing in at 15 pounds and costing \$3250, it produces braille at 85 characters per second. Index sells an acoustic cabinet for around \$1500 that quiets the embosser down to 65 decibels, which isn't much louder than current office printers. It measures 7 by 10 by 22 inches. Although it won't fit in a backpack, it's portable enough to go between schools or from home to the office fairly easily.

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The purpose of WISCONSIN BRAILLE INC. is to advance communication and coordinate the efforts of all persons concerned with the availability, quality, and distribution of brailled materials in the state of Wisconsin thereby encouraging braille literacy.

## THE EVOLUTION OF THE BRAILLE EMBOSSER (CONT.)

The braille program at the Oshkosh Correctional Institution (OSCI), has two Index Basic-Ds. I was told while visiting their new and improved braille room, that the Index embossers rarely break and if they do, can often be repaired in-house. This saves large amounts of time and money, and keeps production time up too.

Braillo from Norway is still at the forefront, and they have the model 200 series 3 at OSCI as well. Embossing at about 6 pages a minute, or 100 characters per second, it's done a good job printing many volumes for them. Kurt Pamperin, the program director, said although it's done well, the Braillo has had a few problems here and there. He's been so happy with the Index model he wishes he'd bought more of those. Hold on to your money a bit longer Kurt, I think you would really be happy with the BrailleBox.

The BrailleBox is Index's newest baby, and although only shipping since last month; it has already won the Red Dot design award for 2011. It costs just under \$14,000, embosses at 15 pages a minute, 250 characters per second, and according to Index at a surprisingly quiet noise level. The feature that might excite users the most is that it uses single sheets of paper; no more will users need to deal with all those tractor feeds. The paper tray holds 400 sheets at a time.

Over the last forty years, we have seen the field of braille embossing improve greatly. As demonstrated by Index's new BrailleBox, companies are continuing to research and design new models to keep up with our ever accelerating future. As long as braille readers keep reading, braille embossers will be finding new ways to keep embossing.

## INTRODUCING OUR NEWEST BRAILLE MENTORS!

BY JUDY TURNER KILIAN, BRAILLE MENTORING CO-COORDINATOR

*[The Wisconsin Braille Mentoring Project is a braille literacy program that pairs braille reading adult mentors with students who are blind or visually impaired.]*

WISCONSIN BRAILLE is proud to introduce to you three new braille mentors, Stacy Fuehrer, Meghan Whalen, and Amelia King. Though each one brings her own unique combination of strengths, skills, life experiences and perspective, all share in their deep appreciation of braille and the desire to make a difference in the lives of others.

### Stacy Fuehrer

Blind since birth, Stacy began learning braille in kindergarten, or shortly beforehand. As she grew older, she used audio or other formats for textbooks in school, but she still preferred braille for reading as much as possible and still does to this day. Stacy graduated from the University of Wisconsin La Crosse in Communication Studies in December, 2005. She is currently employed as a Customer Service Representative at APAC Customer Services Inc. in La Crosse and has been with that company for almost four years. "I use braille on a daily basis in my job, along with Jaws, to perform my essential job functions," declares Stacy. Besides braille, her other interests include music and guide dogs (she is the proud owner of a little black lab from The Seeing Eye). Stacy explains her reason for becoming a braille mentor this way, "I want to help make a difference in the lives of others."

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## NEWEST BRAILLE MENTORS (CONT.)

### **Meghan Whalen**

Meghan has been reading braille since she was three or four. "I remember sitting at the snack table in preschool learning to read," says Meghan, "and I remember how proud I was when I could read my first book before I even started kindergarten. Without braille, learning would have been much more of a struggle for me. I love helping others to learn to read and write braille, because I think everyone has the right to be literate."

In May of 2010, with the help of braille, Meghan graduated from the University of Wisconsin-Madison with a major in English with an emphasis in Creative Writing. She is currently in the process of enrolling in a program to become certified in Canine Massage Therapy. In her free time, she still believes there is nothing better than getting lost in a good book for a few hours.

### **Amelia King**

Amelia started reading braille when she was about 3 years old. Her teacher made learning braille fun by creating a necklace

of wooden blocks. Whenever Amelia learned a new letter she would add it to the necklace. "Back then," Amelia reflects, "it meant the world to me." Amelia counts herself lucky to have been able to learn braille and she wants other students to be able to learn it as well and come to love it as much as she does. Becoming a mentor also ties into Amelia's studies as she is majoring in social work, "a profession that requires working with many different cultures and ethnicities," says Amelia.

Amelia is hopeful that she and her mentee will both get something out of the experience. Besides reading, Amelia enjoys goalball, rock climbing, downhill skiing, and, of course, shopping! "Braille is still an essential part of my life today," explains Amelia. "I am currently writing this using my Apex. So far, I have managed to get all of my college materials in braille and I use

Bookshare to read *Twilight*, *Harry Potter* and other popular novels. I would like to be a mentor because I want to give back to my teachers and family who fought for my education."

We look forward to hearing more from these promising new mentors as they begin their journey down the path of encouraging, teaching, and supporting students in braille literacy, making a difference one life at a time!

**WISCONSIN BRAILLE  
is proud to  
introduce to you  
three new braille  
mentors, Stacy  
Fuehrer, Meghan  
Whalen, and  
Amelia King.**

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## **2012 MEMBERSHIP DUES ARE DUE**

PLEASE PAY NOW!

MEMBERSHIP RENEWAL NOTICES WILL BE SENT OUT NEXT MONTH, BUT YOU CAN HELP WISCONSIN BRAILLE SAVE MONEY BY PAYING YOUR DUES NOW. SIMPLY USE THE RENEWAL APPLICATION ON THE BACK OF THIS NEWSLETTER.

YOUR SUPPORT IS GREATLY APPRECIATED.

THANK YOU

## THE EVOLUTION OF BRAILLE (CONT.)

letter signs? 100 long—it will never fly. c. Letter sign followed by dots 2-3? That's kind of nice, but we'll have to be sure we don't want to use the letter sign for out-of-place punctuation. That will take a long time.

- Are we having fun yet? We thought this would be so easy to solve!

Code building is a more challenging task than it first appears; even simple "fixes" become complicated given the complexities of our current codes. The literary braille code was not designed to be "extensible" – that is, there are no clear and specific rules for building and changing symbols in a logical fashion. Right now, every proposed change to the braille code has to be considered individually in an ad hoc fashion.

### **Current Challenges**

Braille transcribers often use braille translation software that converts the text in an electronic document into characters that can be embossed in braille onto paper or that can be shown on a refreshable braille display. While this software can often do a very good job of converting print characters into braille symbols, there are still some situations in which a transcriber must intervene in order to produce accurate and comprehensible braille. Charts and tables, descriptions of pictures, and transcription of spatial arithmetic are some obvious examples. However, there are other instances that may be less obvious, such as ensuring correct use of single and double quotation marks, the proper display of acronyms and web addresses,

## **Wisconsin Braille Inc.**

General Membership Meeting

Willy Street Co-op (West)  
6825 University Ave.  
Middleton, Wisconsin

The meeting will be held in the community room of the Willy Street grocery co-op located in the Parkwood Plaza Shopping Center at the corner of University Avenue and Park Street, Middleton.

March 10, 2012  
1:00 – 3:00 PM

Guest speaker: Loretta Himmelsbach, executive director of Wisconsin Council of the Blind.

New officers and members of the board of directors will be elected.

### **Wisconsin Braille Board 2012-2013 Continuing Officers (2011-2013)**

President Sandy Adams  
Secretary Dawn Soto

### **Continuing Board Members (2011-2013)**

Faith Kelley  
Constance Risjord  
Julie Sumwalt

### **New Officers (2012-2014)**

Vice President Marilyn Harmon  
Treasurer Mary Ann Damm

### **New Board Members**

*One-year terms (2012-2013)*

Vonna Johnson-Porter  
Kelsey Strohm

*Two-year Terms (2012-2014)*

Dennis Helwig  
Kevin Jones  
Cheryl Orgas  
Kurt Pamperin  
Judy Turner-Kilian

*The purpose of this newsletter is to disperse information. WISCONSIN BRAILLE INC. does not endorse or vouch for the reliability of any of the persons, organizations, or products appearing in this publication.*

## ABLE's director recognized by Lawrence University

Cheryl Orgas, Executive Director of Audio & Braille Literacy Enhancement (ABLE), has been given the George B. Walter '36 Service to Society Award by her alma mater, Lawrence University. This award is presented to recognize alumni of Lawrence University or Milwaukee-Downer College who best exemplify the ideals of a liberal education through socially useful service in their community, the nation, and/or the world.

At the Reunion Convocation, June 11, 2011, Lawrence University President, Jill Beck read the following: "Cheryl, following the high expectations of your professors at Lawrence University, you have been a role model to the blind and an inspiration to those with sight. Your tireless efforts to increase awareness of ABLE's services, has given visually impaired people the ability to enjoy some of the things most of us take for granted — textbooks, magazines, menus, and even concert and wedding programs. You've made it your mission to change people's misconceptions about blindness and to help those with visual impairments lead fulfilling lives. You have succeeded time and time again."

Ms. Orgas was acknowledged for her passionate leadership of ABLE, her work with WISCONSIN BRAILLE and for her efforts in changing misconceptions about blindness.

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## FUN WITH BRAILLE

*USED WITH THE PERMISSION OF THE PUBLISHER—APH*

### Create a Lunch

Your job is to prepare two separate lunches. You will create a Contraction Sandwich and a Deli Hoagie. The Contraction Sandwich must contain only ingredients with contractions. The Deli Hoagie must have only ingredients without contractions. Make your sandwich and hoagie complete with the works. Some available menu options are listed below. Choose one or more ingredients from at least three of the four top categories. Add as many other ingredients as you wish. Add an appropriate drink and a side for each. Make sure to select drinks and sides with contractions for the sandwich and those without for the hoagie.

When finished, decide which lunch you'd rather eat and why.

**Bread:** white, wheat, rye, sourdough, roll bagel

**Meats:** ham, turkey, pastrami, roast beef, tuna, bologna, chicken, meatball

**Cheese:** provolone, cheddar, swiss, Monterey Jack, mozzarella, Colby

**Condiments:** mayonnaise, mustard, relish, pickles, olives, lettuce, tomatoes, onions

**Drinks:** water, soda, juice, milk, milkshakes, ice tea

**Sides:** potato salad, macaroni salad, chips, pretzels, coleslaw, fruit

# The Braille Corner

From the Braille Authority of North America:

**\*NEW\* Guidelines and Standard for Tactile Graphics**

- Web Version November 2011

This HTML web version of the ***Guidelines and Standards for Tactile Graphics, 2010*** is the initial release of this long-anticipated publication. The first web version was posted on the BANA website in July 2011. The November 2011 version contains an expanded Appendix D, titled "Production and Duplication Methods," and also reflects several clarifications and corrections to the initial version.

This HTML version can be downloaded, but it is not formatted for printing. BANA will soon post a printable, downloadable .pdf version of the guidelines publication. Hardcopy print and braille editions, along with the supplement of tactile graphic examples, will be produced for sale. You can download a copy of the **HTMLWeb Version - November 2011** to your computer's hard drive. After unzipping the folder, click on **RUN.html** to access the content.

Among other things, the Guidelines give instructions for when and when not to use the numeric indicator (the rules are the same for literary, textbook and Nemeth Codes).

Use the numeric indicator for:

- line graphs
- scatter plots
- bar graphs
- histograms
- pictographs
- pie charts
- spinners
- lines of latitude and longitude
- time lines

Do not use the numeric indicator for:

- axis values on Cartesian graphs
- hours/minutes on analog clocks
- axis values on number lines
- angle values on protractors
- on measuring devices such as rulers, thermometers, barometers

# Membership Application

Date \_\_\_\_\_

Use the following form to join *WisBrl*, or to renew your membership.



Please make checks and money orders payable to  
**WISCONSIN BRAILLE INC.**

Regular membership, annual dues \$10 \_\_\_\_\_

Sustaining membership, annual dues \$30 \_\_\_\_\_

Lifetime membership \$200 \_\_\_\_\_

Additional donation \_\_\_\_\_

Total amount enclosed \$ \_\_\_\_\_

check ( ) cash ( ) money order ( )

Donations to *WisBrl* are tax exempt.



NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PHONE: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

2012:  New Member  Renewal

Format for printed material (choose one):

Regular type \_\_\_\_\_

E-mail \_\_\_\_\_

Braille \_\_\_\_\_

What is your affiliation with the braille-reading community?  
(check all that apply)

Teacher \_\_\_\_\_

Producer \_\_\_\_\_

Ed. Assist. \_\_\_\_\_

Administrator \_\_\_\_\_

Transcriber \_\_\_\_\_

Parent \_\_\_\_\_

Proofreader \_\_\_\_\_

User \_\_\_\_\_

Other (specify) \_\_\_\_\_

Return application and payment to:

WISCONSIN BRAILLE INC.

Membership Chair

557 Milky Way

Madison, WI 53718

Visit us on the web!  
[www.wisbrl.org](http://www.wisbrl.org)

# WISCONSIN BRAILLE



WISCONSIN BRAILLE INC.

5263 Anna Lane

Middleton, WI 53562

ADDRESS CORRECTION  
REQUESTED