# RNIB Centre for Accessible Information (CAI)

# Research report #6

# International survey of tactile reading codes

**Published by:**

RNIB Centre for Accessible Information (CAI), 58-72 John Bright Street, Birmingham, B1 1BN, UK

**Commissioned by:**

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**Date:** 28 August 2009

**Document reference:** CAI-RR6 [08-2009]

**Sensitivity:** Internal and full public access

**Copyright:** RNIB 2009

**Citation guidance:**

Cryer, H., Gunn, D., Home, S., and Morley Wilkins, S. (2009). International survey of tactile reading codes. RNIB Centre for Accessible Information, Birmingham: Research report #6.

**Acknowledgements:**

Many thanks to all organisations who took part in this survey, and to the World Blind Union for assisting with distribution.

Thanks also to John Godber, Pete Osborne, Mandy White, Sue Keil and Jackie Dickinson at RNIB for their support in this project.

# International survey of tactile reading codes

## RNIB Centre for Accessible Information (CAI)

### Prepared by:

Heather Cryer (Research Officer, CAI)

FINAL version

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### Executive summary

Whilst braille is widely used around the world and known to be of great benefit to many people, it remains that the majority of blind or partially sighted people do not read braille. Some of this group may have sufficient vision to read print, or may rely on other formats and therefore perceive no need for a tactile reading code. However, others may not be able to learn braille due to poor tactual sensitivity or limited capacity for learning; therefore there may be people for whom an alternative tactile reading code may be beneficial.

This study aimed to investigate the use of tactile reading codes around the world, in order to identify current practice and explore perception of the need for an alternative.

A survey was sent out to organisations working with blind and partially sighted people worldwide. 16 responses were received from 11 different countries.

Current practice with tactile reading codes:

* Braille was the most popular tactile code, with 14 organisations reporting they produced it. For nine organisations this was the only tactile code produced
* A few organisations reported using other braille based codes, such as jumbo braille or braille with alternative spacing. These tended to be used by new learners getting used to reading by touch
* Raised print was reported as being used in signage, although some concerns were raised about the lack of evidence around optimal sizing
* Moon was used in both Australia and the UK, although the number of readers and availability of resources was low

Exploring the need for an alternative tactile code:

* Organisations reported that non-braille readers accessed information either using audio information or using their residual vision. Various technological aids were reported as useful
* Most organisations promoted literacy to non-braille readers through encouraging the use of other formats such as audio. Some organisations actively encouraged people to learn braille, as it is more versatile than other formats
* A few gaps were identified which are not filled by other formats, including labelling, warning symbols and signage.
* Overall, little development work is currently underway looking at tactile reading codes alternative to braille

In summary, findings show that braille remains the most popular tactile reading code, and has various benefits over other formats in terms of versatility. Whilst some gaps were highlighted in which an alternative tactile code may be useful, there is currently little development work being carried out in this area.

Further research should focus on user requirements for alternative tactile codes, such as whether they are needed for "reading" per se, or simply for labelling. This would have implications for the scope of the code. Furthermore, investigation of user needs could help clarify whether an alternative is truly required or whether uncontracted braille may fulfil some of these requirements.

### Introduction

In this the bicentenary year of Louis Braille's birth, there is much to celebrate regarding the successes of his reading code. Braille is the most widely used code for reading by touch, and has enjoyed the most success of any tactile reading system (**Lorimer, 2000**).

The benefits of reading braille are wide reaching, from obvious practical uses (such as the ability to label items for identification) and the ability to read for pleasure, to potentially improving the prospects of the reader. A study by **Ryles (1996)** found that among congenitally blind adults, those who used braille as their primary literacy medium were more than twice as likely to be in employment as their peers who had first learned print. Whilst clearly this is a complex relationship, there is much anecdotal evidence of braille readers reporting the positive effects braille has had on their lives (for example, see **Maurer, 2009; White, 2009**).

Despite these many benefits, it remains that only a small percentage of blind and partially sighted people read braille. In a survey of a representative sample of over 1000 blind and partially sighted people in the UK, only 5% reported reading braille (**Douglas, Corcoran and Pavey, 2006**). There could be many reasons for this. Firstly, a proportion of this population is likely to have sufficient residual vision to read some form of print, and therefore may not need a tactile code. Others may be unable to learn braille due to insufficient tactual sensitivity, limited cognitive capacity or simply perceiving it as too difficult.

There are specific groups to whom some of these barriers may particularly apply. For example, some adults who lose their sight later in life may have reduced tactual sensitivity and may feel their age excludes them from learning a new skill. Some children with multiple disabilities may not have the cognitive capacity required to learn the complex braille code. (See **Cryer, Gunn, Home and Morley Wilkins, 2008** for a discussion of groups who may struggle to read braille). This raises the question as to how literacy is promoted or preserved among these groups.

Previous desk research (**Cryer et al, 2008**) has investigated tactile codes used throughout history, to examine whether any suitable code may already exist which could meet the needs of these groups. The aim of this survey was to investigate the current use of tactile reading codes (alternative to braille) around the world: to learn from the experience of other organisations; to identify tactile codes already in use; to find out about any other development work happening in this area; and to produce a public research report to share findings with others.

### Procedure

A questionnaire was designed asking questions about current practice and perceived need for tactile reading codes in countries around the world (see Appendix 1). This survey was sent out via the World Blind Union to member organisations worldwide.

Responses were received from 16 organisations in 11 different countries. One reason for the low response rate may be that the questionnaire was sent out in English only.

Organisations who responded included big national organisations working for blind and partially sighted people, schools, libraries and resource centres. See Appendix 2 for a list of organisations who took part.

### Findings

#### 1. Current practice with tactile codes

Braille was overwhelmingly the most popular tactile reading code in all countries who responded to this survey. Fourteen of the sixteen respondents reported producing braille, and for nine of these, this was the only tactile code they produced (note: some organisations did not produce any tactile materials).

Other tactile materials reported on are as follows:

* Jumbo braille
* Other braille based codes
* Raised print
* Moon
* Fishburne
* Tactile graphics

##### 1.1 Jumbo braille

Jumbo braille uses the same characters as standard braille to represent letters but uses enlarged cell spacing and dot size. It is thought that jumbo braille may be beneficial for new learners who are getting used to reading with their fingers (**Tobin, Burton, Davies and Guggenheim, 1986**), although research findings on the benefits of using jumbo braille are mixed.

The German section of the Swiss Federation of Blind and visually impaired (SBV-German) reported producing jumbo braille.

**Reasons for production:**

To add to library; on customer request; on braille teacher's request

**Volume of production:**

About 10 volumes per year (approx 600 pages)

**Method of production:**

Vacuum form

**Materials available:**

Leisure reading books; training materials

**Size/profile of readership:**

Readers tend to be people who have recently lost their sight. Some go on to read standard size braille whereas others continue to read jumbo braille.

**Frequency of use:**

Sometimes used

**Training:**

Teachers are available to teach jumbo braille

A number of other organisations reported having some experience of jumbo braille.

The Queensland Braille Writers Association (QBWA - Australia) reported that they have a machine to produce jumbo braille for special requests, and hold a small number of jumbo braille books in their library.

The Royal New Zealand Foundation of the Blind (RNZFB) reported that whilst they did not produce or hold a collection of jumbo braille materials, jumbo braille was used by individuals who produced it using a Perkins brailler.

A Canadian organisation reported having had no success with jumbo braille.

##### 1.2 Other braille based codes

RNZFB (New Zealand) reported producing a variety of braille materials for new learners. These include:

* a newsletter in uncontracted braille sent out to new learners
* a small number of books with extra spacing between letters and words to help learners get used to tactile reading before transitioning to standard braille with normal spacing

The German section of the Swiss Federation of Blind and visually impaired (SBV-German) reported producing braille music. This is produced both to add to the library and on customer request. Around 1000 pages of musical scores are produced in braille per year, with a readership of around 200 people.

RNIB also reported producing braille music. In the year from April 2008, 8884 pages of braille music (229 jobs) were produced. This was of direct benefit to around 200 customers, although the addition of braille scores to RNIB's library means that they are likely to be used by a wider audience.

##### 1.3 Raised print

Raised representations of print letters have been used for tactile reading for many years. In 1784 Frenchman Valentin Haüy opened L'Institute Royale des Jeunes Aveugles (Royal Institute for the Young Blind) in Paris, where he taught blind children to read using embossed print. Since then, various attempts have been made to improve the discriminability of raised print (for a discussion, see **Lorimer, 2000**) and the use of raised letters remains controversial.

ONCE (Spain) reported producing raised print.

**Reasons for production:**

Raised letters and numbers are occasionally used in signage

**Method of production:**

Milling machines

Vision Australia reported that building standards in Australia require signs in lifts and access points to be labelled in braille and embossed or raised lettering.

Royal National Institute of Blind people (RNIB-UK) reported having raised print materials in their library, including a variety of early embossed formats such as Gall and Lucas type (Both of these codes were introduced in the 19th Century. The Gall code consists of angular raised print letters, and Lucas used a system of lines and dots). These materials are part of RNIB's National Library Service archive, and whilst they are occasionally displayed, they are not available to be borrowed by users.

Some signage in the UK also makes use of raised print. Indeed, RNIB was involved in the production of a book containing guidance on signs with embossed characters (**Barker and Fraser, 2000**). RNIB also creates tactile maps with raised lettering.

A few organisations raised concerns about the use of raised print, as discussed in section 3.

##### 1.4 Moon

The Moon code was developed by Dr William Moon in Brighton, England in 1847. The code is based on the print characters, and uses only 8 characters to represent the alphabet by rotating characters to form different letters. Traditionally, the view has been held that the larger size of Moon compared to braille, and it's resemblance to print characters may make the code more suitable for older people, particularly former print readers (**Wilson, Whittle and Williamson, 2001**). Furthermore in recent years the code has been used with children with multiple disabilities (**McCall and McLinden, 2001**). A key problem with Moon is that it is difficult for users to write themselves. Whilst machines and hand frames have been developed they have tended not to suit user needs (e.g. requiring free-hand drawing the characters, or being very bulky). Furthermore, the lack of resources available in Moon may put readers off learning the code.

Queensland Braille Writers Association (QBWA-Australia) reported producing Moon materials

**Reasons for production:**

To add to library; occasionally on customer request; regular circulations to members (e.g. newsletters)

**Volume of production:**

Production has recently recommenced. When fully functioning, anticipated production will be between 1500-2000 pages per month

**Method of production:**

Everest embossers, using Enterprise Moon translator and Duxbury software for the production of "dotty" Moon

**Materials available:**

Leisure reading books; leisure magazines; reference books; correspondence from QBWA; newsletters; fortnightly local news update.

Library materials include old Moon (in which alternate lines are read left to right then right to left) and more recent materials produced on an embosser (all read left to right). There are also some materials with extra wide line spacing.

**Size/profile of readership:**

Currently 14 Moon readers (It is hoped that renewed production and promotion may increase this reader base).

Mainly elderly people, some middle aged, three deaf-blind. Many learned Moon as adults having been former print readers. Some also read braille (3), but learned Moon out of interest and to be able to teach the code. (QBWA encourage new touch readers to learn braille, but some struggle and so learn Moon instead. Having developed confidence with Moon some progress to braille at a later stage)

**Frequency of use:**

Library materials - Sometimes used. Some regular users, but not frequent

**Training:**

Volunteer Moon tutors offer weekly lessons

RNIB (UK) no longer produces Moon, but does hold a collection of Moon materials in their library.

**Materials available:**

Around 1750 titles in Moon, including leisure reading and reference books. Around 20 of these are children's titles

**Size/profile of readership:**

Mainly used by elderly people who were former print readers and lost their sight later in life (and may have felt unable to learn braille). Some children with additional disabilities also read Moon.

There are currently around 240 active readers borrowing Moon titles from RNIB's National Library Service. Note: approximately 25% of these active borrowers are organisations (such as schools, libraries and local blind societies), rather than individuals. This makes it difficult to quantify the actual number of Moon readers, as organisations could be borrowing for a number of individuals, or could be borrowing out of interest for sighted individuals.

**Frequency of use:**

Regular

**Training:**

There are a small selection of Moon learning materials available from RNIB. Moon is not widely taught due to few resources, which means demand is low, thus no more resources are currently being produced.

**Individual production:**

Materials exist to produce Moon labels, but no Moon writing machine is currently available

Note: Whilst RNIB do not currently produce Moon, some Moon materials are still produced in the UK for children by schools/the ClearVision project (see www.clearvisionproject.org).

RNZFB (New Zealand) reported some experience of using Moon. In the past, people have read Moon to help with touch development as a pre-cursor to learning braille. RNZFB have a Moon writing machine but this is not used. Rehabilitation officers can provide Moon writing frames, but there appears to be no demand for learning Moon at the moment. It is believed that Moon is no longer used in New Zealand, and RNZFB's collection of Moon books was donated to Queensland Braille Writer's Association (QWBA-Australia) in 1991.

A Canadian organisation reported having had no success with Moon.

##### 1.5 Fishburne

The Fishburne code was developed by American S.B. Fishburne in 1972. It was not intended as a replacement to braille (i.e. for all types of reading material), but as a labelling system to increase independence (**Shafrath 1986**), and due to the size of the code larger reading materials are likely to prove unwieldy.

RNZFB (New Zealand) reported that whilst they do not produce materials in the Fishburne code, it is used by individuals in New Zealand.

**Reasons for production:**

Materials are not produced in Fishburne, but the code is offered to individuals as a labelling option

**Method of production:**

Fishburne writing kits are available from Rehabilitation Staff. The writing kit is a small gadget (similar to a Dymo label machine) which produces label strips with adhesive backing.

**Size/profile of readership:**

A very limited number of people are noted as having made practical use of the Fishburne code

**Training:**

Instruction by Adaptive Communications Instructors. No current demand for training in Fishburne.

##### 1.6 Tactile graphics

Information is often presented in non-verbal forms such as charts diagrams and maps, and the ability to interpret such information is an important skill, referred to as graphicacy (**Aldrich and Sheppard, 2000**). **Aldrich and Sheppard (2001)** highlight the importance of access to graphics for blind and partially sighted people, to ensure equality in accessing the same information as their sighted peers, and discuss various issues relating to the production and use of tactile graphics.

The Swedish Library for Talking Books and Braille (TPB) reported producing a range of tactile graphics materials.

**Method of production:**

Vacuum form; embossed; swell paper; collage; silk screen.

**Size/profile of readership:**

Vacuum form books used by a wide variety of users

Swell paper books mainly used by students

Collage/silk screen graphics used by blind children with multiple disabilities

**Frequency of use:**

Vacuum form used sometimes

Embossed, swell paper, collage and silk screen used frequently/constantly

Both South African respondents also mentioned Tactile Graphics.

The South African Library for the Blind produces "Tactile for preschool" which are fabric books with braille included. These are read by around 50 young people.

The Pioneer School for the Blind (South Africa) reported producing Tactile Graphics using a Tiger Viewplus braille embosser.

RNIB also reported producing Tactile Graphics, producing 2420 pages (193 jobs) in the year from April 2008.

##### 1.7 Summary of current practice with tactile codes

Overall, the majority of respondents did not produce tactile reading codes other than braille. Where organisations did produce other codes, few did this on a large scale and often the alternative codes were for a very specific purpose. For example, alternative braille based codes such as jumbo braille and braille with extra spacing tended to be used for touch development, to get people used to reading with their fingers. Fishburne was reported as being used only for labelling. Raised print was reported as being used for signage by a few organisations, although concerns were raised as to whether there was any evidence base for this (see section 3).

The only code reported as being used as a true alternative to braille was the Moon code. Produced by QBWA in Australia and available in the library of RNIB in the UK, this is the only alternative tactile reading code in which reading materials (such as books) are available. Moon is reported as being useful to both former print readers who lose their sight and multiply disabled visually impaired (MDVI) children who may not manage braille. However, the number of readers remains small, with RNIB (UK) reporting around 240 readers, and QBWA (Australia) reporting just 14.

An issue with Moon raised by RNIB (UK) is the relationship between production and demand. Few materials are available in Moon, which may deter people from learning the code. This means demand remains low, which makes it difficult to justify production of further Moon materials. Indeed, QBWA (Australia) hope their renewed production of Moon will lead to increased uptake, and time will tell whether this is the case.

Those involved in the production and use of Moon are very passionate about the code, and can cite many benefits of it. Indeed, it seems almost common sense that a larger tactile code based on print letters should be ideal for readers losing their sight in later life (the vast majority of the blind and partially sighted population). However, it remains that Moon has not enjoyed huge readership. This raises questions as to whether the Moon code is the answer, whether it suits the requirements of this audience, and perhaps even whether an alternative tactile code is really required. This last question is explored further in section 2.

#### 2. Exploring the need for alternative tactile codes

Findings so far reveal that braille remains the most popular tactile reading code. Where alternative tactile codes are used, these tend to be used by a limited number of people, for specific purposes (e.g. labelling/signage) or as a pre-cursor to learning braille.

Whilst braille remains the most versatile and widely used tactile reading code, as highlighted previously, there are many blind and partially sighted people who do not read braille. Therefore the second part of the survey focussed on exploring potential need for alternative tactile codes. This included: how non-braille readers currently access information; what activity exists to promote literacy amongst this group; whether international colleagues felt there were any gaps which could be filled by an alternative tactile code; and whether any work was being done in this area.

##### 2.1 How do non-braille readers currently access information?

###### 2.1.1 Using audio

Listening to information was the most commonly reported way in which blind and partially sighted people who did not read braille accessed information. Fifteen out of 16 organisations referred to use of audio formats.

Respondents highlighted the use of various formats of audio information including cassette tapes, CDs and DAISY format:

"The majority of Vision Australia Information Library Service clients utilise DAISY technology to access materials. Newspapers, magazines and books are available in DAISY structured audio via the telephone, internet or (for magazines and books only) a DAISY disk. Non-braille readers who require bills or personal correspondence also utilise DAISY or other audio formats to access everyday information."

Vision Australia

Audio information was provided by various organisations such as organisations for blind people, libraries and in some cases government organisations:

"Talking newspapers are provided by the Talking Newspapers Council (Taltidningsnämnden) which is a governmental organisation whose main purpose is to improve the access of newspapers for the visually impaired, dyslexics and people who cannot hold or turn the pages of a newspaper."

TPB - Sweden

Respondents reported that many people used audio as a means to access computers, through screen reading software. Overall, most organisations felt computers would be an increasingly important way for blind and partially sighted people to access information.

"There is an increasing number of blind and visually impaired that utilize the computer as their source of information. Training on the use of computers with screen readers is available in many computer training centres in the country."

Philippine Blind Union

Respondents also reported producing a mixture of human narrated audio and synthetic speech (as used in screen reading software).

Six organisations reported that blind and partially sighted people rely on sighted people to access some information for them, by reading information aloud to them. Organisations varied in the way they viewed the use of personal readers. In some cases, it was a service offered as a way to access information, and in other cases it was seen as a last resort. Those who read information to blind and partially sighted people included family/friends, volunteers or home help services.

"They depend on people to read for them."

Anonymous

"Daily mail (letters, bills etc.) can be read out loud by people from the home-help service."

TPB - Sweden

Other ways in which blind and partially sighted people accessed information in audio were from the radio, TV and through pre-recorded telephone information lines.

###### 2.1.2 Using their residual vision

Other reported means of accessing information for non-braille readers tended to involve using their residual vision. These included use of enlarged print, and use of a variety of access technology devices to improve magnification, such as magnifiers, CCTVs and screen magnification for computers.

###### 2.1.3 Access is denied

One organisation - Pioneer School for the Blind, South Africa - highlighted that in some cases, information was simply not accessible.

"Not accessible for them if they do not have the resources available to be able to get it in a format that makes it accessible for them."

Pioneer School for the Blind - South Africa

###### 2.1.4 Summary of how non-braille readers currently access information

Generally speaking, blind and partially sighted people can access information either through touch, audio or through using their residual vision. As very few organisations reported using tactile codes other than braille, the findings that information is usually accessed through hearing or residual vision are not surprising.

Use of audio was the most commonly reported means of accessing information, including through audio formats (cassettes, tapes, DAISY), through computers (screen readers) or through other people (personal readers). Use of residual vision was also important, using enlarged print, and devices to improve magnification.

Advances in technology (such as accessible devices, and software allowing access to computers such as screen readers/magnification) continue to improve access to information, and may enable blind and partially sighted people to be more independent, rather than relying on sighted peers to read to them.

Whilst there are many benefits to technological aids, there are also drawbacks, such as the need to rely on electricity/battery supply, and indeed the need to rely on the device itself. For example, whilst a computer is extremely useful for reading documents and using the internet, it doesn't offer the functionality of labelling items in the home. Furthermore, reading through audio does have its differences from print and tactile reading. For example, some users prefer braille/print on the basis of it being "active" reading rather than passively listening (for example, see **Goudiras, Papadopoulos, Koutsoklenis, Papageorgiou and Stergiou, 2009).**

In summary, these findings suggest that there are alternative ways to access information for those who don't read braille. However - as with any format - these do have their disadvantages.

##### 2.2 How is literacy promoted amongst non-braille readers?

Organisations were asked what activity there was to promote literacy amongst blind and partially sighted people who do not read braille.

On the whole, other formats were promoted - most commonly audio, as well as large print and use of access technology with computers. Indeed, some organisations ran specific programmes of literacy training with these formats:

"Computer literacy training is offered by Vision Australia"

Vision Australia

Two organisations reported promoting braille to non-braille readers. RNZFB (New Zealand) reported activities to promote braille including fact sheets on the benefits of adults learning braille and plans for workshops to try out braille. The French speaking Braille commission of Switzerland felt braille was the best reading medium for blind/partially sighted people.

Vision Australia reported that other organisations within Australia taught hand and finger spelling to deaf-blind people.

###### 2.2.1 Summary of literacy promotion amongst non-braille readers

Most organisations reported promoting use of other formats such as audio, large print and access technology to those who did not read braille. Others focussed efforts on encouraging non-braille readers to become braille readers.

Perhaps the reason for strong promotion of braille above other formats is that braille most closely mirrors print in terms of its versatility. Braille is actively read (rather than passively listening to audio); it can be read silently or aloud; it can be easily produced by individuals for note taking or labelling purposes; it doesn't rely on an electricity supply or batteries, and it can be used with computers (through refreshable braille displays).

This may raise the question as to whether other formats can fulfil all these functions in the same way, and if not, whether an alternative is required.

##### 2.3 Are there any gaps which could be filled by an alternative tactile reading code?

Organisations were asked whether they felt there were any gaps which could be filled by an alternative tactile reading code.

Three organisations did not think there were any gaps which could be filled by an alternative tactile code

Gaps identified by other organisations included labelling, warning information on packaging, and signage. Suggestions for potential alternative codes included Moon, raised print, and something less complex than braille.

Four organisations mentioned the need for blind and partially sighted people to be able to label items. Specifically, RNZFB (New Zealand) mentioned the potential to use a tactile code on bank/credit cards to aid identification.

ONCE (Spain) highlighted a need for warning signs on packaging, and also felt there was a need for tactile information on street plans and maps. Vision Australia also felt signage was an area to consider, and suggested raised print letters on signs may be useful.

RNZFB (New Zealand) also thought raised print could be used, perhaps as an introduction to tactile reading for those who have recently lost their sight, or for those who could not read braille.

RNZFB (New Zealand) also suggested that an alternative tactile code may benefit those with multiple disabilities (for whom braille may be too complex). Similarly, RNIB (UK) suggested that an alternative code may benefit people who could not read braille, although also considered that some people with multiple disabilities may never achieve full literacy.

###### 2.3.1 Summary of gaps which could be filled by an alternative tactile reading code

In summary, findings suggest that there may be gaps which could be filled by an alternative tactile code. Labelling, warning information on packaging and signage are areas identified in which technological formats are less appropriate for accessing information.

Suggestions about what an alternative tactile code could be include Moon, raised print (thought to be easier for former print readers to learn) and something "more simple than braille".

These findings show that there are areas in which technological formats may not be appropriate, where a tactile code may work. This of course raises the question of what such a tactile code may be.

##### 2.4 Development work around alternative tactile codes

Organisations were asked whether they knew of any development work around alternative tactile codes in their country.

Some mention was made on Unified English Braille (UEB) which is a braille code developed by the International Council of English Braille (ICEB). UEB unifies literary and technical braille into one code, and can also be thought of as forming a union between English speaking countries using the same code (note: UEB has been adopted by Australia, New Zealand, South Africa and Nigeria, and other countries are at various stages of consultation over the code).

RNZFB (New Zealand) reported on guidelines produced by the International Standards Organisation (ISO) regarding a system of tactile dots (not braille) for use on bank/credit cards. RNZFB are investigating how this could be implemented in New Zealand, although recognise that such a system would have limited scope.

###### 2.4.1 Summary of development work around alternative tactile codes

Overall, there was little development work happening around alternative tactile codes. The work reported was not of the same focus as this study (in terms of investigating a possible alternative means of literacy for non-braille readers). The lack of activity in this area may reflect perceived lack of demand for such development around the world.

#### 3. Closing remarks

Organisations were invited to share any further comments they had regarding tactile reading codes alternative to braille.

Two organisations (ONCE - Spain and French-Speaking Braille Commission of Switzerland) commented on the popularity of braille within their country.

The Philippine Blind Union commented that they would welcome a system similar to the Optacon, only more efficient and affordable (note: the Optacon was a device with a small camera and vibrating pins which allowed users to feel a representation of what was printed on a page).

QBWA (Australia) remarked that they felt Moon to be a viable alternative to braille for people wishing to maintain literacy and the ability to identify items. They felt further effort should be put into developing and promoting Moon, and in particular raised doubts about how useful raised print characters would be.

Vision Australia also suggested that there was a need for further research into the usability of raised print materials. For example, to determine the optimum size and font for embossed characters to ensure they can be read by touch.

Overall, these comments highlight the range of issues to consider in research in this area: investigation of the suitability of braille for wider audiences; identification of user needs and the size of the potential user group for an alternative tactile code; development of equipment for tactile reading, and further investigation of the optimum code.

### Conclusions

The findings of this survey show that braille remains the most popular tactile reading code around the world. Where other codes are used, they tend to be either for specific purposes or for small audiences.

In exploring the need for an alternative tactile code, findings suggest that whilst there are other formats (such as audio, and technological devices) with which non-braille readers can access information, these may have limitations in terms of their versatility. This may be reflected in some organisations' commitment to promoting braille above other formats.

Whilst organisations highlighted a number of areas in which an alternative tactile code could be useful, there is currently little development work being carried out to investigate this further. This may reflect either a lack of perceived demand for such a code (perhaps due to low take up of alternatives such as Moon) or indeed may be due to the complexity of the problem.

Whilst it seems there are possible gaps to be filled, it is unclear what is required to fill those gaps. Indeed, Moon and raised print have been offered as potential contenders, although clear evidence on each of these is scarce. Furthermore, if the gaps seem to be for specific tasks (such as labelling) then does any alternative code need to be as versatile (or complicated) as braille (for example, suitable for reading materials, refreshable computer displays and so on) or is the need really for a labelling code specifically? This would have implications for the scope of the code, as if it was intended just for labels rather than extended reading, characters could be much larger (possibly meeting the needs of those with poorer tactile sensitivity). Another issue is, whether an "alternative" is really required at all, or whether uncontracted braille might meet the needs of some of this audience.

In summary, these findings suggest that there are non-braille readers around the world who may have use for an alternative tactile code. However, it is unclear what this code should be, the real purpose of the code, or the scale of likely demand. Further research could focus on gathering user requirements, and trialling different codes (such as Moon, raised print and uncontracted braille) to test their suitability.

#### RNIB position

RNIB is committed to literacy for children and adults and is exploring various routes to improve access to reading and widen literacy opportunities, particularly through the promotion of uncontracted braille.

Evaluation of these activities coupled with findings in this report will help us to determine if any further research or development is still required.

However, the potential areas for research outlined in this report may be of interest to other researchers or practitioners. We would be pleased to hear from you if you embark on any research in this area, however informal, to help build knowledge in this small field.

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### Appendix 1 Questionnaire

# Survey: International survey of tactile reading codes

## RNIB Centre for Accessible Information (CAI)

### Prepared by:

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### Background Information

RNIB's Centre for Accessible Information (CAI) is involved in research into access to information for blind and partially sighted people.

RNIB is deeply committed to producing and promoting the use of braille, and recognises the huge benefits of braille reading for many blind and partially sighted people. At the same time, we also recognise that there are some blind and partially sighted people for whom braille is not appropriate - for a range of reasons, including insufficient tactile sensitivity or limited capacity for learning braille.

Some of the people for whom braille is not appropriate still require a tactile means to access information. We are keen to preserve the literacy of this group, therefore we are investigating tactile reading codes other than braille which may suit their needs.

The aim of this part of the project is to investigate the use of alternative tactile reading codes around the world: to learn from the experience of other organisations who may have tackled this issue; to identify tactile codes already in use; to find out about any other development work happening in this area; and to produce a public research report to share our findings with others.

#### Confidentiality - please read carefully

We plan to produce a report detailing current activity with tactile codes in different countries, therefore would like to be able to report findings by country.

Please indicate the level of disclosure you are comfortable with for this report.

1. Organisation disclosure - I am happy for my organisation to be identified

(for example, "RNIB (UK) reported owning a collection of raised print materials")

2. Country disclosure - I am happy to be identified by my country

(for example, "In the UK, one organisation reported owning a collection of raised print materials")

3. No disclosure - I would like my answers to remain anonymous

(for example, "One organisation reported owning a collection of raised print materials")

Please type your choice of disclosure level here:

Are you happy for quotes from this survey to be included in the report? (You will be quoted either by organisation, country or anonymously as chosen above)

Yes/No:

We want to gather as much information as possible about this subject, and recognise that in some cases information may be sensitive/confidential. Therefore, if you would prefer for any of the information you give not to be shared in our report, please indicate this by typing CONFIDENTIAL at the start of your answer.

Please feel free to leave blank any questions which you do not wish to answer.

The survey should take around 15 minutes to complete.

If you need any help in answering the questions, or would prefer to carry out the survey over the telephone, please contact Heather Cryer on (+44) 121 665 4211 or heather.cryer@rnib.org.uk

Please return completed survey to heather.cryer@rnib.org.uk by **Friday 27 February 2009.**

#### 1. Tactile code production

If your organisation does not produce any tactile materials, please go to section 2.

##### 1.1 Which tactile codes does your organisation currently produce?

[Please type yes or no after each code]

Braille:

Jumbo braille:

Other braille-based codes (please specify):

Raised print:

Moon:

Fishburne:

ELIA:

Other (please specify):

None:

Comments:

##### 1.2 For each tactile code (other than standard braille) that you produce, please indicate your reason(s) for producing it.

(Note: Questions in this section are repeated 3 times to enable those who produce more than one alternative tactile code to answer for multiple codes. Please skip if not applicable)

1.2.1. Name of code:

[Please type yes or no after each option]

Produced on customer's request:

Produced to add to collection/library:

Other (please specify):

Please add a brief description of the volume of production (for example, number of pages, or number of items produced)

Please type your answer(s) here:

Please give an estimate of the size of your readership for this code. Please type your answer here:

1.2.2. Name of code:

[Please type yes or no after each option]

Produced on customer's request:

Produced to add to collection/library:

Other (please specify):

Please add a brief description of the volume of production (for example, number of pages, or number of items produced)

Please type your answer(s) here:

Please give an estimate of the size of your readership for this code. Please type your answer here:

1.2.3. Name of code:

[Please type yes or no after each option]

Produced on customer's request:

Produced to add to collection/library:

Other (please specify):

Please add a brief description of the volume of production (for example, number of pages, or number of items produced)

Please type your answer(s) here:

Please give an estimate of the size of your readership for this code. Please type your answer here:

##### 1.3 For each tactile code (other than standard braille) you produce, please specify the method(s) you use to produce it.

Please include all methods used, for example "Moon is produced mostly on a braille embosser but can also be produced on swell paper"

Options to consider - Braille embosser, vacuum form, swell paper, other

Please type your answer(s) here:

#### 2. Tactile codes available in libraries

If your organisation does not have a library/collection of tactile materials, please go to section 3.

##### 2.1 Which tactile codes do you currently have in your library/collection?

[Please type yes or no after each code]

Braille:

Jumbo braille:

Other braille-based code (please specify):

Raised print:

Moon:

Fishburne:

ELIA:

Other (please specify):

None:

Comments:

##### 2.2 For each tactile code (other than standard braille) you have in your library/collection, please give some indication of how often it is used.

For example, "Raised print - Never used, heritage collection"

Options to consider - never, sometimes, frequently, constantly

Please type your answer(s) here:

##### 2.3 For each tactile code (other than standard braille) you have in your library/collection, please give some indication of who uses it.

For example, "Raised print books are used by former print readers who have recently lost their sight"

Options to consider - elderly people, people who have recently lost their sight, children with multiple disabilities, deaf blind people, other

Please type your answer(s) here:

#### 3. Materials available in alternative tactile codes

##### 3.1 For each tactile code (other than standard braille) you produce or have in your library/collection, please indicate the type of material available in that code.

[After each type of material, please type the name(s) of codes in which these items are available]

Leisure reading books (e.g. novels):

Leisure magazines:

Reference books (e.g. recipes, gardening, religion):

Text books:

Other reference materials (e.g. information leaflets):

Correspondence:

Labels:

Games/puzzles:

Other (please specify):

Comments:

##### 3.2. Apart from materials produced by your organisation, do you know of any other tactile codes (other than standard braille) used in your country?

[Please give a brief description of any known code and any information you have about who produces it]

Please type your answer(s) here:

#### 4. Use of alternative tactile codes

##### 4.1 For each tactile code (other than standard braille) you produce/have in your collection please indicate whether tools/equipment exist to enable users to produce materials in that code themselves.

For example, "Sticky Moon labels can be used for short items, but there is no writing machine available for Moon in my country"

Options to consider - ready made labels, freehand writing (e.g. using German film), manual writing device (e.g. hand frame), mechanical writing device, other

Please type your answer(s) here:

##### 4.2 For each tactile code (other than standard braille) you produce/have in your library, please indicate how users learn the code.

For example, "Learning materials are available for the Moon code but there are few Moon teachers".

Options to consider - training materials, classes, tuition, taught by volunteers, other

Please type your answer here:

#### 5. Exploring the need for alternative tactile codes.

##### 5.1 What (if any) activity is there in your country to promote literacy amongst blind and partially sighted people who do not read braille?

Options to consider - alternative tactile codes, other formats (such as audio), literacy training programmes, other

Please type your answer(s) here:

##### 5.2 In your country, how do blind and partially sighted people who do not read braille currently access everyday information?

(For example, how do they read newspapers, in what format do they receive their bills, how do they read books?)

Please type your answer(s) here:

##### 5.3 In your country, do you think there are any gaps which could be filled by an alternative tactile reading code?

Options to consider - labelling, personal correspondence, leisure reading, games, other

Please type your answer(s) here:

##### 5.4 Do you know of any work/plans around the development of alternative tactile reading codes in your country?

[Please give a brief description of any planned work. Please be as specific as you can and give any relevant contacts]

Please type your answer(s) here:

#### 6. Do you have anything else to say about tactile reading codes?

Please type your answer here:

#### 7. Would you be willing to be contacted by RNIB to discuss your responses further?

Yes/No:

Reminder - confidentiality.

If any of your answers are not suitable to be included in the report please indicate this by typing CONFIDENTIAL before your answer.

### Thank you

Thank you for your participation in this project.

Would you like to receive a copy of the report on this survey when it is completed? Yes/No:

Please return your completed questionnaire by email to heather.cryer@rnib.org.ukby **Friday 27 February 2009**

END

### Appendix 2 Organisations who took part

Note: respondents chose the level at which they were happy to be identified, from organisation, country or anonymous.

|  |  |
| --- | --- |
| **Country** | **Organisation** |
| Australia | Vision Australia |
| Australia | Queensland Braille Writers Association |
| Belgium | Blindenzorg Licht en Liefde |
| Canada | Not disclosed |
| Italy | Italian Union of the Blind and Visually Impaired (UICI) |
| New Zealand | Royal New Zealand Foundation of the Blind (RNZFB) |
| Philippines | Philippine Blind Union |
| Philippines | Philippine Resources for the Blind |
| South Africa | South Africa Library for the Blind |
| South Africa | Pioneer School for the Blind |
| Spain | Spanish National Organisation for the Blind (ONCE) |
| Sweden | The Swedish Library of Talking Books and Braille (TPB) |
| Switzerland | French speaking Braille commission |
| Switzerland | Swiss Federation Of The Blind and Visually Impaired (SBV - German speaking section) |
| United Kingdom | Royal National Institute of Blind people (RNIB) |
| Not disclosed |  |

### About RNIB’s research

RNIB is a leading source of information on sight loss and the issues affecting blind and partially sighted people. Our Research and Knowledge Hub contains key information and statistics about blind and partially sighted people including our Sight Loss Data Tool, which provides information about sight loss at a local level throughout the UK. You’ll also find research reports on a range of topics including employment, education, technology, accessibility and more. Visit our Knowledge and Research Hub at: **rnib.org.uk/research**