Access to Blissymbolics in ICT
state-of-the-art and visions

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Introduction:
Blissymbolics is, unlike most other graphical AAC systems, well suited for use on all technology levels, from no-tech, over low-tech, to current hi-tech ICT platforms. Blisymbols may be drawn by hand, in the sand, with paper and pen, or on a blackboard or whiteboard. In current practice we are however, as we are for all other symbol resources, heavily dependent on ICT support for practically managing and using Blissymbolics. It may be for setting up and printing symbol charts for low-tech use, or for writing documents or communicating remotely via email etc on computers and mobile devices. This presentation is an attempt to give an overview of the availability of Blissymbolics on current ICT platforms 2012, and some hints about what we can expect for the near future.

Background:
Blissymbolics was probably the first graphical AAC system to be supported on the emerging computer platforms in the early 1980:s; Talking BlissApple was one of the first pieces of AAC software developed for Apple II computers by Gregg Vanderheiden et al at Trace R&D Center, Madison Wisconsin USA. It was a break-through and was followed by a large number of Blissymbol AAC programs for the different computing platforms over the next decades.

However, when the real expansion of the AAC technology came, with a number of commercially promoted pictorial systems such as PCS etc, Blissymbolics was largely dropping out of support on the dominating AAC software and hardware platforms. One contributing reason for this was probably that BCI (Blissymbolics Communication International) was focusing on support for Bliss in font technology, i.e. as character sets for writing with Bliss in standard text environments. Though this was visionary, it was also ahead of its time. The font technology at that time was poorly standardised, and not really suitable to support a semantic writing system such as Blissymbolics. This also resulted in part of the Bliss community, particularly in North America and the other English speaking countries where the dominating AAC development took place, pursuing on a separate track from the main AAC development which was relying on graphic images. It became increasingly difficult to find reasonably good support for Blissymbolics on the major AAC platforms. A large number of locally developed dedicated Blissymbol programs came and disappeared. Only a couple of them survived, largely by widening their scope to other symbol systems, e.g. Bliss for Windows that became Symbol for Windows, and Mind Express, which still support Bliss reasonably well.

Since 2007 BCI has worked hard to establish a complete and continuously maintained web based Blissymbol vocabulary resource. Clear licensing conditions for both free and proprietary commercial use have also been established. This has so far primarily helped to support Blissymbol users indirectly via more software developers who are now offering a Blissymbol option for an increasing number of AAC products (such as Widgit products, Sensory Software's The Grid 2, TalkingTiles app, BlissOnline, CCF-SymbolWriter for LibreOffice/OpenOffice etc. - see below).

BCI will now again, in parallel to the graphic Bliss resources, be ready to take up the since many years slumbering ambitions to establish a Blissymbol text font in the Unicode standard. This now offers a suitable platform for semantic writing of Bliss-words based on semantically defined and encoded Bliss-characters. We believe this may mean a major step for making Blissymbolics more widely available and useful, for AAC use, but also for language learning and language play for many more.
Here follows a rather comprehensive, but definitely not complete, compilation of available Blissymbol resources …

**Bliss on the Internet**

- **BCI - Blissymbolics Communication International**
  
  ![Image of Blissymbolics Communication International](image)

  News - information, Blissymbol vocabulary resources, Educational resources, International Community network, and more at [www.blissymbolics.org/community](http://www.blissymbolics.org/community)

  Related links:
  - Vocabulary resources: [www.symbolnet.org/bliss/blissymbol_resources.html](http://www.symbolnet.org/bliss/blissymbol_resources.html)

- **BCIC - Blissymbolics Communication Institute Canada**
  
  ![Image of Blissymbolics Communication Institute Canada](image)

  [www.blissymbolics.ca](http://www.blissymbolics.ca)

  (temporary site 2012 with lots of interesting material: [www.blissymbolics.ca/2012/](http://www.blissymbolics.ca/2012/))

"Communication is the right of all human beings. Given the uniqueness of every individual, this right should encompass the freedom to choose the particular system(s) of communication most acceptable to the user." - Shirley McNoughton - Communicating with Blissymbolics (1985)

Charles Bliss understood this, and in the 1940s set out to create a graphical symbolic system that would allow people of various backgrounds, native languages, and abilities to communicate with each other in a way that is simple and flexible.

The system he created is now internationally referred to as Blissymbolics. It incorporates core symbols (Bliss:
• BlissOnline  
www.blissonline.se  
Online Blissymbol vocabulary, lexicon, chart and Blissymbol message editor resources and services, maintained by the national Swedish educational authority SPSM (Specialpedagogiska skolmyndigheten). This is probably today the best supported and most widely seen and used service and resource for Blissymbolics material today. It supports around 20 different written languages at different levels of completeness.

• Symbols.Net - Blissymbolics Resources (George Sutton, non AAC):  
www.symbols.net/blissymbolics/ and www.blissymbolics.us

• Douglas Crockford (non AAC and largely non-standard symbols):  
Blissym (Semantography, Blissymbolics) - www.blissym.com/, and  
Blissymbolics Bibliography - www.crockford.com/bliss/blissbib.html
Numerous other web resources:

The Bliss-Dasher Project:  [www.inference.phy.cam.ac.uk/dasher/development/bliss/](http://www.inference.phy.cam.ac.uk/dasher/development/bliss/)
Blissymbol Communication U.K.:  [www.blissymbols.co.uk/](http://www.blissymbols.co.uk/)
Blissbulletinen –  [www.blissbulletinen.se](http://www.blissbulletinen.se) (Swedish)
Bliss project for adult Blissymbol users at Sunderby “adult people's high-school”
- Project webpage:  [www.sunderby.fhsk.se/~sby/projekt/m2031974046749842/m9247827971020550/](http://www.sunderby.fhsk.se/~sby/projekt/m2031974046749842/m9247827971020550/)
- Project facebook page:  [https://se.facebook.com/BlissprojektetPaSunderbyFolkhogskola](https://se.facebook.com/BlissprojektetPaSunderbyFolkhogskola)
DART -  [www.dart-gbg.org](http://www.dart-gbg.org) – Tips & Material – Bliss charts, courses etc (Swedish)
DAHJM –  Hjälpmedel - Mind Express - material (Swedish)
SÖK –  [www.sokcentrum.se](http://www.sokcentrum.se) – Books, education (Swedish)
Blisspostprojektet –  [www.blisspost.org](http://www.blisspost.org) (old and not updated - Swedish)
… and more to be found via links on these sites.

ISAAC Norge – Bliss -  [www.isaac.no/kategori/tegnsystemer/bliss-tegnsystemer](http://www.isaac.no/kategori/tegnsystemer/bliss-tegnsystemer)
NavigAbile –  [www.navigabile.it](http://www.navigabile.it) (not very active now)

Die Sprache der Nicht-Sprechenden –  [www.uni-kl.de/FB-SoWi/LS-Zink/BLISS/article.html](http://www.uni-kl.de/FB-SoWi/LS-Zink/BLISS/article.html)

Many of these, and more, found on:  [www.blissymbolics.org/index.php/interesting-places](http://www.blissymbolics.org/index.php/interesting-places)
Prototypes of integration of Blissymbol support in mainstream lexical resources and other services:

Lexicon resources of Språkbanken (the Swedish ”Language Bank”) – with bliss (Sweden):
http://spraakbanken.gu.se/karp/?lang=swe&advanced=false&page=1&searchTab=simple&hpp=25&extended=and|pos|equals|nn&resources=bliss

Wikipedia & “8-sidor” with bliss – Peter Ljunglöf et al (Sweden):
www.grammaticalframework.org/~peter/simplypedia/simplypedia.cgi

More prototype resources – Peter Ljunglöf (Sweden):
www.cse.chalmers.se/~peb/blisstables/index.html
https://blissymbolics.github.io/blissymbols/blissviewer-demo.html
https://github.com/blissymbolics/blissymbols

Ontology4 (http://ontology4.us/ by Hermann Bense, Dortmund, et al), and their very interesting integration of Blissymbolics in their ontology systems and visualisation tools

George Koller's Blitz-Writer prototype - a novel way to explore and access the Bliss vocabulary at http://blitzwriter.org/ and

Try Bliss – Jonatas Paganini (Brazil):
http://bliss.ideia.me/

BlissType prototype preview by Owen Campbell-Moore at
https://www.youtube.com/watch?v=2rdUNlu1KNk

Blissificator (Andres Soolo) - prototype tool for creating Bliss text at
http://www.mirky.net/%7Edig/blissify.html

SymbLang - Organizing the Bliss Symbol Language – Ronald Kohls (Berlin, Germany):
http://symblang.kokonet.de/

Blissymbolics on Facebook:
Blissymbols Community - https://www.facebook.com/pages/Blissymbols/298159500318475
Mötesplats Bliss (in Swedish) - https://www.facebook.com/groups/113376055260/
Software

AAC software with specific support for Bliss

The Symbol for Windows series (www.handicom.nl) is a comprehensive AAC package with a fairly well updated Blissymbol vocabulary, and special features for Bliss support (see below).

Mind Express (www.jabbla.com) includes Blissymbolics support (though hardly no public information provided), medium well updated vocabulary, and an editor for new symbols etc.

www.rehabcenter.se/produktblad/mindexpress.htm
MisterBLISS (www.misterbliss.it)
Italian web based or locally installed cross-platform dedicated Bliss software package.
Published 2010. So far only in Italian.

AAC software supporting Bliss, as another pictorial library

The Grid 2 now with a well updated Bliss library on offer (Bliss set-ups are available for the GridPlayer iOS app, though Bliss only supported via external Bliss libraries)
www.sensorysoftware.com
www.sensorysoftware.com/112.html
Widgit software – now with recently updated Blissymbol library support – so far primarily for the Swedish market

Speaking Dynamically Pro and BoardMaker – an older Blissymbol library of 3000 symbols (in English) is on offer
www.mayer-johnson.com/boardmaker-software/
www.mayer-johnson.com/blissymbols
Rolltalk Designer – partial Blissymbol library and set-ups
www.abilia.org.uk/

Coming: Complete Blissymbol libraries for Tobii Communicator, Rolltalk Workshop, and more AAC software packages …

Using Blissymbols in standard software

Blissymbols can relatively conveniently be inserted into standard documents using office software together with a symbol graphic file library obtained from BCI, e.g.:

- MS Word or OO/LO Writer + folder with Blissymbol PNG files – drag and drop symbol files from the file folder into documents – use the file search to find words included in the file name gloss – use centred tabs in the office document to align symbols and words in a two text lines approach.

Word, Writer etc. may also be used together with the clipboard export functionalities of WinBliss or Symbol For Windows (see below …)
Blissymbol support in LibreOffice/OpenOffice Writer is offered via the CCF-SymbolWriter extension developed in the European AEGIS project (www.aegis-project.eu).

The extension communicates with a CCF-SymbolServer which matches words to a database of concepts with Blissymbol representations (and currently also ARASAAC symbols).

This software is still in development, but can be obtained in a preliminary version via www.conceptcoding.org

The image below shows LibreOffice Writer with the CCF-SymbolWriter extension and the CCF-SymbolServer, together with a on-screen-keyboard Blissymbol input set-up in SAW 6 (Special Access to Windows) – producing text with Blissymbols in the Writer document.

SAW 6 and Blissymbol selection sets (English and Swedish) are available from:

www.oatsoft.org/Software/saw-resources/downloads

Project – student prototype development – uncertain future, but interesting proof of concept for future Blissymbol font implementations: Blink (Bliss Ink): A piece of new Blissymbol software developed at the Nanyang Polytechnic School in Singapore. Two small video demos of the Singapore students' project we talked about are still available on Youtube: www.youtube.com/watch?v=ueOX3ChnWi0 and http://www.youtube.com/watch?v=TI5fqk-9Yr4
Software Tools for the Maintenance of the Bliss vocabulary

**WinBliss** ([www.anycom.se](http://www.anycom.se)), is currently (though not updated lately) the main tool for BCI to maintain the BCI Authorized Vocabulary (BCI-AV) resources.

**Symbol for Windows - Bliss Editor** and **Export Program** are other tools suitable for vocabulary maintenance, both internally within the SfW program family, and for external export. **Paper Chart Maker** is a commonly used tool for maintenance of Blissymbol paper charts. ([www.handincom.nl](http://www.handincom.nl))

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**Symbol for Windows Bliss Editor**

The Symbol for Windows Bliss Editor is a program to draw, edit and save Bliss symbols. With this editor you can:

- contain symbols from the entire Bliss database
- add new elements, like lines, arches and standard elements to existing symbols
- create totally new symbols

New symbols become a part of the Bliss database and can then be used in other Symbol for Windows programs.

**Drawing rules**

The Bliss Editor has a built-in aid that helps you draw your Bliss symbols in accordance with the Bliss drawing rules. Line elements are automatically put in the correct position in the grid, but you can place them differently by simply clicking and dragging with the mouse. The program supports all standard drawing elements that appear in Bliss symbols, like the square, the heart, the wave and the triangle. The Bliss database in Symbol for Windows contains the best symbols approved by the Bliss Communication Institute in 1988.

**Upgrading from Bliss for Windows to Symbol for Windows**

Now the Bliss Editor has been added to the Symbol for Windows package and the Symbol for Windows Bliss database has been expanded. Users of Bliss for Windows will want to upgrade to Symbol for Windows. Handicom is designing a program that will make this as easy as possible and make sure you will not lose any of your work in the process. The documents that have been produced by Bliss for Windows, will be formatted to fit Symbol for Windows. Please send an email to Handicom if you are interested in this possibility.
MindExpress (www.jabbla.com, www.rehabcenter.se) - with the included Bliss Editor:

**Chapter 10 - Bliss Editor**

Bliss Editor is an accessory to Mind Express that allows you to create your own Bliss symbols. Bliss Editor is based on the standard Bliss rules. You can use the basic shapes to create new Bliss symbols or you can combine existing Bliss symbols.

To start Bliss Editor:

1. Click the Start button at the bottom left corner of the screen.
2. Move the pointer to Programs.
3. Hold the pointer over Programs until the list of available programs appears.
4. Hold the pointer over Mind Express.
5. Click Bliss Editor.

BlissOnline (www.blissonline.se) is supported by powerful back-office editors and tools used internally by SPSM for maintenance of BlissOnline content, and as production tools for other SPSM Blissymbol products – unfortunately not publicly available.
BlissTool ([http://jfbouzereau.free.fr/BLISS/bliss0.html](http://jfbouzereau.free.fr/BLISS/bliss0.html)) is a free and open-source Java based non-AAC editing tool for Blissymbols, but unfortunately not quite suited for the main vocabulary maintenance needs of BCI and most AAC Bliss users.

Bliss font technology:

Several character fonts have been developed for Blissymbolics. The Bliss Template font was developed for BCI documentation and for the (now no longer supported) BlissInternet software developed by BCI.

Other Blissymbol fonts have been, and are still, available via George Sutton's Symbols.net – Blissymbolics resources at [www.symbols.net/zips/](http://www.symbols.net/zips/). One is for example used in the Bliss-Dasher project (David McKay and Annalu Waller) – [www.inference.phy.cam.ac.uk/dasher/development/bliss/](http://www.inference.phy.cam.ac.uk/dasher/development/bliss/)

The latest font font for Bliss is the one developed in the Unicode private area for the ConceptCoding Framework (CCF) applications in the AEGIS project (see above). This font is a temporary non-standard whole Bliss-word font solution allowing Blissymbols to be displayed in the standard Ruby Annotation format in Open Document Text documents aligned above the words of the written text (available via downloads at [www.conceptcoding.org](http://www.conceptcoding.org)).

Michael Everson's draft proposal for a Bliss character encoding in Unicode since 1998, and which is now again being addressed as a current major task for BCI, can be found at: [http://std.dkuug.dk/jtc1/sc2/wg2/docs/n1866.pdf](http://std.dkuug.dk/jtc1/sc2/wg2/docs/n1866.pdf)

It is proposed that the encoding for Blissymbolics in the Unicode standard be ideographic, in resemblance to Chinese. Bliss-characters combine with one another into Bliss-words, with a small set of super-imposed characters which serve to give verbs tense, identify plurals, and to differentiate nouns from verbs and adjectives.
Bliss on the mobile – smart-phones, touch pads etc.

Blissymbolics is gradually being supported on more mobile apps for both iOS and Android. Here are a few examples:

**Widgit Go**

Symbol activities and grids for iPad or Android tablets.


Blissymbol library available (at least for Swedish)

**TalkingTILES** ([http://mozzaz.com/index.php/products/talkingtiles](http://mozzaz.com/index.php/products/talkingtiles)) is a touch-based Augmentative & Alternative Communication (AAC) application that runs on all major mobile platforms and on any computer. A Blissymbol library is supported, among several other symbol libraries.

**Eneso Verbo** is a Spanish Windows and Android application to create dynamic communication boards. Now gives access also to Blissymbols.

-> [www.eneso.es/verbo/](http://www.eneso.es/verbo/)
-> [www.eneso.es/verbo/pictogramas/](http://www.eneso.es/verbo/pictogramas/)
The CCF-SymbolDroid app for Android devices (development supported by the AEGIS project) provides support for Blissymbolics and ARASAAC pictogram symbols. Preliminary version available via downloads at www.conceptcoding.org

Conditions for using Bliss

Licences and usage conditions for Blissymbolics:

The Blissymbol vocabulary is available and may be used and distributed on the following terms:

- Freely for personal and personal and local use
- May be accessed from BCI, used and re-distributed as part of free resources under a free “copyleft” licence – CreativeCommons-BY-SA
- May be accessed from BCI and re-distributed in as part of proprietary non-free products under a traditional license agreement with BCI

For details see www.blissymbolics.org – Licensing Conditions for Blissymbolics
Research & Development about or involving Blissymbolics

Here follows a very preliminary and incomplete list:

Blissymbolics Unicode Font
Ongoing work supported by the Swedish IDO Foundation
BC-UK, Michael Everson/Evertype (endorsed by BCI)
http://www.evertype.com/standards/iso15924

The Concept Coding Framework: www.conceptcoding.org

Centre for Language Technology (CLT), Språkbanken, DART and Conceptcoding.org.

The AEGIS project www.aegis-project.eu
The SYMBERED project: www.symbolnet.org
The WWAAC project: www.wwaac.eu

The Bliss-Dasher project:
David MacKay, Seb Wills, and Annalu Waller, Bliss-Dasher - Efficient semantic writing with any muscle (pdf file - 2007)
(http://www.inference.phy.cam.ac.uk/dasher/development/bliss/abi/BlissDasher.pdf)


Anna Elisabeth du Preez, 2006, Univ. of Pretoria, Supervisor: Prof. J. Bornman
TRANSLUCENCY RATINGS OF BLISSYMBOLS

Abrahamsson Lotta & Ljung Ida-Karin (Supervisor; Niklas Norén): [PDF] Bliss i interaktion 2008 (“Bliss in Interaction” – masters theses in Swedish, abstract in English)

Aided Language Skills in Children Aged 5-15 Years – a multi-site and cross-cultural investigation
Project Principal Co-ordinator: Professor Stephen von Tetzchner, Oslo, Norway
Participation from:
Australia, Brazil, Denmark, Finland, Germany, Holland Ireland, Norway, Portugal, Spain, Sweden, UK, USA

From Bliss Symbols to Grammatically Correct Voice Output: A Communication Tool for People with Disabilities, 2002 - http://www.springerlink.com/content/m6221011w66t78m3/fulltext.pdf

Péter Olaszi, Ilona Koutry and Sophia L. Kálmán : Electronic usage of BLISS symbols

N Sandor, G Varady, A Szalmas, C Sik Lanyi and Z Kalman, University of Veszprem/Hungarian Bliss Center, Budapest, Hungary


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