

Proofs of:

What is Next in Digital Emblem Studies?

Peter Boot

pboot@xs4all.nl

Published in:

Transmigrations.

Essays in Honour of Alison Adams and Stephen Rawles

Volume edited by Laurence Grove and Alison Saunders, assisted by Luís Gomes
Glasgow Emblem Studies, Volume 14

Available from:

Librairie Droz S.A., 11 rue Firmin-Massot, 1211 Genève 12, Switzerland

www.droz.org

What is Next in Digital Emblem Studies?

BY

PETER BOOT

UTRECHT UNIVERSITY AND HUYGENS INSTITUTE

Over the last few years, Stephen Rawles and Alison Adams have created a number of very useful and very carefully organized emblem sites. I have had the privilege of witnessing some of the work done in building these sites and I know how much thought and care went into every detail of these sites, efforts that the users of the sites will appreciate.

In this paper, in what is something of an agenda for digital emblem studies, I will look into a crystal ball and try to sketch how these collections of digitized emblem books might be embedded in a wider infrastructure. This is certainly a speculative undertaking. Given the pace of development in the computer world and on the web it is likely not to last very long. But still, it is important that from time to time we ask ourselves what we need and gauge what the future may have in store. I will argue that what we need can be grouped into four agenda items: more material; interoperability between resources and tools; facilities for visualization; and finally an integration of these facilities into something like an early modern researcher's workstation. I will try to sketch what this workstation might look like.¹

MORE MATERIAL

The first thing that we undoubtedly need is the availability of more digital material. This goes without saying. But what material do we need, and in what form?

The digital material that emblem researchers need consists of (i) emblem books; (ii) surrounding material; (iii) reference works; and (iv)

¹ A rich source of inspiration on these subjects is *Digital Humanities Quarterly*, 3 (2009), eds. Gregory Crane and Melissa Terras, on the theme of 'Changing the Center of Gravity: Transforming Classical Studies Through Cyberinfrastructure'. The community of Classical studies has been at the forefront of computer use in the humanities.

secondary material. The need for emblem books probably speaks for itself, so I will consider the other categories briefly.

‘Surrounding material’ is a very wide field. It includes related genres (such as fable books), contemporary emblem theory, other works created by emblem authors, books that were used as sources (classical authors in contemporary editions, anthologies), and all the works that may have been influenced by emblems or have exerted an influence on emblems. That is a very wide category of material, which it is impossible clearly to delimit. In an ideal world, indeed, there would be no limits, and that is why the several initiatives to digitize entire libraries are so important. I shall come back to some limitations of these initiatives below, but it is important first of all to state that digitizing all remaining Early-Modern printed material is a worthy and sensible goal. As emblem researchers we are after all often not only interested in the emblem, but also in how the emblem reflects the wider mentality and culture of the age, and it is clear that love poetry, drama, occasional prints, theological writing, politics, and history are all in some way relevant to that. This does not mean, however, that there are no priorities.

‘Surrounding material’ also includes the output of the visual arts. The first priority probably would be prints, but again it is impossible to distinguish precisely the relevant from the irrelevant. Painting, sculpture, church decoration, decorated household objects, tapestry, tiles, gravestones—these can all be the bearers of emblematic motifs. There should be national archives of digitized art whose mission it is to collect and make accessible digital representations of all art objects housed in, or created in, that country. Emblem researchers, like many others, need such resources.

The third category of materials that need to be digitally available is ‘reference works’. Dictionaries are a prime candidate; biographical dictionaries, bibliographies in general and emblem bibliographies in particular are all indispensable. We also need encyclopaedias of art, of literature (both modern and historical), of culture, politics, religion, etc. Again, emblem researchers are not the only ones who need this material, but we cannot rely on others to think of our needs.²

² As Crane et al. write in the context of classics: ‘Classicists cannot expect colleagues who work primarily in English and with relatively recent sources to anticipate the problems of working with historical languages. Classics—and all disciplines which draw upon languages of the past—must tirelessly engage in larger conversations and be prepared to defend the significance of language’. See Gregory Crane, David Bamman and Alison Babeu, ‘ePhilology: When the Books Talk to their Readers’, in *The Blackwell Companion to Digital Literary Studies*, eds. Ray Siemens and Susan Schreibman (Oxford: Blackwell, 2007), pp. 29-64. See p. 53. Each field, therefore, has its own specific needs.

Finally, what we need is digital emblem studies. We need a digital bibliography for emblem studies first, but we also urgently need full-text digital versions of emblem articles and books. This is especially important since emblem studies are often published in conference proceedings that can be difficult to obtain, and since *Emblematica*, the flagship journal of the discipline, does not form part of the JSTOR or MUSE initiatives. Emblem scholarship may also be hard to find as it is by nature international and multilingual. Fear of copyright problems often acts as an impediment to making available digital versions of articles, but the movement towards Open Access for scholarship should remove those fears.³ Publishers who cannot live with these realities may need to rethink their position.

Another issue relates to the format in which this massive amount of digitized material will become available. It is clear we cannot expect all the material to be transcribed, encoded and indexed to the level of perfection of the Glasgow Emblem Digitization Project, and anything is always better than nothing. Sagrario Lopez Poza and Sandra Maria Fernández Vales now list thirty-two emblem books in Google Books,⁴ and a similar number, partly overlapping, are available in the Internet Archive. Yet, the value of digitized resources depends critically on the availability of adequate metadata and a reasonably trustworthy text. The required level of correctness of the text of course depends on the purpose for which it is used. For trustworthy searching, concordancing, textual or stylistic analysis, an error-free text is required.⁵ For higher-level operations (e.g. searching that takes into account structural characteristics, or fetching structural elements of texts for display elsewhere) some level of structural encoding is necessary, presumably according to the *Guidelines* of the Text Encoding Initiative (TEI).⁶ Emblem texts, being, as they are, structures of related fragments, lend

³ On this subject see M. Heath, M. Jubb and D. Robey, 'E-Publication and Open Access in the Arts and Humanities in the UK', *Ariadne*, 54 (2008), 6.

⁴ Sagrario Lopez Poza and Sandra Maria Fernández Vales, 'Catálogo de ediciones digitales de libros de emblemas y obras afines accesibles en Internet' at:

<http://rosalia.dc.fi.udc.es/emblematica/CatalogoDEBOW.pdf>. The site, which dates from 2009, was accessed on 20 March 2009.

⁵ It should be noted that fuzzy searching, often presented as a solution for OCR errors in text, leads to extra hits, but dramatically reduces search precision. Researchers will lose time having to wade through large numbers of irrelevant search results.

⁶ The Text Encoding Initiative has created guidelines for the encoding of texts in the humanities. See Lou Burnard and Syd Bauman, 'P5: Guidelines for Electronic Text Encoding and Interchange' at

<http://www.tei-c.org/release/doc/tei-p5-doc/en/html/index.html>. The site, which dates from 2007, was accessed on 20 March 2009. The Glasgow Emblem Digitization Project has based itself on these guidelines.

themselves very well to a hierarchical TEI-type encoding. For emblem pictures, and other pictorial material, indexing of pictorial motifs is desirable. Iconclass is the obvious choice of indexing system to be used.⁷

This is not to say that all these things must necessarily be accomplished at a single stroke. It is quite possible for Google or the Open Content Alliance or others to make a first attempt at OCR and come back to it a few years later, when algorithms will have become better.⁸ Undoubtedly, we will see advances in machine-created structure encoding. Collaborative structures may grow where people improve the texts with which they work,⁹ and social tagging will function as an informal complement to cataloguing.¹⁰

INTEROPERABILITY

Interoperability between digital resources and programmes exists if they can communicate with each other without human intervention. This is important if we want to automate, as far as possible, the exchange of data between sites and programmes. We need to automate these exchanges if we want to build a usable interface with which an emblem scholar can work—that is, if we want to avoid the scholar having to visit dozens of sites and manually merge data from these sites. We need to move away from what has become known as the ‘silos-model’ of digital scholarship.¹¹

Two examples: a site that houses a digital dictionary is good to have, but a programme that takes a word and returns the corresponding dictionary entry is better. Having a programme like that would make it

⁷ See Hans Brandhorst, ‘Using Iconclass for the Iconographic Indexing of Emblems’, in *Digital Collections and the Management of Knowledge: Renaissance Emblem Literature as a Case Study for the Digitization of Rare Texts and Images*, eds. Mara Wade, Gunthram Geser and John Pereira (Salzburg: DigiCULT, 2004), pp. 29-44.

⁸ I will not go into some of the limitations of Google’s library search programme. Some have reported extremely difficult situations: see Paul Duguid, ‘Inheritance and Loss?: A Brief Survey of Google Books’, *First Monday*, 12 (2007), 8; Robert B. Townsend, (2007), ‘Google Books: Is It Good for History?’, *Perspectives Online*, 45 (2007), 6. But one can hope Google will tighten their quality controls. Furthermore, one can argue that it is not solely for Google to scan our heritage. It is the national European libraries that should begin to digitize their full holdings, as at least the Bibliothèque nationale de France seems to understand.

⁹ See Gregory Crane, David Bamman and Alison Babeu, ‘ePhilology: When the Books Talk to their Readers’.

¹⁰ See Daniel J. Cohen, ‘Zotero: Social and Semantic Computing for Historical Scholarship’, *Perspectives Online*, 45 (2007), 5.

¹¹ See Stephen G. Nichols, ‘Time to Change our Thinking: Dismantling the Silo Model of Digital Scholarship’, *Ariadne*, 58 (2009), no pagination.

possible to have a dictionary search box embedded in the emblem scholar's workbench about which I speculate below. Alternatively, such a programme could be used to fetch a word's meaning when the mouse is placed over the word, and display the meaning in a tooltip. On a perhaps more basic level, an emblem scholar should not need to visit numerous emblem sites in order to investigate other uses of a specific motif, or to spend excessive time looking for a pictorial motif in multiple image banks.

What we need therefore is aggregation (collecting of data from multiple sites and making it accessible from a single site), and what is known as web services, that is exposing functionality and data in programmable interfaces over the web. Aggregation is what the emblem portal site does when it collects the emblem data from the individual emblem sites.¹² A single search on the portal site should show the relevant emblems from all of the participant websites. The emblem schema proposed by Thomas Stäcker would make it possible for the emblem portal to receive higher quality (that is, better described) data and thus to offer more precise search options.¹³ Because the schema conforms to the Protocol for Metadata Harvesting designed by the Open Archive Initiative, others could fetch the same data and offer other search interfaces (or perhaps not a search interface but a spectacular visualization) (see next section).

Web services would make it possible for programmes to assemble the information that a scholar needs, either when he or she asks for it or in anticipation of a possible need. We will see some examples in the 'Integration' section, below. One of the most basic web services would be the facility to request named fragments of digital texts from digital repositories. We could then ask for the text of one emblem, or we could ask for one epigram. Outside the emblem realm it opens the way to requesting anything, from a single line in a poem to an entire volume of correspondence. A standard in the making for this type of request is the Canonical Text Services (CTS) Protocol.¹⁴ Other important web services would expose a site's search functionality: entering a search

¹² For the OpenEmblem portal, see Mara R. Wade, Mara R. (2004), 'Toward an Emblem Portal: Local and Global Portal Construction', in *Digital Collections and the Management of Knowledge: Renaissance Emblem Literature as a Case Study for the Digitization of Rare Texts and Images*, eds. Mara Wade, Gunthram Geser and John Pereira (Salzburg: DigiCULT, 2004), pp. 115-20.

¹³ See Thomas Stäcker, 'Setting the Emblem Schema to Work', in *Learned Love: Proceedings of the Emblem Project Utrecht Conference on Dutch Love Emblems and the Internet (November 2006)*, eds. Els Stronks and Peter Boot (The Hague: DANS, 2007), pp. 201-209.

¹⁴ See Neel Smith and Chris Blackwell, 'The Canonical Text Services Protocol', at <http://chs75.harvard.edu/projects/diginc/techpub/cts>. The site, which was created in 2007 and updated in 2008, was accessed on 20 March 2009.

term would return a list of hits. The application could then do the searching on behalf of the emblem scholar (again, we will see how useful that can be in the 'Integration' section), but possibly do other things as well: for instance lemmatise the search hits, or look up a translation of the hits at another site. Other web services would fetch and display annotations on the work that a scholar studies.

Rather than data, web services could also provide functionality. The prototypical application would probably be the text analytical functions offered by the Canadian Text Analysis Portal for Research (TAPoR). Functions TAPoR offers include among other things concordancing, lemmatisation and parsing. But web services can also be used to compute and return visualizations, to analyse pictures, or essentially to do anything that does not require user interaction.

VISUALIZATION

Students of the emblem know that images can be very effective in conveying or suggesting information. Franco Moretti's *Graphs, Maps, Trees* argues convincingly for the importance of visualization in literary studies.¹⁵

A large number of potentially interesting visualizations spring to mind. Visualization based on maps would be useful, for example, in showing the place of residence of the dedicatees of emblems in an emblem book, or the bearers of the *imprese* discussed in a book. It would be interesting to see the number of emblem books (titles or copies) by the city where they were printed. Or maps displaying the cities where emblematic pageants, exhibitions or ballets were incorporated into festivities. Or displays of estimated literacy levels by country over the period of popularity of the emblem. The groundswell of applications for Google Earth suggests there must be many possible applications in emblem studies.

When visualizing time rather than space, the first thing that comes to mind is bringing together in a timeline the complete production of emblem books, possibly using a separate row for each language. Other visualizations (inspired by Moretti) would include the number of books produced per year, or the period of popularity of emblem sub-genres. Again, we may want to display these data together with other data that we think may be related: political developments, educational

¹⁵ Franco Moretti, *Graphs, Maps, Trees: Abstract Models for Literary History* (London: Verso, 2005). On the importance of digital visualization in the humanities, see M. Jessop, 'Digital Visualization as a Scholarly Activity', *Literary and Linguistic Computing*, 23 (2008), 281-293.

innovations, or whatever else we might wish to investigate in this context.

It might also be interesting to visualize the changing use of languages in emblem books (Latin and the vernacular) in different periods and areas, possibly in relation to their use in other genres. But visualization is not limited to (more or less) objective properties of the books; it is also relevant in conjunction with interpretative annotation. Els Stronks gives an example in the bar charts that show the numbers and roles of churches and crosses in the emblem book pictures digitized in the Emblem Project Utrecht.¹⁶ In an ideal world, these visualizations would provide an entry into the underlying data, as suggested by John Unsworth in his 2005 Lyman Award Lecture: ‘How can we make visualizations function as interfaces, in an iterative process that allows the user to explore and tinker?’¹⁷

One area where visualization may be very useful is in investigating relations between emblem books. As David Graham noted long ago, we need diagrams that visualize the links that have been created between emblems and books.¹⁸ But this is just one more example of the many situations where we need to bring together texts and annotations in intuitive overviews that help us ‘[use] vision to think’.¹⁹

INTEGRATION

My last section concerns an emblem research workbench that would take advantage of some of the facilities mentioned above. People have imagined what a manuscript researcher’s workstation should look like.²⁰ An emblem research workbench would be an example of a virtual

¹⁶ Els Stronks, ‘Churches as Indicators of a Larger Phenomenon: The Religious Side of the Dutch Love Emblem’, in *Learned Love: Proceedings of the Emblem Project Utrecht Conference on Dutch Love Emblems and the Internet (November 2006)*, eds. Els Stronks and Peter Boot (The Hague: DANS, 2007), pp. 73-92.

¹⁷ John Unsworth gave the 2005 Lyman Award Lecture at the National Humanities Center. Its title was ‘New Methods for Humanities Research’. For an experiment in using generated pie charts and bar charts to provide access to annotations from within a digital edition, see Peter Boot, ‘A SANE approach to annotation in the digital edition’, *Jahrbuch für Computerphilologie*, 8 (2006), 7-28.

¹⁸ David Graham, ‘The Emblematic Hyperbook: Using HyperCard on Emblem Books’, in *Hypermedia and Literary Studies*, eds. Paul Delany and George Landow (Cambridge MA: MIT Press, 1991), pp. 273-286.

¹⁹ This quotation is a reference to Stuart K. Card, Jock D. Mackinlay and Ben Shneiderman, eds., *Readings in Information Visualization: Using Vision to Think* (San Francisco: Morgan-Kaufmann, 1999).

²⁰ See Sylvie Calabretto and Andrea Bozzi, ‘The Philological Workstation BAMBI (Better Access to Manuscripts and Browsing of Images)’, *Journal of Digital Information*, 1 (1998), no pagination.

research environment, according to M.A. Fraser: ‘a framework into which tools, services and resources can be plugged’ to facilitate research.²¹ Ideally, this environment should be able to work with emblem book collections from multiple sites, though the amount of integration to be achieved between the several components would depend on the facilities available on the individual sites.

Thinking along these lines, what is the functionality that an emblem researcher’s workstation should have? I imagine such an application to have a self-configuring margin with multiple panels, and multiple items per panel. One panel would contain functionality for (federated) searches in, for instance, the emblem portal, emblem sites, image databases, dictionaries, prosopographical resources, relevant digital libraries, and bibliographical resources. A mouse-click on a word should be sufficient to start the relevant searches and display their results in the panel. Another panel would display references to literature: literature that discusses the emblem under examination, or the book, or the author; books that have been discussed in relation with this emblem (or book, or author); auction catalogues and book inventories that contain this book.

One of the reasons for which I have mentioned the need for full-text access to secondary literature is precisely to be able to do this: perform automated analysis to determine which studies discuss which books in what context. Yet another panel would suggest objects similar or related to the one being studied: similar emblems, mottoes and pictures, for instance, but also other texts that, for example, use the same quotations. Or again other texts that may use the same vocabulary, or that are conceptually similar, or that have been discussed by others in the same context. Selecting one of the related emblems might open both emblems in the workbench’s comparison facility. Still another panel would offer a translation into the user’s preferred language, if available, or into one of his secondary languages, if available, or else machine suggestions towards a translation.

One of the more important panels, I imagine, would offer entry into the annotative mesotext surrounding the emblem or work.²² It would

²¹ M. A. Fraser, ‘Virtual Research Environments: Overview and Activity’, *Ariadne*, 44 (2005), no pagination. I will only discuss part of the functionality that an emblem research workbench would have to contain: I ignore the need for an authoring tool for (hypertext) documents; the need for reference management; and the need for comparison; and focus on an environment for the study of single books and emblems.

²² For the concept of mesotext, see Peter Boot, ‘Mesotext. Framing and Exploring Annotations’, in *Learned Love: Proceedings of the Emblem Project Utrecht Conference on Dutch Love Emblems and the Internet (November 2006)*, eds. Els Stronks and Peter Boot (The Hague: DANS, 2007), pp. 211-225.

display annotations that the researcher and others have made about the emblem in question. It should be possible to filter, group, sort, search and export the annotations here, and have the result displayed in some appropriate visualization. Full annotation functionality would be accessible from this panel, but it should also be possible to use any object in the workbench (word, unit of text, reference to other text, line in a translation, etc.) as a starting-point for creating an annotation.

Other panels might include a panel for launching text analysis tools; a panel for launching visualizations; a panel for defining queries and selections in the book being studied (it would allow for quotations alone to be requested, or just the texts in Latin, or the text fragments with a certain type of annotation made by colleague X); a panel that brings up art with similar pictures, etc.

Even though there may be a specific panel for launching visualizations, visualization should not be seen as add-on, as extra functionality, that could also be removed. On the contrary, the output of any search should, where appropriate, be potential input for visualization. A presentation of search results by year should be routinely accompanied by a bar chart showing the number of hits per year, and a filter by author could create a pie chart showing each author's hits. And as discussed in the previous section, these diagrams should be hyperlinked to further searches.

All the items in these panels could be enlarged to fill the whole screen in order to allow more complex queries, the display of further related information, or simply of more results. It should be possible for the user to determine the items to be shown in the panels, both by explicitly stated and by system deduced preference. It should also be possible for the user to add new items to these panels, or to create new panels altogether, and to share these new items and panels with other users. A mouse-click should be sufficient to send the information produced in the panels (or the whole screen) to an email, instant message or whiteboard application for consultation with colleagues, or alternatively, to a hypertext writing environment bundled with the workstation. All panel items should maintain a history of searches and search results that could be restored at will. The state of the environment could be saved across sessions.

Some of the resources accessed by these panels would be large public digital libraries, such as Perseus or the Internet Archive's Text Archive; ideally, the application would work with the user's library (or libraries) in order to be able to access commercial resources for which the library has a licence; and again other resources would be the product

of the ‘scholarly cottage industry’ to which Willard McCarty refers.²³ The emblem scholar’s workstation that I envisage here is not unlike what McCarty describes as do-it-yourself and just-in-time commentaries, though I conceive of the workstation as machinery for assembling material rather than as the assembled material that McCarty appears to have in mind (87). It is clear that the creation of a workbench comparable to the one I envisage here depends on the interoperability of the resources assembled in the workbench and thus on the availability of the data aggregators and web services mentioned earlier in this article.

CONCLUSION

We need more digital primary material to study; we need aggregated collections for efficient access; and we need digitized surrounding material in order to connect emblem and context in our annotations. We need accessibility of both primary resources and annotations through open protocols and web services in order to build insightful presentations. Visualizations of the phenomena of time and space in our corpus, and of the groupings and subgroupings that our annotations define in our corpus, will help us find our way around the material in question. We need a workbench that, insofar as possible, integrates access to primary material, secondary material and annotations.

In this article I have allowed myself to conjure up a number of dreams: I have not asked who would do the digitizing and standardising and programming, and I have not asked who would fund it. Certainly, it will not be the limited community of those active in emblem digitization. If for that reason alone, it is a good thing that much of what emblem research needs is needed by others as well.

Digitization of emblem books is not ‘merely’—as if that were inconsequential—making available an electronic surrogate for a physical book. What we make is not only a surrogate of something else, but also an ingredient in an evolving network of related texts and programmes that can help us study these texts. Digitization of the early modern book, if done well, is truly a transmigration into a new domain with exciting possibilities for exploration and study.

²³ Willard McCarty, *Humanities Computing* (Basingstoke: Palgrave Macmillan, 2005), p. 97.