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Beyond and with the object: assessing the dissemination range of lantern slides and their imagery

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ABSTRACT

This article proposes methods to trace media history through material objects that build on archival practices. It discusses the character of information derived from the object and other related sources, to outline possibilities for media-historical research connecting multiple collections to create large sets of data. The aim of this article is twofold: first, I share practical knowledge about identifying lantern slides of commercially distributed slide sets, to generalise an understanding of identification and evaluation from both an archival and a scholarly perspective. Combined documentation of information from various sources (catalogues, lantern slides, trade press, lecture material, readings, related media) is often necessary to correctly identify lantern slides. Second, I propose criteria for research infrastructures to incorporate data documentation towards comparative research designs. The enormous dispersion of lantern slides over many collections leads scholars to build their own corpora from objects held in various collections, which can be ameliorated with standardised descriptors across collections. Further, new research questions tracing synchronic and diachronic dispersion could be asked with the collaborative documentation of a larger set of data, for example, assessing the geographic distribution and popularity of slide sets, reconstructing trade networks or the migration of images across various media forms. Altogether, collaborative documentation and search could lead to knowledge about the formation of canons of shared visual knowledge. Research into the dissemination of slide sets and the popularity of displayed motifs cannot be restricted to either 'distant readings' or 'close readings' exclusively, and benefits from the ability to switch between close inspections of the object as well as networked sources.

KEYWORDS

Digital humanities;
magic lantern slides;
documentation of archival
objects

Introduction

Magic lantern slides were an important mass-medium and means for mass-communication. I included them in my research into visual knowledge about the Netherlands and the Dutch in the long nineteenth century because I was interested in images that circulated on a large scale across various kinds of popular media formats. I was surprised by how little scholarly work was available on the business, logistics and design choices behind the medium. Magic

lantern slides are archived nearly everywhere. Many museums, archives and libraries across Europe and its former colonies hold hundreds or thousands of slides in their collection. Despite the vast amount of the material, I found archival descriptions for the medium were not well-documented, broadly studied or even widely known. Investigating lantern slides more closely has increased in recent years in the museal, archival and scholarly fields.¹ But still, primary sources are inaccessible to many scholars, a main obstacle to conducting research in depth (Gray 2014, 179). Lantern slides in public collections are often not registered, let alone catalogued or digitised.² The abundance of material does not come with abundance of access. What has gone wrong?

Scholars and archivists seem stuck in a vicious circle: the existence of the material is not known or accessible to the vast majority of scholars, while specialised knowledge on magic lantern slides is not accessible to most curators, archivists and cataloguers. This situation contributed to a generally poor understanding of lantern slides in museum collections, which in turn impacts the quality of documentation. Certainly, knowledgeable people exist, including those working in university departments, in archives and among private collectors and dedicated amateur lanternists. Such knowledge, however, does not have an institutional home or a professional field; the absence of a network of specialists is one reason why existing knowledge to date often fails to transcend collector's networks and stays dispersed and largely inaccessible to archivists, curators, scholars and the interested public. Ironically, that lantern slides are a mass medium, found almost everywhere, obstructs giving them attention in themselves. Elena Cervera, archivist at Filmoteca Española in Madrid, explained to me how magic lantern slides are often considered a marginal part of the collection that holds many other objects more closely related to the museum's topic. Just as with the art historian's slide library, lantern slides are often of no interest as historic objects for the museum and are taken only as a source of data and illustration; interesting for their content rather than for their materiality or their contexts (personal communication to the author, April 2016). As archives make difficult choices about where to allocate scarce time and staff, it is unlikely that an unrecognised collection that hardly anyone is interested in will become a priority on the long list of archivists' tasks. This is one reason why lantern slides are not always registered, let alone catalogued. The decision to postpone work on a lantern slide collection can also come from their inherently preserved status as images protected by relatively durable glass plates; conservation measures can be postponed with less risks than fragile and deteriorating items that require immediate action for preservation.

As a result, the existence of a lantern slide collection in a public museum and its general scope often remains unknown (and largely unknowable) to researchers. And when the material is not studied, knowledge about it will not advance, which again will not change the way that it is treated in the archives; and so the vicious circle turns another round. Ine van Dooren, archivist at Screen Archive South East, Brighton, concluded:

Archives and museums hold a rich and tangible part of the lantern's history. The physical evidence of slides, apparatus and texts has survived, but their context needs to be reconstructed and interpreted, especially in all the variations and amalgamations present in the elusiveness of a live performance medium. (van Dooren 2014, 187, 188)

In this article, I add another aspect to van Dooren's statement. Quite an elaborate amount of contextual knowledge, in my experience, is required *before* an item can even be identified and described in basic terms using the categories currently applied for metadata standards. This situation causes difficulties on both the archive and the researcher's side: not being able

to identify the object makes cataloguing difficult. As I will show in the following examples, the case of lantern slides comes with another difficulty resulting from a lack of systematic collection management, exacerbated by the original material being scattered over various places (Crangle 2014). The identification of objects often cannot be achieved without comparing multiple objects across several institutional collections. I begin with two examples from my object-based research over various collections that will illustrate that point.

The unidentified object

CASE 1

During my research, I visited a private collector and inspected the magic lantern slides in her collection. Many of the slides had a paper glued onto them, showing printed letters. Some of these slides noted 'Picturesque Holland' on the rectangular label, others 'A Visit to Holland' (Figures 1 and 2).

Some of these slides also showed a round label with a number and another label with a description that corresponded to the image content. So far, this is not surprising. It is common knowledge among lantern slide collectors and specialised researchers that commercially produced lantern slides were issued as sets and manufacturers often glued a label to it, with the slide or slide set's title accompanied by a number that indicated the order number in a respective set. Looking at the individual slides in the collection, it initially seemed these slides corresponded to two slide sets, one titled 'Picturesque Holland' and the other 'A Visit to Holland'. But when comparing these slides to those held in another private collection, the same photographic image appeared on a slide with the label 'Picturesque Holland' and 'A Visit to Holland'. Was there thus only one slide set with alternative distribution titles? Both sets of titles appear in various catalogues of slide manufacturers and resellers in the period 1890–1914 (see list of catalogues). Curiously, some catalogues advertised 'Picturesque Holland' in a version of 30 slides while others advertised it in a version of 50 slides. Was the set originally issued as a set of 30 slides, supplemented with another 20 slides later?

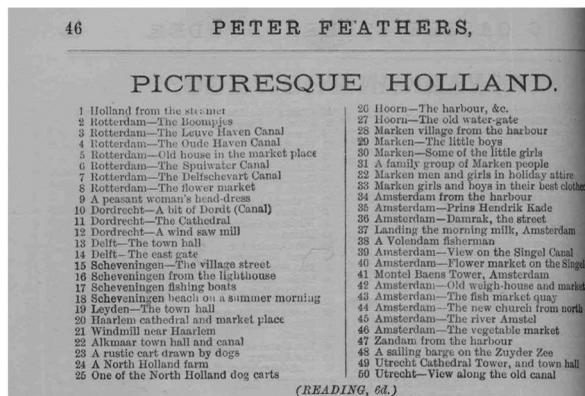
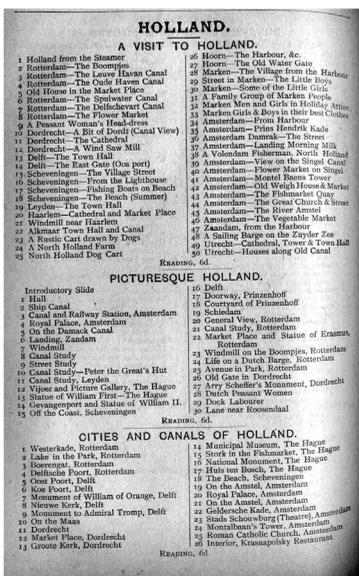


Figures 1 and 2. The labels of the lantern slides indicate two titles, left: 'Picturesque Holland' and right: 'A Visit to Holland'. Courtesy: Gwen Sebus collection.

But then, in a third private collection, one reseller's catalogue offered both slide sets for sale: 'Picturesque Holland' in 30 slides and 'A Visit to Holland' in 50 slides (see Figures 3 and 4). There must have been two slide sets. The 1909 *City Sale & Exchange Slide Catalogue* not only lists the slide set's title, but the individual slide's order number and title were also given under the heading of the slide set's title.

Slide title and order number were different for the set of 30 and the set of 50, so the hypothesis that there was one set, re-issued with additional slides could definitely be rejected. This finding did not explain why the same slide titles appeared in catalogues under the set's title 'Picturesque Holland' and 'A Visit to Holland'. Were the sets 'Picturesque Holland' and 'A Visit to Holland' sometimes conflated, or did a producer put the wrong labels onto the slides? A next hypothesis was that there were two slide sets in distribution with a common title 'Picturesque Holland', of which one was sometimes also distributed as 'A Visit to Holland'. The slides in the private collections all came from one slide set that was distributed under two titles. Who produced slide sets with the titles 'Picturesque Holland' or 'A Visit to Holland'? The manufacturer is not mentioned in the slide catalogues of resellers, nor is the manufacturer's name indicated on the label, or by means of a logo. An advertisement for lantern producer James Valentine and Sons mentioned that a 'newly issued set' was published in September 1894, but the size of the set is not mentioned (1894, viii). Unfortunately, no other slide producer advertised a slide set under one of the two titles during the life span of this trade journal.

Finally, the riddle was solved with a single slide in a fourth private collection. In the fourth collection, a slide showed a label 'Picturesque Holland - J.V.' on top and another label '22 - Market place and Statue of Erasmus' (Figure 5). The slide's title, order number, and photographic image matched the description of the catalogues that was advertised as the



Figures 3 and 4. Left: Page 242 of the *City Sale and Exchange Catalogue*, 1909. Right: Page 46 (detail) of the Peter Feathers catalogue. The individual slide titles of the set 'A Visit to Holland' in the catalogue on the left and the individual slide titles of the set 'Picturesque Holland' describe the same images. Courtesy: private collection.

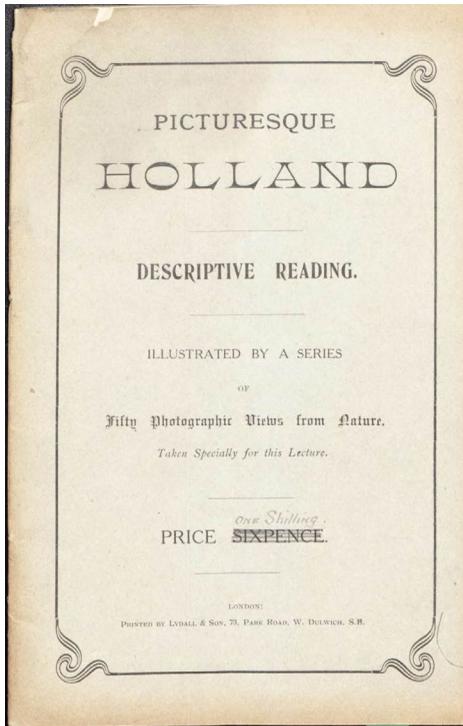


Figure 5. The label ‘Picturesque Holland – J.V.’ and the slide’s title finally identified the title of slide set, producer and slide by connecting information from various sources. Courtesy: private collection.

set of 30 slides. Only then could the slides in the first collection be identified as belonging to the set ‘Picturesque Holland’ (50 slides) by an unknown producer. A final clue to the alternative title emerged when I later consulted lecture material with comments to the slides for a lantern reading at the British Film Institute, which was not yet inventoried. The lantern slide reading was titled *Picturesque Holland: Descriptive Reading, Illustrated by a series of Fifty Photographic Views from Nature. Taken Specially for this Lecture* (see Figures 6 and 7).

On page four of the reading, at the beginning of the lecture, the title is given ‘Picturesque Holland’ and, in brackets, a subtitle: ‘A Visit to Holland’. In the end, it became clear that there were two series issued with the same title. One of them was also distributed with an alternative title. Finally, York and Sons were identified as the producer of the set of 50 slides by a colleague, although their logo, known to be used from the 1890s onwards, does not show in any of the slides I consulted (Robinson, Herbert, and Crangle 2001, 330–331).

In this example, the identification of slides in one private collection required consultation with catalogues for five private collections in three countries, lantern slides in three private collections in two countries, a lantern slide reading pamphlet not yet inventoried by its archive and information from a historical trade press journal. Neither lantern slides nor secondary sources of historical printed matter alone would have sufficed to identify the objects in a collection; a mere transcript of the entries in trade catalogues would have led to the conclusion that distribution titles were mixed up, but it would not have provided enough clues to evaluate what information and sources are to be trusted. Contextual knowledge about the phenomenon of lantern lectures was needed, as there is no indication on the single slide that a corresponding reading was available. In addition, knowing that publishers of



Figures 6 and 7. Cover and page 4 of the lantern reading to the set *Picturesque Holland*. The Subtitle in brackets may be the reason for the alternative distribution title. Courtesy: British Film Institute, Reuben Library.

slide catalogues may be (but not always are) the producers of the sets prevented incorrect attribution of producers.

The unidentified object

CASE 2

My second example begins with a couple of slides in two private collections that showed the labels of American reseller T.H. McAllister. Some slides additionally had the label 'J. Lévy & Cie Succ[esseu]rs de FERRIER Père & Fils & SOULIER – Paris'. Interestingly, the slide's title is handwritten in English language ('Hospital for aged people Zandvoort' resp. 'The Hague') on the French label. Next to the title, one slide shows a handwritten number '12710' and another one the number '2141' (Figures 8 and 9). '12710' could not reasonably indicate the number of the slide in an assembled lecture set. When one knows where to look, the French label roughly hints at the year of production of the lantern slide. Boone (2014a, 2014b) has given a detailed overview of the history and fusions of the French producers of stereoscopic photographs, Lévy, Ferrier and Soulier, who also produced lantern slides. As Boone shows, 'I. Lévy & Cie' was the official company's name between 1873 and 1895. While this offers some insight into the production date of the slide, it does not date the photo negatives which were used as matrix. Close inspection of the objects showed that some slides had numbers engraved in the slide's emulsion or, as in this case, on the label.

it to information about organisations and publications. The possibility of continually adding information and relating it to other bits of information, possibly added by other users, proved invaluable for comparing information from heterogeneous sources in various collections (slides, catalogues of manufacturers, catalogues of resellers, lantern readings). This comparison is, as I have shown, a precondition to verifying information in the present state of documentation. The study of one piece in isolation of the others, or pieces in one collection in isolation of other collections, would not have allowed me to spot inconsistencies in information.

Turning back to the situation in archives, it is very unlikely that curators who are not experts of lantern slides will have the time to conduct such contextual research for every single lantern slide in their collection when cataloguing; many archivists and cataloguers will not even have time to regularly update the descriptive fields in their database when new information becomes available. Conforming to institutional requirements, the aim of cataloguing in most heritage institutions is to create an internal inventory of the objects held in their collection. Cataloguing by individual object is also a precondition for sharing digital collection on big heritage sites like Europeana. Most cataloguing software is therefore developed to describe individual objects and does not structurally enable connecting information from various sources to objects (and objects of various kinds to each other).⁴

Specialised databases created by researchers, like Lucerna, are too complex to integrate into a museum catalogue that covers objects of various kinds, ranging from mediaeval scientific instruments to musical scores and online art performances. Connections between objects can only be established indirectly by filtering according to metadata. Widely used metadata standards for cataloguing, encoding or description in the heritage sector such as Categories for the Description of Works of Art (CDWA, Paul Getty Trust 2014), MARC 21 (Library of Congress) or Dublin Core (Dublin Core Metadata Initiative) all require entries for 'date' (of publication / production), 'author / person / creator' and 'place of production / publication'. A connection between individual lantern slides, as well as a connection between lantern slides and other objects can then be established by filtering by producer, title or year (by searching all objects of the same producer, same place of production, etc.). As seen in the examples above, however, even basic information about title, producer and year of production often cannot be easily determined from the object. On the contrary, a reconstruction of the various historical connections to the object proved necessary in order to produce accurate metadata. Cataloguers and archivists, of course, have developed strategies to cope with such situations, and use attributed titles and estimated years of production, or they fill in 'unknown' in the entry fields. For the researcher, an incomplete description of lantern slides in a museum's catalogue, with attributed titles, unknown producers and a lot of estimations, is, of course, to be preferred over no list at all – not least because this indicates that a lantern collection exists, which is obviously helpful to make a collection known. Still, the resulting list will not provide the necessary means for comparative studies across collections *per se*.

There are, of course, valuable and valid research designs that do not require a comparative approach and can answer research questions by looking at one (digitised) collection alone; such as when the aim is to describe the formal elements of slides in one collection, or to write the collection's institutional history. However, when the research aims beyond a visual (or so-called 'textual') analysis of a single object, or a random sample, hardly any single collection will provide a suitable corpus. For better or worse, the current trend in research

funding in the humanities seems to favour ‘digital humanities’ research projects that make use of the outcomes of big digitisation projects (data sets and digital objects) that were the last trend in allocated funding. Research proposals that have a better chance of receiving funding thus propose to investigate possible questions and methods based on automated data processing and produce digital tools for (statistical) analysis and / or visualisation of the data sets. Such research projects are predicated on the assumption that the data sets and digital objects are already there.⁵ This is far from the case for lantern slides: neither data nor digital copies of the items are available in such a form. Independent of what trends are followed in the big funding schemes, research into production, reception and distribution networks, in my experience, relies on accurate information presented in well-structured metadata and on relating bits and pieces of information held in several collections. I will illustrate this with two examples from my research into the dissemination range of lantern slides and the time span of images in circulation.

Visual repertoires in time and space: reflecting on the formation of popular visual knowledge through lantern slides

When I knew how to identify whether a catalogue entry referred to the set ‘Picturesque Holland’ (30 slides) or ‘Picturesque Holland’ (50 slides), I inserted the data from diverse catalogues of lantern slide manufacturers and reseller into Lucerna. Now it was pretty easy to draw the conclusion that the sets ‘Picturesque Holland’ (50 slides) and the slides from the set ‘Hollande’ by Lévy, Ferrier and Soulier were among the most widely circulated slide sets on the Netherlands between 1880 and 1914. ‘Picturesque Holland’ was listed in catalogues of important resellers in England, the USA and the Netherlands – one of up to three slide sets on the Netherlands available concurrently.⁶ I have access to a substantial number of catalogues over several decades from the most important resellers in the United States, so I can draw conclusions relating to the American market. The access to various catalogues from two resellers in the USA in the period 1880–1914, the McIntosh Battery and Optical Company in Chicago and T.H. McAllister in New York, allows me to study the available lantern slide sets diachronically. Interestingly, these resellers listed the sets ‘Hollande’ by Lévy, Ferrier and Soulier and ‘Picturesque Holland’ – sometimes also under the titles ‘A Tour in Holland’ or ‘Holland’ – and hardly any other slide sets with the Netherlands as subject matter.

After assessing the reliability of the information in the historical sources, data were linked and objects were identified. Finally, I could start with what is genuinely considered research. Although more than 20 commercially produced slide sets were available on the market after 1890, only two slide sets were distributed widely and over a long time span in the USA.⁷ Lantern slide resellers were apparently not confronted with a demand for ever-new images and slide sets. Based on these findings, I could identify images that were more available than others and that can thus be expected to have had more impact on the formation of popular visual knowledge. It is not completely hypothetical to state that Americans who attended a lantern lecture on the Netherlands between 1887 and 1914 probably saw images of one of these two highly popular sets. These depictions of the Netherlands in the late 1880s were widely distributed into the twentieth century, whereas slide sets that showed rapidly changing Dutch cityscapes were not widely available through distribution networks in the US. Identifying which slide sets were popular does not tell which images were part of broadly

available image repertoires; a visual analysis of the imagery needs to be connected in order to describe the content of visual knowledge that circulated at a wide scale.

From the 50 slides in the 'Picturesque Holland' set, 41 depict views of places and nine portray people. With the exception of one slide depicting the houses of a village, all place-views depict cities in the West of the Netherlands: 12 depict specific buildings of historical or architectural interest, 28 depict general street views, harbours, market places or panoramas taken from a higher vantage point. Modern elements such as the new railway station of Amsterdam are not captured. The nine slides that portray people are exclusively dedicated to inhabitants of the villages in traditional clothing: with caps, wooden shoes and either wide trousers or long, wide skirts with aprons. The visual information that this set communicates to its viewers is that of a country consisting of cities populated by inhabitants in traditional clothing. Some of the city-views, especially the market scenes, also show people that do not wear traditional costume. The city people are, in relation to the image, too small to be studied in detail and not photographed in portrait (see Figure 1).⁸

This, of course, does not mean that Americans around 1900 gained all of their visual knowledge about the Netherlands from these two slide sets, nor can it be assumed that the public uncritically believed everything that was shown and said during a lantern lecture. Formation of knowledge and learning are complex processes that cannot be reduced to one stimulus alone. Having said this, these images were available on such a considerable scale that they probably did play a role in the American image formation on the Netherlands. A travel report by Dutch writer Willem Schürman about his adventures in the USA was published in 1902 in a Dutch newspaper. Schürman recalls his conversation with a custodian of a parish in Philadelphia:

Hearing my accent, he asked where I was from. Holland? They just had a lecture on that, nice country, Holland, that pristine country, still full of people wearing wooden shoes. How vivid must it be when people went to mass, from all the wooden-shoe people, he laughed. He could not understand that I preferred this modern land [the USA], I must have been here already quite a while, he said, looking at my shining Yankee shoes. The soft leather – much easier, than the raw, hollowed out canal boats isn't it? he blinked with his eyes. He just could not imagine how people could actually move forward in those shoes. [...] Oh, the lecturer showed so many slides. All of people with hats and such wide trousers!! (Schürman 1902, author's translation)⁹

As could be demonstrated with the example of 'Picturesque Holland', popular slide sets were often sold for a period of more than twenty years. While the performance of slides, together with the accompanying readings, addresses the public to see contemporary settings in the slides put before them, older and partially outdated images were still copied from the negatives and brought into circulation.¹⁰ Popular visual knowledge about other people and places was not actualised as quickly as the outward appearance of people and places themselves. This is a relevant finding for research into the formation of popular visual repertoires and stereotypes. The identification of a lantern slide as part of a slide set needed to be related to information about the distribution range, derived from reseller's catalogues. Combining documentation of slide sets in distribution catalogues with information on slide producers allows us to investigate dissemination networks; in the case of lantern slides about the Netherlands and the Dutch, the slide set by (English) producers York and Sons and (French) producers Lévy, Ferrier and Soulier were available internationally at large scale. Further research needs to be done to find out whether or not other slide sets that were available via the big American distributors also stem from these two producers. This

would provide us with more solid insights into international image dissemination networks before the First World War. Combined documentation of producers and resellers, with digital copies of a slide's image, then allows us to identify an internationally available image repertoire and popular imagery. Comprehensive documentation would enable researchers to map out which images were more likely to shape visual knowledge within and across national borders; which slide sets and thus, which topics, were internationally available and apparently broadly discussed – and which ones were confined to local forms of knowledge dissemination and visual culture. Further research could present findings that show whose (and which) images conquered the world and whose images did not. As such, these insights into the production, trade and content of visual information will also be beneficial for the identification of patterns in local and international visual communication and instruction.

Visual repertoires across media

In order to strengthen statements about popular visual repertoires, a transmedial investigation of the appearance of images is beneficial, if not necessary. One and the same photographic image was (and is) often published in more than one medium. If it is known that the images of photographic lantern slides are sometimes re-mediations of sets prior issued as stereoscopic photographs, mistakes in dating can be reduced. Furthermore, the (re-) appearance of photographic images can be studied synchronically as well as diachronically across various media formats. In this case, the photographic images of the Lévy, Ferrier and Soulier set 'Hollande' were used after 1897 in production of postcards by 'LL' (see Figure 10). Following collector and expert on stereoscopic postcards Geoff Ashton, this set of Dutch subjects can be dated through the postage seal of examples known to him to 1902–1910



Figure 10. Stereoscopic photograph in the form of a postcard, issued by 'LL', circa 1902–1910. 'LL' stands for 'Louis Lévy and Sons' the successors of Lévy, Ferrier and Soulier. Courtesy: private collection Helmut Wälde.

(personal correspondence, 26 February 2013). Other ‘LL.’ postcard series were also dated by postage stamps to the period 1902–1915 (Bradley 1991). In the form of stereoscopic postcards, the old photo negatives, some from the 1870s, circulated again during the ‘golden age of postcards’ (1895–1915).

Lantern slides are in this case ‘the missing link’, or better ‘the missing medium’, between the publication on glass stereoscopic photographs from the 1870s and the publication of the same images around 1902. These images were issued as lantern slides around the 1890s. Once filmstrips were introduced as another medium for projecting images in the late 1910s, images published in lantern slide series were also issued in this form (Napp 2016). In order to trace the transmedial dissemination of mid-nineteenth to mid-twentieth-century images in diachronic media historical research, good documentation of lantern slide sets (including the numbers of the photo negatives), in combination with their titles and a documentation of the images, is necessary. Such research will surely provide insight into international image distribution networks and intermedial publishing strategies of producers. In the example above, the documentation of lantern slides helped to reconstruct a diachronic succession of images in different media; in other cases the documentation of lantern slides can prove useful for a synchronic comparison of images in different media, their respective affordances and media practices. The immersive, individual practice of watching a stereoscopic image in a stereo viewer and the collective viewing situation of a lantern lecture result in different experiences of the same image.

Artemis Willis recently discussed the different roles that the same photographic image, published in the format of stereographs and as lantern slides, had in the teaching of geography in US American classrooms with the ‘Keystone 600 set’. She writes:

According to Keystone’s Teacher’s Guide, stereographs imparted the strongest impression of a scene and were therefore best suited for individual study. Lantern slides were recommended for recitation and review because they provided large and striking images in front of a class. When a stereograph and lantern slide of a view were used in combination, they formed ‘an ideal grouping of material for learning’ [...] The lantern period and the stereograph period functioned differently: the former synthesised viewing and discussion, and the latter viewing and study. (Willis 2015, 299)

If we understand images and their uses to be neither medium-specific nor completely independent of their medium, we can better understand historical media practices. In addition, knowledge about media practices is necessary background information for source critique – all the more in times where access to archival material increasingly comes in the form of digital copies that necessarily present historical media in rather uniform ways. Combining information about the producer of a digital image of a lantern slide is helpful in two ways: first, it establishes a link between the respective lantern slide other (visual) products by the same manufacturer. Second, in cases where the same photographic image was issued by different publishers in various formats, access to digital copies of the image in combination with their distribution titles and subject keywords for the image content will doubtlessly increase the chance of finding related material.¹¹ Insight into the time span in which an image circulated, and comprehensive documentation of producer, year of production, medium and image content, facilitates an inter- or cross-medial study of the images, functions and uses of visual media beyond the scope of case studies. Results of such studies will provide insights into networks of production and dissemination, publishing strategies and the dissemination range of images.

Conclusion

For academics, there remains much research to chart the intermedial and transmedial role of lantern slides in the historical visual media landscape, the formation of visual and narrative conventions, methods of knowledge dissemination and the popularity of images and narratives. These questions are relevant for the disciplinary history of, among others, anthropology, art history, geography, didactics, and popular and academic education, as well as for the history of science, social history and media history. When we know that images were disseminated internationally and across media, we should question the usefulness of media form or the national as default units in early popular visual culture research. Concerning the national framework for historical commerce and contemporary archival work, lantern slides and the corresponding material, even the educative series, were mostly produced by local manufacturers with the commercial ambition to sell their products to an international market through a number of local resellers. The national scale will probably not provide the best choice to demarcate the scope of a research project into lantern slide dissemination. Looking beyond the national would enable researchers to sketch the interactions between lantern slides as internationally sold products, nations as administrative units (that pass laws about censorship, age limits, tolls, trade relations), and local lantern culture. Like this, the variety of relations between the visual object and the contexts in which it was used can be investigated on a sub-national level (regional, local) and a supranational one (between localities in different nation states). And second, concerning media form, studies that aim to investigate the dissemination range of images, popular visual repertoires or image traditions benefit from understanding the nineteenth century's intrinsically intermedial context. Future investigation will show whether or not we find significant variation in patterns along the lines of production, distribution and performance practices, along the lines of nations and media formats, or along the lines of discourses and ideological backgrounds of actors and their networks.

In this article, I did not discuss the relevance of performance and venue for the interpretation of the object and the meanings it came to communicate. Discovering the various places where slide sets were available and the various contexts and *dispositifs* in which the objects were used is necessary for research into the historical meaning(s) of the objects. Again, accurate documentation of objects, and as part of that, accurate description in standardised metadata, in combination with the online-publication of digital copies, will facilitate finding the objects and asking intriguing questions about performance contexts, an object's uses and cultural meanings.¹² For example, knowing that lantern slides were widely used in popular education, combined with a documentation of lantern slides, their availability and the institutional history of the collection in which they survived, will contribute to writing a common history of learning through the art of projection. When we find that a lecture written by a British journalist was also distributed in the USA, or that lecture material written by a German teacher was also available in the Netherlands, new opportunities for research into the ideas that circulated together with the images open up. A question to pursue would be if there was something like an international network of popular science or if lecturers in various places only applied the same images to produce local-specific, incomparable variants of knowledge.

Access to the object is also crucial for experimental media-archaeological approaches that consider historical material as a source of inspiration for contemporary art, as a starting

point for new work that creates a dialogue between past and present. In this way, the documentation of the object not only enables the discovery of a forgotten past but serves as a means to establish an active relationship between past and present (for this idea, see Vanagt and Wynants 2016). The situation that a vast amount of lantern slides are out of copyright should allow relatively uncomplicated reuse in artistic, cultural and experimental research projects. Given the variety of historical contexts in which lantern slides occurred, the variety of museums and archives that have slides in their collection, and their rich potential for a variety of academic disciplines, lobbying for national lantern slide archives or the establishment of lantern slide studies does not seem a wise initiative, even if successful. What seems more beneficial for both the heritage sector and for academic research is an agreement on the metadata for the description of the material, standards for digitisation and online documentation that allows comparative studies across collections and national borders. Guidelines that offer basic knowledge about the material and provide best practices on how to catalogue and digitise the material will be essential to convince smaller museums with non-specialised staff to get the lantern slides out of the box and on display in their (online) collection.¹³ Existing initiatives such as the Zotero Magic Lantern Research Group Library (a bibliography on the magic lantern with links to digitally available resources), a recently started project to publish digitised catalogues of magic lanterns and slides on the Media History Digital Library on Internet Archive and the Lucerna Magic Lantern Web Resource rely to a large extent on the work of dedicated individuals in their leisure time; all need further development to become the resources that the initiators intend them to become. Institutional funding for a 'hub of expertise' would ensure overcoming the dispersion of knowledge and objects beyond the running time of research projects and ensure the sustainability of the obtained knowledge.¹⁴ In academic research, we also need an exchange about methods for identifying and studying this complex material.

What I learned from the object lesson is that research into the popularity of slide sets and their images cannot do with either distant readings or close readings alone (or, in other words, with neither the macro or micro alone). Instead, it needs a back and forth of close inspections of the object and turning to various other sources such as catalogues, advertisements, trade journals, lantern readings and other visual media. Research questions that link the object to larger questions beyond the object will often need to identify which slides were produced for commercial distribution, which ones were produced by the lecturers and which ones were commissioned by institutions for their own use. Documenting larger data sets of lantern slides, not as individual objects but as objects in complex relations, will move our knowledge beyond the level of the individual object, object-based case studies and speculative generalisations, towards deriving patterns and structures in production, dissemination networks and in the local and international availability of images. It has the potential to provide more reliable statements about historical media culture that is larger in scope, resulting in a broader synthesis about historical media culture more generally and facilitating research that can explain both the derived patterns and its anomalies. The accuracy of the larger picture will always depend on the accuracy of the documentation of concrete instances in a way that allows comparative studies. Research enabled by sound documentation will doubtlessly add nuance to our understanding of the role of these visual media in early popular visual culture, and has the potential to provoke new and larger questions by looking at the object: with it and beyond.

Notes

1. Magic lanterns and slides were integrated in the recent relaunches of the Museum for Science and Technology in Spain and the Rijksmuseum in the Netherlands, and in the German Film Museum and EYE Film Institute Netherlands – to name just a few. In all cases, the apparatus and slides are displayed in the material and the digital exhibition space. The European Academic Heritage Network Universeum explicitly addressed lantern slides in its 2016 conference and the Spanish catalogue of bibliographical heritage is currently engaged in a project to include lantern slides held in libraries of historical High Schools in Spain. In the field of early cinema studies, the approach to lantern slides as a footnote to cinema history gives way to understanding them as a medium in its own right (Curtis et al. 2014) and various presentations at the 13th International Domitor Conference (Chicago and Evanston, 21–25 June 2014) and 14th International Domitor Conference (Stockholm, 14–17 June 2016). Recent lantern-centred monographs and edited volumes are Brooker (2013), Duller, Wagenaar, and Wagenaar-Fischer (2014), Crangle and Vogl-Bienek (2014), Borton and Borton (2015), and Vogl-Bienek (2016). Scholarly articles and individual PhD projects are already too numerous to list individually here.
2. It should be noted that a lot of lanterns and slides have only survived due to personal efforts of private collectors. Today, much relevant material is preserved by private collectors. As private collectors do not have an official mandate to protect cultural heritage and cannot be expected to have time, facilities or interest in providing access to their collection to an interested public, I will leave the question of how to know about material in private collections, a subject that needs to be contemplated on elsewhere. For a short discussion on private and public collections of lantern slides see Crangle (2014, especially 192–197).
3. An exception are slides produced by local photographers and lecturers that were not made for commercial distribution. Such non-commercial material often is donated by professors, local photographers or science clubs who may also provide contextual information on the use of that material. The reconstruction of users and performance contexts of commercially distributed slide sets is generally more complicated because it is less specific. Non-commercially produced slide sets are often found alongside commercially produced ones in local museums and university collections.
4. It should be noted that the possibility to express connections between objects and the question of how to apply this to online databases is subject to discussion in information management. Still, current cataloguing rules are focused on works descriptions rather than on groups of objects and / or concepts. The question is then how to transform this information into a data model that allows for complex representations. The Europeana Data Model (EDM), the data model used for the Europeana Heritage Portal, allows users to express relations of objects to a collection, connections of objects with events or version histories and receives its metadata from various museums, archives and libraries throughout Europe.
5. In the article ‘Data-Driven Research for Film History: Exploring the Jean Desmet Collection’ (Olesen et al. 2016), the authors reflect on the possibilities and pitfalls on their research project ‘Data-driven Film History: A Demonstrator of EYE’s Jean Desmet Collection’ (2014–2015) that combined data from various data sets about the films from the Desmet Collection, held at EYE Film Institute Netherlands.
6. I did not see a catalogue that advertised more than three slide sets about the Netherlands, with the exception of a Dutch catalogue of lantern slides for use in school teaching.
7. All information on lantern slide sets of the Netherlands that I know of are documented in the Lucerna Magic Lantern Web Resource. For an overview, go to ‘slide set’ and perform a subject keyword search for ‘Netherlands’.
8. Unfortunately, I do not have access to enough slides of the Lévy–Ferrier–Soulier set to conduct a similar analysis. Judging from the slide titles, the set seems to follow a similar pattern of visual representation.
9. Original text: ‘Toen hoorend mijn accent, vroeg hij van waar ik kwam. Holland? Ze hadden er pas een lezing over gehad, mooi land, Holland, *echt* oerland, nog vol mensen met klompen. Wat een leven moet dat zijn, wanneer een Hollandsche kerk aanging, van al die wooden shoe

mensen, lachte hij. Hij kon zich niet begrijpen, dat het me in dit moderne land veel beter moest bevallen, maar ik was er zeker al een poosje, zeide hij, ziende mijn glimmende Yankee schoenen. Veel makkelijker hè, knipoogde hij, dat zachte leer, dan die ruwe uitgeholde canal-boats, hij kon maar niet begrijpen hoe de mensen er op voort konden. [...] O de lecturer had zooveel platen laten zien. Allemaal mensen met kappen en zulke wijde broeken!!' (Schürman 1902).

10. See Vogl-Bienek (2014) and Dellmann (2014) for an analysis of word and image in lantern performances.
11. This information is hopefully documented elsewhere, as these media are obviously not covered by Lucerna. A research-friendly web resource should allow the download of selected data sets for incorporation into a research environment that serves the purpose of the researcher. Here again, using metadata standards will facilitate comparative research enormously.
12. A number of well-researched case studies that link the object to its uses for specific audiences are presented in *Screen Culture and the Social Question 1880–1914* (Vogl-Bienek and Crangle 2014).
13. Such guidelines are due to be published in autumn 2017 by the research project 'A Million Pictures. Magic Lantern Slide Heritage as Artefacts in the Common European History of Learning' (2015–2018).
14. In the last few years, the following research projects have received funding from national or European funding schemes: 'Media-historical, methodological, and media-technological Principles of the Digitisation of Works in the Historical Art of Projection' (Trier University, 2014–2017) and 'Screen 1900' (Trier University), both funded by the German Research Foundation (DFG); 'A Million Pictures. Lantern Slides as Artefacts in the Common European History of Learning' (2015–2018, Utrecht University, University of Exeter, University of Antwerp, University of Girona and University of Salamanca), funded by the Joint Programming Initiative in Cultural Heritage by the European Commission; 'Heritage in the Limelight: The Magic Lantern in Australia and the World' (2016–2019, Australian National University), funded by the Australian Research Council.

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Catalogues

Note: 'PH-Y' means that the slide set 'Picturesque Holland' by York is mentioned in the catalogue, 'PH-V' refers to the set by Valentine & Sons and 'LFS' to slides by Lévy, Ferrier and Soulier.

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