

Terras, M. (2008). Review of René van Horik (2005) "Permanent Pixels: Building blocks for the longevity of digital surrogates of historical photographs". *Literary and Linguistic Computing*, 23:241-242.

**Permanent Pixels: Building blocks for the longevity of digital surrogates of historical photographs.**

René van Horik. *DANS Studies in Digital Archiving 1. The Hague: DANS, 2005. 220 pp. ISBN 90-6984-462-1 (paperback). € 45.00.*

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The exponential growth of digitisation in memory institutions in the closing parts of the 20<sup>th</sup> century meant that 'to the librarian at the very least, [the 1990s] could be termed the 'decade of digitization'.... Countless millions of pounds, dollars, francs and marks [were] ploughed into digital projects that have involved the conversion of library, museum and archive collections' (Lee, 2002, p.160). Although digitisation projects are not limited to the digitisation of two dimensional static media, by far the most common output is two dimensional digital images of documents, manuscripts, objects, and artefacts, and the related documentation of these digital images. The financial investment and effort required to produce large collections of digital image surrogates has been substantial. Safeguarding this investment necessitates investigating issues regarding the longevity, sustainability, and preservation of digital image collections.

The new Data Archiving and Networked Services imprint, emanating from The Royal Netherlands Academy of Arts and Sciences and the Netherlands Organisation for Scientific Research, aims to publish novel research involving 'studies in digital archiving'. In the first of this series, René van Horik addresses seminal questions regarding the long term sustainability of digital image surrogates. In particular, he focuses on the issue of safeguarding surrogates resulting from the digitisation of historical photographs. By investigating the various 'building blocks' available which aid digital preservation, such as guidelines, procedures, tools, content and file format standards, strategies, and metadata schemas, Van Horik provides an overview of the methods available to enable long-term access to digital data files, and digital image surrogates of historical artefacts.

The book is split into 6 main sections, introducing all aspects of why historical photographs are digitised, how such digitisation has been appropriated in memory institutions, and why the sustainability and longevity of digital data objects is an important issue that should be addressed. Van Horik provides an overview of how digital longevity of digital surrogates has been addressed in previous research, and the specialist technical and archival knowledge required to tackle the issue successfully. The procedures available to facilitate and encourage the long term preservation of digital data are investigated in depth, including the benchmarked digitisation of analogue originals, the need for preservation metadata, and durable access and persistent storage of digital objects. Two lengthy chapters are devoted to various 'Experiments on the longevity of digital surrogates of historical photographs', validating various hypotheses which the durability of digital objects can be based upon, and evaluation of those experiments, concentrating on durable file formats, bitstreams, and XML based metadata. Additionally, he provides recommendations regarding the use of emerging technologies and where future research may be addressed in the long term preservation of digital image objects, in particular concentrating on the preservation of digital surrogates of historical photographs.

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Van Horik's monograph was originally conceived as a doctoral dissertation, defended in November 2005 at Delft University of Technology (and written in English). The demands of the doctoral examination vary from country to country and institution to institution, and it is implied that this was published in a public venue as a requirement for obtaining the PhD. As a result, in some parts of the book there would have been scope for a strong editorial hand to advise where the often defensive thesis style could have been redrafted to better suit a general, informative publication. In particular, the two sections on 'experiments' do read very much as a postgraduate scoping study, and could have been better framed. In addition, Van Horik's approach is latitudinal rather than longitudinal, which can be frustrating for readers used to dealing with the chronology of one topic at a time: by addressing the overview of longevity and sustainability in the past, then the present, and then the future, van Horik can often cover topics as broad as the previous use of image file formats, the previous use of metadata, the previous development of guidelines, and the history of digitisation in memory institutions in the space of a page. For some readers it may have been more logical to approach the past, present, and possible future of each topic individually, for example having all the content regarding file formats in one section, all the writing about metadata in another, rather than splitting them across various sections and losing the central relationship between specific subject matter.

In saying this, though, the importance of this subject and the scope of the research ensures that Van Horik's contribution is valid, timely, and useful in a world churning out digital images with little concern as to how we may store, access, search, and retrieve them for future generations. Van Horik approaches the topic methodologically, and the comprehensive bibliography will be of use to other researchers interested in the history and development of digitisation programmes and methodologies, as well as those looking for recommendations on how to use best practice to ensure their digital collection will be available in the years to come.

Most of the difficulties in safeguarding digital collections are shown to not be technical in nature. Although digital data has a notoriously short life span, Van Horik concludes that that technical methods which can be used to preserve image data in the long term (such as emulation, data migration, and the use of well defined data formats and documentation) are well developed and understood. However, unless managerial decisions encourage and provide resources to allow resources to be sustained, the investment made in creating these digital surrogates may be lost:

The availability of digital heritage resources in a yet unknown future seems more of an organisational issue than a technical one. Political, organisational, research, and technological development issues are intertwined. Stable organisational, financial and expertise structures are important. An institutional preservation repository needs to be a service with continuity behind it. Institutions need to recognise they are making commitments for the long term. The diversity of digital objects makes problems of preservation and presentation very difficult and further research should be aimed at solving these problems. (van Horik, 2005, p. 186).

The strength of this book is in defining and highlighting problems in maintaining digital image surrogates of historical photographs in the long term. By demonstrating the necessity and importance of the issue, Van Horik may contribute to the 'political, organisational, research' infrastructure which could make resources available to safeguard the original digitisation investment.

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Until the problems inherent in maintaining digital data collections such as digital surrogates of historical photographs are commonly accepted, there is a necessity for texts such as this which comprehensively introduce, explain, stress and highlight the problem. The DANS series aims to contribute to the academic debate regarding various aspects of digital data archiving. This, the first in what promised to be an informative series, provides the necessary overview of why issues of long term sustainability of digital image collections should be taken seriously.

### **References**

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