

Na de bevrijding XL: Expanding a Historical Television Series with Archival Sources

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Abstract. Public service broadcaster NTR created a seven-part television series about the first five years after World War II in The Netherlands. The Netherlands Institute for Sound and Vision, media museum and national audiovisual archive, cooperated with NTR to provide an expanded, interactive version of the TV series. This mobile site provides full access to the films, soundtracks, photos and newspaper articles used in the series, related to specific temporally segmented parts of each episode.

1 Introduction

Public service broadcaster NTR created a seven-part television series about the first five years after World War II in The Netherlands. The series paints a pervasive picture about this lesser known period in Dutch history, in which the recently liberated nation slowly began to recover from the chaos of war. The Netherlands Institute for Sound and Vision (the national audiovisual archive and media museum) cooperated with NTR to provide a *tablet-first* site in expansion of the TV series. Each episode of *Na de bevrijding (After the liberation)* is accompanied by an online 'XL' edition. This interactive version lets visitors browse through the original archive sources by providing full access to the films, soundtracks, photos and newspaper articles used in the series.

2 Contextualising Broadcasts, Tablet-First

In 2012, the documentary production department of Dutch public broadcaster NTR started preparing a series of 7 episodes about the Netherlands in the period directly following WWII (1945-1950). In each episode, 5 to 6 people are interviewed about this period between the liberation and the reconstruction of the parts of the country destroyed by the war. All episodes contain a lot of archival footage, information from personal diaries, newspapers, photos and radio shows, both from archives and personal collections.¹

The history editors of NTR collected a lot of contextual information to provide on their websites, for publications and for exhibitions. Furthermore, their programmes are increasingly being consumed (1) on-demand, (2) for educational purposes and (3) on tablets. Finally, the editors thought it was a shame a lot of the contextual, archival sources were often not shown in its entirety. The R&D department of Sound and Vision, with their knowledge on interactive formats, was asked to collaborate and develop a format that connects the *Na de bevrijding* documentary (as broadcast) and its contextualising source material. The basis for the resulting *Na de bevrijding XL* were the separate fragments of each episode, to which specific concepts (e.g. topics (“Farmers fight for the future”) and persons (“Jan Drenthe”) were assigned. Each fragment contains a related archival source either shown in the programme, or that formed the basis for the research, thus further linking and enriching the viewing experience.

Besides contextualising and enriching *Na de bevrijding*, a second goal of the project is to technically explore the possibilities for Sound and Vision to develop other interactive publications. In order to accommodate a broad group of internet users and since viewing television on tablets is increasing more and more (50% increase from 2012-2013 [1]), a *tablet-first* approach was chosen for the development. This means that although *Na de bevrijding XL* (see Fig. 1 below) works on any modern browser, it was designed with tablet users in mind.

¹ For the full list of collections, see <http://www.geschiedenis24.nl/na-de-bevrijding/colofon.html>

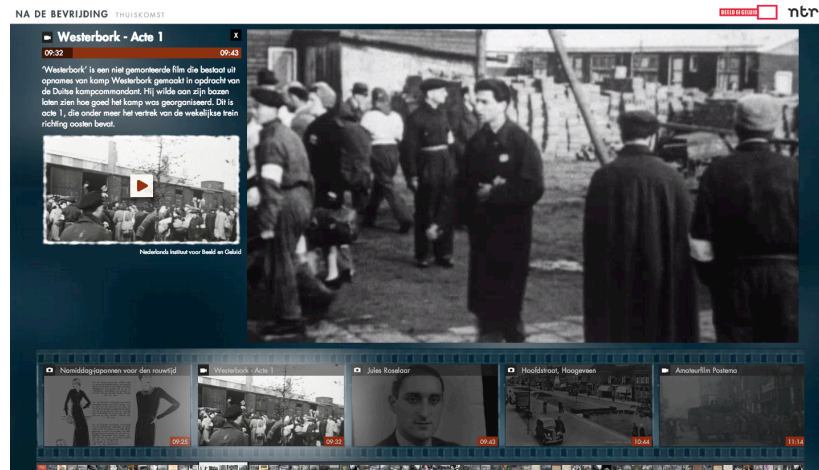


Fig. 1. The timeline view of *Na de bevrijding XL*. The source timeline with the programme fragments (*bottom*) shows thumbnails from the archive materials related to the programme (*right*). The highlighted thumbnail corresponds to a specific archival source (*left*).

3 Technical Realisation

The project's technical partner, Videodock, built a HTML5 web application that works on all major contemporary browsers, with modular functionality depending on the device the platform is approached from. The source materials are all hosted through the Amazon S3 cloud services for a scalable play-out solution. The interface design focuses on ease of use for novice and older users. A timeline, visually designed as a filmstrip with thumbnails, in line with the programme's layout and design, allows users to scroll through the various archive materials (films, audio recordings, photographs) of which fragments were used in the final version of the programme, as broadcast on TV. Visually, users are able to 'jump' back and forth between the timeline of the television broadcast and the second layer of archive materials used. When users watch the programme, the timeline highlights the specific item that the segment was selected from. In the sidebar, the element with minimal description and a provenance link comes up, allowing the user to switch back and forth to the archive layer.

The back-end made use of an editor-friendly, minimal set-up. This allows web editors to quickly make changes to the desired length and visibility of the archive clips and multiple checks in collaboration with the editors of the series. Time cues, file locations and descriptions were edited in a shared Google Spreadsheet, which was used by the technical partners to link the programme fragments to the archival sources.

4 Future Work

All the archival sources in *Na de bevrijding XL* were added manually, based on the research logs of the NTR editors, that were added to the Google Spreadsheet. In order to scale the process of enriching other programmes or larger parts of the Sound and Vision archive with related sources, all elements in the enrichment chain would need to become heavily automated, because the process would otherwise be much too labour-intensive. This would entail using tools and techniques developed in research projects like LinkedTV² and AXES³, both of which Sound and Vision is involved in. Some examples are:

- automatically segmenting programmes: each episode of *Na de bevrijding* is around 50 minutes long, and is manually cut into around 60-100 segmented each. It is very time-consuming for editors to determine the right start and end times of each of these segments, so the process would be very much aided by using shot boundary detection and scene segmentation techniques developed in projects like LinkedTV [2].
- concept detection: in order to automatically add relevant links to (segmented) audiovisual content, visual or textual concept detection is needed to retrieve anchors to link to. One possibility is to detect concepts in subtitles or in Automatic Speech Recognition output. In the case of *Na de bevrijding* and other Dutch programmes, this process is more difficult than for e.g. German or English programmes, since Dutch is a small language domain and as a result less rich training data and vocabularies are available. [2][3]
- linking of related content: once concepts have been established, related content (e.g. hyperlinks, other programme fragments) can be linked to them, for instance by using Linked Open Data principles. To limit the number of found links, this process can be based on a curated white list. [4]

These are just some examples, and a simplification of the effort and complexity of techniques and steps needed to facilitate the enrichment of archival content. However, with the growing group of television viewers using second screens and the desire for audiovisual archives like Sound and Vision to contextualise and enrich their holdings, these automated processes are crucial for fulfilling these needs. It is vital that the work being done in this area continues in collaborative environments in which content producers, memory institutions and technical research organisations participate.

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² <http://www.linkedtv.eu/>

³ <http://www.axes-project.eu/>

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