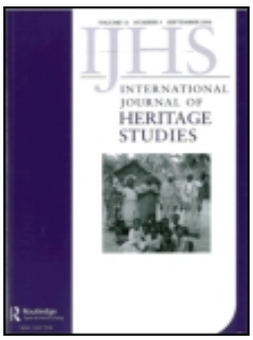

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Bas van Heur

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From analogue to digital and back again: institutional dynamics of heritage innovation

Bas van Heur*

Maastricht Virtual Knowledge Studio, Faculty of Arts and Social Sciences, Maastricht University, the Netherlands

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This article traces the emergence of a digital imperative – the belief in the necessity of digitising cultural expressions – in a particular heritage project in the Dutch city of Maastricht. The main reason for doing so is to contribute to the growing body of literature on digital cultural heritage, a perspective that pays analytical attention to the organisational and institutional dynamics of heritage innovation. Such a perspective complicates the popular assumption that digitisation will be beneficial to participation and instead puts forward – by drawing on institutional theory and the sociology of expectations – a less technology-centric and more contextual understanding of digital heritage. The conclusion highlights the potential of institutional analysis and the sociology of expectations for digital heritage studies.

Keywords: digital heritage; institutions; organisations; expectations; innovation; participation

Introduction

In 2002, an Amsterdam-based consulting agency was commissioned by the municipality of the Dutch city of Maastricht to develop a guiding vision for cultural heritage management in Maastricht.[1] This was to be part of the formulation of the main cultural policy guidelines for the years 2002–2010, in which a more active engagement with local cultural heritage was advocated. Drawing on the work of Gerard Rooijakkers, professor of Dutch ethnology at the University of Amsterdam, the notion of cultural biography was adopted to conceptualise the city of Maastricht as a city of shifting identities over time. At this early stage, the development of a digital heritage infrastructure was occasionally mentioned, but always as one element within a much wider-ranging attempt to rethink the presentation and use of cultural heritage in Maastricht. Indeed, the notion of cultural biography was largely adopted strategically to counter the popular, but much more expensive idea, of a physical historical museum. Although publications by Rooijakkers offer a justification for focusing on digital technology investment, this emphasis is not at all visible in the original project offer by the Municipality to the consultancy group, and is only visible to a limited extent in their final report (Rooijakkers 1999, LAgroup 2003).[2] Over the next couple of years, however, it was precisely the development of the digital

*Email: b.vanheur@maastrichtuniversity.nl

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infrastructure that became the core concern of those involved in the cultural biography of Maastricht project.

How can this apparent paradox be explained? In this article, I argue that at least a beginning of an explanation can be found in tracing the emergence of a digital imperative in this particular project. The notion of digital imperative refers to the belief that the future is digital and that current practices need to digitise in order to make this future a reality. The digital imperative, in other words, creates a strong sense of social pressure and potentially even guilt among those not yet taking part in the project of digitisation (Wyatt 2008). Although partly the result of contingent dynamics within the project organisation, the digital imperative in Maastricht became stabilised due to wider institutional priorities (in particular related to funding) that favoured digital heritage projects. Also, despite digitisation of heritage commonly being associated with openness and participation, the empirical data to be discussed below show that the emergence of a digital imperative actually led to a 'closing down' of the cultural biography of Maastricht project: for a number of years, only a select group of actors was able to shape its development. And finally, it has only been the increased questioning of the centrality of the digital infrastructure in recent years that has led to a relative 'opening up' of the project to a wider range of actors. The phrase 'from analogue to digital and back again' in the title of this article – appropriating ICT vocabulary for a rather different purpose – is used as shorthand to describe this process.

A problem in explaining this process is that most research in digital heritage studies does not have the analytical tools to capture these complex dynamics. Broadly speaking, research on digital heritage fits within one of two main strands. First, there is the research that provides detailed intra-textual analyses of websites, hyperlinks and the design of virtual environments (Paraizo and Ripper Kós 2007, Chen and Kalay 2008). Although often informative, the textual nature of these publications unavoidably downplays the complex organisational and institutional environment in which these new technologies are embedded. A second strand investigates the role of new media in shaping learning and experience in museum contexts (Brown 2006, McCarthy and Ciolfi 2008). In paying attention to the relation between new technologies and users in physical museums, this strand opens up digital heritage studies to questions of participation. Its user-orientation, however, pushes analysis away from a focus on the actual development and organisation of digital heritage projects. An emerging third strand might be the research on the role of place in relation to digital technologies, which addresses the situated socio-spatiality of digitised practices. In situating digital heritage in actual places and beyond the museum walls, some of the work in this strand is starting to move beyond the established paths in digital heritage research (Malpas 2008). This article aims to contribute to this emerging strand by highlighting the local organisational and institutional complexities involved in the development of digital heritage.

To develop these claims, the outline of the remainder of this article is quite straightforward. The next section introduces institutional theory and the sociology of expectations in order to develop a basic framework with which to analyse digital heritage projects. This is followed by an analysis of the cultural biography of Maastricht project in which particular attention will be paid to three aspects: constructing the digital imperative; institutionalising digital heritage; and the emergence of alternative logics.

Institutional expectations

In emphasising the organisational and institutional dynamics of digital heritage innovation, this article supports the recent 'institutional turn' in new media and technology studies, which argues that digital technologies can only be understood through a sustained investigation of their diverse institutional contexts (Orlikowski and Barley 2001, Pickard 2008, Pinch 2008, Shah and Kesan 2009). In drawing on this literature, it is not merely to suggest that research on digital heritage can benefit from taking note of these sociologically more nuanced discussions in related disciplines (although that is one goal), it is also to reconnect digital heritage studies with the broader field of heritage studies as such. Organisational and institutional questions are clearly being addressed in the wider tradition of heritage studies – most obviously and interestingly in relation to economic development (Graham *et al.* 2000, Dicks 2003), tourism (Chang *et al.* 1996) and identity discourses (Shore 1996) – but for some reason these issues have hardly been addressed in the subfield of digital heritage studies. At the same time, in mainstream heritage debates the role of digital technologies remains conceptually underdeveloped. By introducing the notion of digital imperative from an institutionalist perspective, this article thus hopes to contribute to a much-needed convergence between digital and 'non-digital' heritage studies.

Without having the space to summarise the complex history of institutional theory, for the purposes of this article the notion of institutions refers to those processes that contribute to social order and stable behaviours (cf. DiMaggio and Powell 1991). Scott (2008) distinguishes between three elements that constitute social order: regulative, normative and cultural-cognitive elements. Regulative elements refer to rules, monitoring and sanctioning; normative elements highlight the moral obligations in social interaction; and cultural-cognitive elements emphasise the assumptions and classifications underlying institutional logics. Drawing on this broad understanding of institutions, the following dimensions deserve particular attention.

First, institutional elements operate on multiple but intertwined and linked scales, from the local to the regional, national and global. There is no determinate causality between scales, but these institutional elements do order, to an extent, heterogeneous social practices, since actors deliberately or unconsciously draw on the available range of what Searle (1995) would call 'institutional facts'. Ribes and Finholt (2009, pp. 377–378) have pointed to the multi-scalar dimension of digital infrastructure development by arguing that these projects should be understood simultaneously as technological ventures, involving concrete working practices, and as institutional ventures dedicated to providing services to various communities. The notion of institution adopted by Ribes and Finholt, however, is strikingly instrumental and goal-oriented (institutions are developed in order to enable the construction of infrastructures) and more attention will need to be paid to pre-existent institutional elements located on various scales in constituting the very character of infrastructural practices in the first place. Also, as actor-network theory in particular has highlighted, the ordering of institutions remains a heterogeneous undertaking and, unavoidably, translations will lead to a wide variety of practices not subsumable under the logic of one particular infrastructure project (Law 1992).

Second, analysts have started paying more attention to the process of institutionalisation in order to counter the perceived static and functionalist tendencies of early institutional theory. It is in adopting a processual perspective that institutional analysis shows similarities with actor-centred approaches in heritage studies, although the

strength of the former tradition is its more sophisticated conceptualisation of the ways in which institutional histories and path dependencies shape future trajectories (Pierson 2004, Sewell 2005). We can expect, in other words, the institutionalisation of new digital heritage projects due to the already-institutionalised landscape in which actors operate.

Third, empirical research has increasingly questioned the assumption of uniformity within institutional environments. Friedland and Alford (1991) in particular argue that a non-functionalist and non-deterministic analysis of society requires a much stronger acknowledgement of multiple institutional logics and of the ways in which these multiple logics lead to institutional contradictions that can be strategically exploited by actors. Discussing the classic sociological themes of the state, the capitalist economy, religion and the family, they emphasise that 'important struggles between groups, organisations, and classes are over the appropriate relationships between institutions, and by which institutional logic different activities should be regulated and to which categories of persons they apply' (p. 256). This raises questions concerning the 'vertical depth' (Krasner 1988) of institutionalisation, that is, the extent to which institutional logics can actually shape particular organisational cultures, since logics are always counteracted by other logics. Zooming in on the more specific theme of digital infrastructures, researchers have noted similar institutional contradictions. Thus, in their 'Agenda for Infrastructure Studies', Edwards *et al.* (2009) highlight that 'any new infrastructure must somehow integrate with an installed base that includes not only artefacts but human habits, norms, and roles that may prove its most intractable elements' (p. 366). This unavoidably leads to a 'recurring issue of adjustment' (p. 369) in which infrastructure projects adapt to and reshape their environment as well as failure when these mutual adjustments do not generate substantive embedding of infrastructures in everyday working practices.

Fourth, in concretising the notion of temporality in institutional analysis, the sociology of expectations has drawn attention to the role of expectations in managing institutional change. Expectations are central to understanding institutional change due to their ambivalent nature. On the one hand, they generate enthusiasm, mobilise resources at multiple scales, and bring together highly diverse groups of actors in the pursuit of a new project (Brown and Michael 2003, Borup *et al.* 2006). This is the truly emergent moment of expectations, visible in particular in the early phases of 'infrastructural imagination' and infrastructure development (Jackson *et al.* 2007). On the other hand, expectations are also usefully understood as shaped by institutional elements in that they manage and order change along relatively fixed and pre-established lines. In other words, after a while, the new doesn't look so new anymore. This at least seems to partly explain the recurring pattern in which expectations move from early excitement and promise to later disappointment (Geels and Smit 2000).

The cultural biography of Maastricht

Having established an analytical framework that directs attention to the institutional dynamics of and the role of expectations in shaping digital heritage projects, this section discusses in more depth the cultural biography of Maastricht project. Empirical data for this analysis has been derived from an extensive archival analysis in 2008. My contacts with the key actors involved in this project, together with the public nature of municipal archives in the Netherlands, enabled access to a wide variety of project-related documents. These included minutes of steering group

meetings, e-mail exchanges, letters of interest groups, official policy documents, internal reviews, funding applications and newspaper articles. Although interviews have also been conducted with the main actors involved in the heritage project, due to the richness of archival data I decided to concentrate on these particular data for this article. The focus, in other words, is not on the memories of the recent project history as expressed through interviews, but on the primary documentary sources as produced at the time of the events described. Although these sources are surely not more objective than interviews, archival data do sensitise us to the 'genealogy of ideas' and allow us to trace the main narratives through time (Gidley 2004). Based on these data and informed by the theoretical framework discussed above, three main processes can be identified: constructing the digital imperative; institutionalising digital heritage; and the emergence of alternative logics.

Constructing the digital imperative

With the decision in place to develop the cultural biography of Maastricht as formulated by the consultancy group, the first phase largely concentrated on making more concrete the notion of cultural biography to fit the particularities of Maastricht and on the development of a collaboration model that could be used to implement the imagined infrastructure of a cultural biography. This infrastructure was seen less in digital than in narrative and organisational terms. The consultancy report (LAgroup 2003) emphasised the need to understand the city as a layered, differentiated and complex phenomenon in which the 'life and social meaning of urban artefacts (streets, buildings) and events are inextricably connected with the biographies and genealogies of city users and inhabitants' (p. 20). Four core elements of the cultural biography of Maastricht were identified, namely its identity as a Roman establishment, a medieval religious centre, an early modern garrison town, and as an industrial city. This cultural biography of Maastricht was in turn seen to consist of three layers: the 'collective memory' of the city, including the 'source material' of buildings, works of art, literary texts, maps, rituals, archives, stories and scientific interpretations; the 'permanent story' including the four core elements; and the 'temporary stories' not in need of 'structural attention or that present the permanent stories from a different (non-direct) perspective' (pp. 28–32).

Ignoring for the moment the implicit assumption that permanent stories can be presented directly through the objective accounts provided by academic researchers and objects, the material implementation of the cultural biography was envisioned to necessitate a central depot for the collective memory objects, a permanent information building in the centre of the city, permanent presentation spaces in the cultural institutions and temporary spaces throughout the city. Digital technologies were only mentioned briefly as 'multimedia support tools' (p. 33) that could aid visitors to the information centre in selecting historical narratives.

The dominant actors in this early stage were the Municipality of Maastricht (in particular senior civil servants within the department of arts and culture) and the hired consultants. Academic researchers were interviewed and offered important expertise that strongly shaped the narrative dimensions of the envisioned project. This applied in particular to Ed Taverne, emeritus professor of history of architecture and urban planning at the University of Groningen, who co-authored the chapter discussing the four core elements of the cultural biography of Maastricht. Through interviews and discussion sessions opinions from local cultural institutions were at least formally

integrated into the development of the project. In the imagined infrastructure these representatives from the cultural organisations were awarded a much more central role, namely as producers of the information that could be fed into the presentation formats of the cultural biography. Local citizens and tourists were granted a rather passive role as 'recipients' (p. 27) of the cultural biography, although inhabitants were also positioned as potential contributors to the development of the temporary stories (though not the permanent stories).

Following the recommendations in the consultancy report, one of the first tasks of the civil servant responsible for the coordination of the cultural biography project was to find candidates for a steering group that could guide the development of the project. Even before executing this task, however, he commissioned a local website design firm to develop a plan of action concerning the online dimensions of the project, a demo-website to show the added value of multimedia, and a project website to be used for streamlining communication between project participants. In December 2003, the website designer produced a 'step-by-step plan online cultural biography Maastricht' as well as a report on 'multimedia and the cultural biography of Maastricht' in which the content and form of the envisioned website was described. Leaving behind the original commission of producing a demo-website, this step-by-step plan is much more ambitious: a full-blown online cultural biography that effectively replaces the less technology-centred vision of the consultancy agency is to be developed. Although the description of this website is dealt with rather summarily, it is seen to include, among other things, an 'integrated interactive timeline', an 'interactive map', a search function and thematically organised items based on images, text, animation, film, video and audio. All this is promised to be based on a 'database of common 'open' technology', although the precise type of open technology is not further specified.[3] From this moment onwards and only six months after the consultancy report advocated a concept- and organisation-driven project, the cultural biography project came to revolve primarily around the development of a digital infrastructure and the digitisation of heritage information. In line with the literature on path dependency that highlights the important role played by early decisions in ordering subsequent developments, this rather contingent decision to commission the design of a demo-website proved to be path-shaping for the cultural biography of Maastricht project.

Having established the digital biography as a 'matter of concern' (Latour 2004), three expectations were key to the further stabilisation of the digital imperative. First, the digital infrastructure was positioned as absolutely central to the development of the cultural biography project as a whole, since it was argued that this digital infrastructure would function as the core technology to connect producers of heritage information (cultural organisations in Maastricht) with consumers (tourists, local citizens, schools). Whereas in the early phase, the participating cultural organisations were given the task of delivering information to be presented in various formats (such as exhibitions, archival material, historical objects, etc.), this task was now understood as one of almost exclusively delivering digital information. This is stated quite directly in an early concept paper:

> When the decision will be made, as is to be expected, to adopt a phased approach, then the development of a digital cultural biography should be first priority. This digital system […] will play a pivotal role in connecting those that should deliver the contents of the biography (the institutions) with the consumer. The producers of the content can deliver their product digitally in the digital system. Museums and other cultural heritage

> institutions, the tourist information office, educational institutions, tourists, local citizens, etc. can consult this content directly via the internet and possibly give comments or add their own stories.[4]

Second, it was argued that an online environment enabled an individualisation of information: with profiles as well as global positioning system (GPS), users would be able to gain access to heritage information in a highly location- and subject-specific way. And third, the digital information was positioned as representing the collective memory of the city of Maastricht. According to the website designer, this digital information could then be re-used in a variety of different (physical) contexts: from information booths to museum exhibitions, local cultural centres or homes for the elderly.[5] In short, by positing the digital biography of Maastricht as the core solution to a variety of problems, these expectations justified substantial financial and time investment in the building of the digital infrastructure.

Institutionalising digital heritage

The construction of this digital imperative involved, in other words, a particular ordering of the project organisation in which the key actors came to orient their activities and imaginations around the development of the digital infrastructure. The further institutionalisation of this digital imperative was enabled through two parallel developments: one was the emergence of an organisational division between what one could call infrastructural logic and content logic; another was the linking up with the national scale and the wider Dutch debates on digital cultural heritage.

In having put forward the development of the digital biography as the key objective, one of the main tasks of the new steering committee became to manage this process. Six people were selected to be part of this group: two civil servants (including the one formally responsible for the cultural biography project), two historians, one director of a cultural organisation, and the website designer.[6] At this stage, the website designer was the only actor with specific ICT expertise in the steering group; he was also the only actor with a clear economic interest in further promoting the digital dimensions of the cultural biography of Maastricht. In effect, these diverging forms of expertise between the main actors produced a division between infrastructural logic and content logic from the very beginning that shaped almost all following discussions. To an extent, this division created a relative autonomy for debates on the history of Maastricht and its four main identities (Maastricht as Roman establishment, medieval religious centre, early modern garrison town, and industrial city). A conference was organised in early 2005 to discuss the cultural biography project with all cultural heritage organisations in Maastricht. The focus of this conference was not on the digital biography, but on the four identities and the minutes of these sessions show no concern with questions concerning digitisation (the only exception being the session in which the website designer participated).[7] Following this conference, a project director was hired in order to achieve two goals: to support cultural organisations in Maastricht in generating relevant information for the cultural biography project; and to function as the chief editor for the online cultural biography. However, the fact that no specific ICT expertise was requested from this new director created a problematic situation in which the director was ultimately responsible for translating historical narratives, visual material and audio files into digital data without necessarily having the skills to do so.[8]

This limited ICT expertise among the main actors intertwined with a second, parallel development, namely the application for extra funding to subsidise the development of the digital infrastructure. Parallel to the formation of the steering committee, the civil servant responsible for the cultural biography project had submitted a funding application to the Mondriaan Foundation (one of the main foundations that funds projects in the arts, design and cultural heritage in the Netherlands). Even though this first application was rejected, the Mondriaan Foundation advised the resubmission of an improved version.[9] By doing so, the organisational bias in favour of digitisation gained in strength by linking up with broader institutional trends, in particular debates on the national scale on the value of digitising the cultural heritage of the Netherlands.[10] The 'positive' rejection'[11] by the Mondriaan Foundation generated a dynamic that led to a sedimentation of the imagined digital infrastructure in the steering group debates and to its eventual realisation. The criticism made by the Mondriaan Foundation was clear: it was argued that, instead of the website designer, the heritage organisations should play a more central role in information provision. Also, the relation between content production and technical infrastructure was seen as imbalanced – 'a lot of overhead for little interaction'.[12] Instead, a more flexible and open digital infrastructure was advocated. Following the advice to resubmit an improved application, and after discussions with Digital Heritage Netherlands – a knowledge platform sponsored by the Dutch government and aimed at a professionalisation of ICT practices in the field of cultural heritage – the steering committee replaced the website designer with a new committee member who had extensive experience in researching and organising digital media projects. A revised application was submitted to and then granted by the Mondriaan Foundation.[13]

The inclusion of a new steering group member with substantial ICT-expertise had a very paradoxical effect on the development of the cultural biography project. On the one hand, it generated a questioning of the infrastructural logic as promoted by the website designer by criticising technical choices. This becomes visible when tracing the discussions in the steering group meetings after the project had received the Mondriaan Foundation grant. Thus, one of the first remarks made by the new steering group member was that it might be productive to consider the digital system already in use by the Rijksmuseum in Amsterdam, since it was not too expensive and easy to use. Although this generated discussions for almost one whole year, in the end the decision was taken to simply continue with the infrastructure as proposed by the website designer, since neither the website designer nor his employees possessed the necessary programming skills for XML and Java.[14] Similarly, a representative from Digital Heritage Netherlands proposed to do a technical and usability test of the website, but this was rejected by the website designer and not followed up by the steering group.[15] On the other hand, the funding by the Mondriaan Foundation and the inclusion of a new steering group member with extensive ICT expertise can also be understood to have led to a further institutionalisation and sedimentation of the digital imperative in the cultural biography project. Neither Digital Heritage Netherlands nor the Mondriaan Foundation or the steering group ever fundamentally questioned the added value of developing a digital infrastructure – the decision to digitise had been made early on (even before starting the steering group) and was supported by an institutional environment in favour of digital cultural heritage. As a result, content logic became subordinated to infrastructural logic: even though steering group discussions on historical themes related to the cultural biography of

Maastricht took place regularly, these were often reduced to practical questions concerning the types of text and visuals to add to the website.[16]

Emergence of alternative logics

With the benefit of hindsight, this period in which the digital imperative was further institutionalised can be understood as a relatively compact period in which the time-consuming development of the website effectively dominated all other concerns. Despite the primary focus on the website and occasional criticisms regarding its design, the limited ICT expertise in the steering group and the reluctance of the website designer to discuss his choices effectively contributed to a 'black-boxing' of the digital infrastructure. Although this did not go unnoticed and led to criticisms concerning the top-down nature of and limited interaction possible through the digital infrastructure, the website continued to be developed irrespective of these criticisms which created facts on the ground that were somewhat grudgingly accepted by the steering group.[17]

These moments of criticism, however, became more visible and formative for the organisational process after the completion of the website. Whereas it was earlier emphasised that the digital biography would need to form the core of the project, it was now highlighted that 'the site is not a goal in itself'.[18] Having started with 'analogue' understandings of heritage innovation and after a period of dedicated digitisation, the project again returned to more 'analogue' means of presenting the heritage of Maastricht. The key criticisms revolved around the fact that the website did not really generate interaction with local citizens or with the many cultural organisations in Maastricht. Although the development of the digital infrastructure continued (in particular, addition of multiple languages for the website and the development of mobile applications), this was now only one aspect of a much more multimedia approach. Thus, in their June 2008 recommendations to the municipality, the steering group proposed to focus on the following activities: develop a physical information centre for the cultural biography project; organise a thematic festival every two years; develop temporary exhibitions; organise thematic activities together with other cultural organisations; pay more attention to the peripheral areas in Maastricht and give a voice to local citizens; add new items to the website; extend the back office function of the website to allow for more contributions by the cultural organisations; and develop educational projects.[19] A discussion of these latest developments would be beyond the scope of this article, but it seems clear that the partial completion of the website also allowed for a more radical questioning of the digital imperative. As a result, the digital infrastructure is no longer understood as the core technology to connect cultural organisations, tourists and local citizens, but as only one technology among many others.

Conclusion

In presenting the case of the digital biography of Maastricht, and in drawing on institutional theory and the sociology of expectations, this article has shown the ways in which organisational and institutional dynamics shape digital heritage development. In doing so, it has moved away from the dominant concerns in digital heritage studies with users or the design of virtual environments towards a concern with the emergence of digital heritage and its slow but steady stabilisation as well as transformation. This

processual socio-technical approach has a number of advantages. First, and instead of simply accepting digital heritage as a starting point for analysis, it understands digital heritage as an accomplishment that is the result of previous decisions. Other choices could (and perhaps should) have been made. This allows for a more substantive sociological approach that investigates in depth the power relations between actors, digital technologies, organisations and institutions. Second, a processual approach gives us insight into the multiple logics active within digital heritage projects and how these logics relate to broader institutional trends. Third, this socio-technical approach directs attention to the important role played by expectations. By positing digital heritage technologies as the main solution to a variety of identified problems (such as participation or accessibility), these expectations justify substantial financial and time investment and marginalise other possible solutions to the same problems.

Notes

1. I have decided not to identify by name the main actors involved, even though the archival data used are publicly accessible and a quick internet search and browsing of these notes would provide most of these names. The goal of this article is to trace the emergence of a digital imperative in a heritage project due to organisational and institutional dynamics. With the exception of a number of important heritage organisations in the Netherlands, adding names seems unnecessary, since it does not add much to the status of the analysis.
2. See the document 'Het verstrekken van een opdracht aan Lagroup om het concept van de Culturele Biografie uit te werken', 27 May 2002, from the municipal archive. This and all other documents are derived from the municipal archive, unless mentioned otherwise.
3. Bureau Interactieve Communicatie, 'offerte i.h.k.v. online Culturele Biografie', 13 November 2003; Carole Muizelaar, 'Opdracht Culturele Biografie', 25 November 2003; Bureau Interactieve Communicatie, 'stappenplan online culturele biografie Maastricht', 1 December 2003; Bureau Interactieve Communicatie, 'Multimedia en de Culturele Biografie van Maastricht', 8 December 2003.
4. Jan Habets, 'Concept Plan van Aanpak Invoering Culturele Biografie', 29 June 2004.
5. Bureau Interactieve Communicatie, 'Stappenplan Online Culturele Biografie Maastricht', 1 December 2003; Bureau Interactieve Communicatie, 'Multimedia en de Culturele Biografie van Maastricht', 8 December 2003.
6. Jan Habets, 'Aan de kandidaat-leden v.d. Stuurgroep Culturele Biografie i.o.', 7 September 2004; Jean Jacobs, 'Culturele biografie', 26 October 2004.
7. Jan Habets, 'Afschr. t.k.n.', 27 January 2005; 'Workshop De Culturele Biografie van Maastricht, identiteit Religie', 16 February 2005; 'Verslag workshop "vesting" (groep D)', 16 February 2005; 'Workshop Industrie', 16 February 2005; 'Groep 1: Maastricht als Romeinse Stad', 16 February 2005.
8. Ed Taverne, 'Regisseur Culturele Biografie', 22 March 2005.
9. C. Muizelaar, 'subsidieverzoek cultureel erfgoed', 17 September 2004; Gitta Luiten, 'Digitaal systeem culturele biografie', 10 November 2004.
10. For an overview of the wide range of policy-oriented publications dealing with digital cultural heritage in the Netherlands, please see the website of Digital Heritage Netherlands, http://www.den.nl.
11. E-mail, Jan Habets 25 November 2004.
12. Gitta Luiten, 'Digitaal systeem culturele biografie', 10 November 2004.
13. Carole Muizelaar, 'Digitaal systeem culturele biografie', 15 March 2005; Gitta Luiten, 'Digitaal systeem culturele biografie', 7 April 2005.
14. Jac van den Boogard, 'Verslag meeting 1juli met vz stuurgroep', 4 July 2005; 'Actielijst n.a.v. de vergadering van de Stuurgroep Culturele Biografie', 18 October 2005; Jan Habets, 'Agenda Vergadering Stuurgroep Culturele Biografie', 13 December 2005; Dick Rijken, 'Heb "informele" offerte gevraagd van Q42', 13 March 2006; Jan Habets, 'Actielijst/ vergadering Stuurgroep Culturele Biografie', 14 June 2006.
15. Marcel Ras, 'Re: eerste presentatie culturele biografie', 8 March 2006.

16. M. Melkert, 'Vergadering Werkgroep I Culturele biografie Maastricht (CBM)', 26 August 2005; Jac van den Boogard, 'Item 8 t/m 18 Verdedigingswerken', 31 January 2006.
17. Jan Habets, 'Actielijst/verslag vergadering Stuurgroep Culturele Biografie', 14 June 2006; Jan Habets, 'Verslag/afspraken vergadering Stuurgroep Culturele Biografie Maastricht', 4 September 2006; Jan Habets, 'Evaluatie eerste fase culturele biografie', 11 October 2006; Jan Habets, 'Verslag Vergadering Stuurgroep Culturele Biografie Maastricht', 23 January 2007.
18. Jan Habets, 'Evaluatie eerste fase culturele biografie', 11 October 2006.
19. Jan Habets, 'De culturele biografie van Maastricht onontkoombaar: aanbevelingen voor de zichtbaarheid van de culturele biografie', 5 June 2008.

Notes on contributor

Bas van Heur is a postdoctoral researcher at the Maastricht Virtual Knowledge Studio, Faculty of Arts and Social Sciences, Maastricht University, the Netherlands. His research focuses on cultural heritage, the creative industries and urban development.

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