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DIGITAL URBAN HISTORY
TELLING THE HISTORY OF THE CITY
IN THE AGE OF THE ICT REVOLUTION

Edited by Rosa Tamborrino

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Fig. 3 - Detail of the previous map with the diagram of 1748 rent income for each block.

Moreover, quantitative history and history of the clergy can come into mutual contact with the elaboration of diagrams that numerically explain the value of the income that a certain order possessed in relation to a block, or the relative surface area occupied (Fig. 3). Finally, the cartographic stratification carried out on a block, such as the "*Isola*" of San Paolo (which houses the Church of the Santi Martiri in via Garibaldi) can help to outline how the contours of the famous old Jesuit monastery have changed. After the closure of the order in 1773, the building became the headquarters of the Missionary Fathers, and was adapted to suit their needs; then, during the Napoleonic period it was transformed into a jail and a court. Throughout the course of the Restoration of Savoy monarchy (following the fall of Napoleon), and until 1848 – when the Company of Jesus was expelled from the States of the Kingdom of Sardinia –, part of the monastery returned to the Jesuit Fathers, but they had to cohabit with the jail introduced under French rule and partially maintained during the early 19th century[9]. Important and general consequences ensued from this. The cohabitation of a jail and a monastery suggests that some religious buildings of Turin in the 19th century (Santi Martiri is just one of them), seem to escape the more common and conventional architectural category of the "monastery": that of a closed space around a cloister. However, this story is also exemplary for at least one more reason. At Santi Martiri, and elsewhere too – such as the former Barnabite monastery which is now Vercelli town hall -, the history of a religious building entwines with and becomes the history of a public building.

[9] B. SIGNORELLI, *Le vicende dell'isolato di S. Paolo,* in B. Signorelli, *I Santi Martiri: una chiesa nella storia di Torino*, Torino, Compagnia di San Paolo, 2000, p. 283.

RENÉE KISTEMAKER-MARIJKE OOSTERBROEK

AMSTERDAM DNA. A 45 MINUTE INTRODUCTION FOR (INTERNATIONAL) TOURISTS TO THE STORY OF AMSTERDAM

In the autumn of 2011 the Amsterdam Museum opened a new permanent exhibition, Amsterdam DNA. It is designed as a three-dimensional city guide, primarily for domestic and foreign tourists. In about forty five minutes visitors get an impression of the city's history. Digital media are one of the corner stones of the exhibition. They function as carriers of information, as a link between the information inside the museum with the city outside, and as a means to make the history more 'personal'. The museum could build on a long tradition of developing innovative systems of information for individual visitors, including the use of audio-visual installations. The results were already used in the museum's first permanent exhibition, which opened in 1975. The main innovations in Amsterdam DNA are the structural use of 3D animations, telling the city's core story, the personalization of history for visitors by means of Q&R codes and the inclusion of historical information outside the museum walls by offering connecting tours in the city.
Keywords: digital media, innovation, personalization

Introduction

After the arrival of Paul Spies, the new director of the Amsterdam Historical Museum from 2009, an intense period of repositioning the museum started, both for (inter)national visitors and for Amsterdam citizens. One of the outcomes was a new name, Amsterdam Museum, and a new house style. The adjective 'historical 'was left out, because it gave potential visitors too much an impression that the museum was only concentrating on the past; that it was, so to speak, a bit 'stuffy'.

Plans for a new introduction to Amsterdam's history formed an integral part of the new policy. The idea was to display past and present in a new part of the permanent exhibition, which could be visited in approximately forty five minutes. This three-dimensional city guide, which opened in the autumn of 2011, is primarily designed for domestic and foreign tourists, but also for first-time visitors from the Amsterdam region. In less than an hour, visitors can walk through the chronological highs and lows of some thousand-years of Amsterdam history. This approach intends to meet the needs of the many tourists who visit the museum annually. Most of them are only a few days in Amsterdam and do not have the time to spend hours wandering in the museum.

The exhibition focuses on seven decisive periods: four periods of growth and prosperity (late Middle Ages, Dutch Golden Age, end of the 19th- early 20th century and modern times). The other three periods are characterized by sometimes radical politi-

cal and social change and/or economic decline (the Dutch Revolt against the Span-ish King, especially the sixties and seventies of the sixteenth Century; the French occupation and the first decennia of the nineteenth century; the years of the Second World War). To make a connection with the (international) audience, the exhibition highlights four core values: spirit of enterprise, creativity, freedom of thought and civic virtue. These values (the *Amsterdam DNA*) are typical of Amsterdam, but they are also applicable to other cities. This makes them easy to understand for visitors outside Amsterdam. The exhibition presents many highlights from the collection to bring the story to life.

Digital media play an important part in this exhibition. They are carriers of in-formation; they are instrumental in linking information inside the museum with the physical, the substance of the city outside. At the same time they stimulate a stronger involvement and make the story accessible to a broader audience.

Within the framework of the conference *Digital Urban History. Telling city's his-tory in the age of ICT*, it is interesting to first take a step back and to a look how the museum 'told' the history of Amsterdam before this new and revolutionary ICT era started. In what way is the approach in the 'digital' age different from the way this story was told with more 'old-fashioned' means?

A new museum in the heart of Amsterdam: the opening of the Amsterdam Historical Museum in 1975

After a very modest start in the nineteen twenties in a former mediaeval weigh house, the Amsterdam Historical Museum opened in 1975 in a far larger housing complex in the centre of the city, the former City Orphanage. This was bought in the early nineteen sixties by the municipal government, with the intention to house the city's historical museum in surroundings which would do more justice to the rich history and important historic and art collections of the city of Amsterdam. At the time a large part of these were still on loan in the Rijksmuseum. Among them were paintings by Rembrandt, such as the famous *The Syndics*[1].

In 1963 the museum got its own director and a small staff[2]. First thing they did was writing a policy programme, in which they expressed that they wanted to create a museum that would attract as wide an audience as possible. In order to reach this goal it was important to include objects of high quality in the permanent exhibi-tions. These could best attract and hold the attention of the visitors. Works of art and

[1] In 1885 a large part of the paintings collection of the City of Amsterdam was lent to the Rijks-museum on long-term loan; two years later this was followed by a substantial loan of historical and art objects such as silver, glass, and furniture.
[2] From 1926 until 1963 the Amsterdam Historical Museum was managed by the director of the Stedelijk Museum in Amsterdam.

objects of a more historical, documentary nature should be mixed. At the time this museological concept was quite revolutionary.

This was even more the case with their ideas how information should be passed. To this purpose they wanted to include explanatory texts, maps and photographs: visitors should be able to learn about Amsterdam's history through the ages on an individual basis, without using a heavy catalogue or a guided tour. These would only distract the visitor.

Another corner stone of the programme was to 'open' the museum to the physical fabric of the city. From the start the Municipal Orphanage and its premises formed something of a 'hidden' spot in the city centre. That was why during the restoration of the 17th and 18th century buildings some breakthroughs were made, which allowed passers-by to view objects, as in a showcase. And vice-versa, museum visitors could connect with the historical surroundings of the former City Orphanage. One of the most spectacular was the so-called Militia Gallery, a free accessible 'museum street', were people shopping in the nearby streets and tourists could stroll.

Experimenting with text systems and other information carriers: 1972-973

During the years before the expected opening of the new Amsterdam Historical Museum in 1975, the museum staff could experiment and learn in three 'experimental' exhibitions. This included not only a discovery which parts of the collections were inter-esting and available, but also how to use text systems and other carriers of information, and what stories to tell. The exhibitions covered respectively the mediaeval period, the Golden Age and the eighteenth century, and the 19th century-20th century until 1940.

Because the presentations were experimental the museum staff cooperated for the texts and other information carriers with a special department of Subfaculty Psychol-ogy of the University of Amsterdam[3]. The museum staff wanted to use these texts to stimulate visitors to make an active and structured use of the information about the story of the city. During each of the temporary exhibitions the university carried out visitor research, using question sheets and interviewing visitors. One of the main aims was to find out to what extent and how visitors had been able to learn something about Amsterdam's history, using the texts and other information carriers in the exhibitions.

Using the professional knowledge of the specialists, and also the outcome of the respective visitor researches, the museum staff experimented in each exhibition with different ways of offering textual information. The main idea behind these experi-ments was to find the optimal connection between *looking and reading*. Very impor-tant in this respect was the development of a three-layer textual information system:

[3] The Head of the Sub faculty was Professor Nico Frijda. One of his staff members, Mark Meerum Terwogt was also involved in the cooperation. On the part of the museum curator Carry van Lakerveld and Renée Kistemaker, educational staff member, took part in this work.

Fig. 1 - Room in the exhibition *Amsterdam, a small city*, 1972. This 'experimental' exhibition presented the history of the city from the Middle Ages until the end of the 16th century. The photograph illustrates the new three-layered text system, and the use of supporting information such as maps and diagrams (Photo Amsterdam Museum).

1. a 'headline', allowing a visitor to learn in a glance what the main topic of a special part of the exhibition was about. 2. A 'summary' of the topic. And 3, smaller texts offering information about the individual objects (Fig. 1).

In each of these three temporary exhibitions the staff 'played' with various ways of offering information. For example, the lay-out, the position of texts in a room or a showcase, the usea of illustrations, the length of the texts. Moreover, in two of the exhibitions the visitor could also get special information in a slide-programme.

Last but not least, during these years one of the curators developed a model and a concept for large documentary 'light' maps, showing for example the growth of the city over time by means of light: lamps would light particular places when a visitor pressed a button.

The results of these experiments were applied in the permanent exhibition on the history of Amsterdam, which opened in 1975. The three layer text system, the "A, B and C texts", was later adopted in several Dutch museums.

Development of audiovisual, interactive and various digital carriers in the '80 and '90

The text system, as described in the previous paragraphs, was used in main lines during the next decennia. Innovation in the transfer of information came these years especially from a fruitful interaction between curators and educational staff members with the museums' audiovisual department. In the nineties the introduction of computers and digital systems had of course a large impact. These made it increasingly possible for example to introduce interactive and participatory elements in presentations.

Just to give one example: in a temporary exhibition *Play, learn and work in the Golden Age*, which showed work of the late 17th century engraver Jan Luyken, the main target group was families with children. In the exhibition several 'hands-on' installations, such as a computer quiz, 'talking' tools, an electro game, attracted children and their parents alike[4] (Plate XIV).

These and other new ideas, such as working in a more biographical way, introducing a more emotional and affectionate approach in the choice of themes and in the design of the presentation were applied in a new part of the permanent exhibition, that opened around 2000. The story of the history of Amsterdam, especially in the nineteenth and twentieth centuries, is less linear then before: main story lines and smaller lines were mixed and supported each other. Some very witty and innovative interactive installations were introduced, like a bicycle, which the visitor can ride. On a screen a film showing a specific part of the city is projected of. By ringing the bicycle bell the scene changes: now the same road is projected around eighty years earlier.

Around 2000 parts of the permanent exhibitions, the mediaeval period until the end van de 18th century, were getting a bit old fashioned. The adaptations of the original text system described above were not very systematic, and they confronted the visitor in several rooms with sometimes cluttered information walls.

Moreover, a stroll in the museums' long permanent exhibition rooms took a long time, too much especially for international and Dutch tourists, who want to get a more consolidated impression of the story of Amsterdam. And that is how the idea of *Amsterdam DNA* took shape.

Amsterdam DNA, the first step towards a new permanent exhibition

As was described above, in 2009 the new director Paul Spies started a process of repositioning the museum. In close cooperation with an interdisciplinary team of municipal politicians and experts from the University of Amsterdam, the museum management reflected on a new development policy for the museum until the year 2020. The outcome of the discussions was that the long sequence of museum rooms of the extensive museum buildings was too confusing for the visitor. Moreover, the permanent exhibition was unsatisfactory long, especially for tourists. It was decided to split the permanent exhibition into an introduction part and some sections where the visitor will be able to find more in-depth information on Amsterdam's history. In

[4] The exhibition was presented from 26th September 1997 until early January 1998.

addition, a number of architectural and logistical interventions in the buildings were planned in order to provide a better routing and a more modern look.

On the basis of the new policy lines, a project team of the museum worked over two years to create a new introductory permanent exhibition, Amsterdam DNA, in close cooperation with designers Kossmann. deJong and design and animation studio PlusOne. It opened in the autumn of 2011.

In this new exhibition, high-quality pieces from the collection are displayed. The objects vary from a leather shoe dating from the Middle Ages to a Rembrandt painting, from a globe of the famous cartographer Joan Blaeu to a joint in a coffee shop. Most items are from the collection of the Amsterdam Museum, supplemented by a number of important loans, including from the Rijksmuseum in Amsterdam and the Historical Museum of The Hague. A small number of objects were specially acquired for Amsterdam DNA. An example is a children's bike from the 1920s, to complement the interactive bicycle installation described above, which allows visitors to 'travel'.

The text labels describing the objects on display are still quite 'traditional'. In addition, some new forms of information transfer are introduced to cater for different learning styles visitors might have. Facts and figures on Amsterdam's history, also in a wider national and global context are presented by info graphics on a long red wall which continues through the entire exhibition (Plate XVII).

Part of the renovation was a modernization of the Militia Gallery. The windows in one of the walls bordering this gallery had always offered visitors inside the museum a view on the group paintings formerly displayed there. These were now narrowed to smaller 'peepholes', offering visitors of Amsterdam DNA a more focused view of paintings and photographs in the gallery, which are closely connected to specific parts of the Amsterdam DNA story. To intensify this interconnection, new 'peepholes' were made in the opposite wall, which never had had any windows before. This way the Militia Gallery is more connected with the exhibitions inside the museum. At the same time, casual passers by in the free accessible Militia Gallery get today a better understanding of the story of Amsterdam's history, as presented inside in the Amsterdam DNA (Plate XVI).

Apart from these low-tech transfer methods of information, the exhibition uses extensive digital technology to introduce new forms of communication. In the next paragraph, these methods are discussed.

The use of digital technology in Amsterdam DNA

The visitor of this part of the permanent exhibitions receives a special information booklet, which contains a QR-code, prior to entering the exhibition. The QR-code contains a unique number by which visitors are recognizable for the information system. The code also contains information about which language the visitor prefers.

The museum experimented in 2010 with a kind of personalized approach in the tem-

porary exhibition *A'dam Man & Fashion*. In this exhibition, the audience could indicate their preferences through RF-ID codes. Based on their choices, visitors could compare their opinions with those of other visitors at the exhibition. The use of this technique was well received. For Amsterdam DNA, this method was further refined. The RF-ID cards were changed for QR codes, because the costs of RF-ID chips were too high at the time.

The visitor who enters the exhibition immediately sees a wall-sized projection, showing all kinds of cityscapes from the collection of the Amsterdam Museum, blending in photographs of the same places in Amsterdam today.

The core story of the exhibition is conveyed in seven animated 3D films with an average length of 1.5 minute. The films are projected on large glass screens placed amidst the museum objects. Each film begins with a unique object that is physically close to the screen. This object is a vehicle to 'draw' the visitor into a particular part of the story of Amsterdam's history. The voiceover in the films is activated through the QR-code on the booklet. The information is offered in ten different languages: Dutch, English, German, French, Spanish, Portuguese, Italian, Russian, Chinese and Japanese. The films substitute the traditional summery texts (Plate XV).

Film, although prominent, is not the only 'modern' medium in and around the exhibition. There are several audio clips, touch screens, a Pepper's ghost[5] and some interactive installations. One of the most successful installations is the interactive bicycle, which was moved from another, older, part of the permanent exhibitions. This was complemented with a children's bicycle as mentioned above (Plate XVIII).

About halfway through the exhibition, visitors can use the QR code to take a picture of themselves in armor and ruff. They can also download this image from Flickr.

With the same QR code, visitors can analyze their own 'Amsterdam DNA'. At six spots in the exhibition touch screens are built into the wall, in which the visitor can click on her or his favorite object. The objects are connected with one of the four 'DNA values'. At the end of the tour the visitor gets a score, showing his or her favorite DNA characteristic. This result is connected to a walk in the city, which is designed following one of the four DNA characteristics: free thinking, citizenship, creativity and entrepreneurship.

The four thematic walks can be downloaded in the form of a 'Museum-App', an application for smart phones, developed in cooperation with Waag Society, a well-known institute for art, science & technology in Amsterdam. This application can also be used by other museums. This way, the end of the visit of the exhibition 'Amsterdam DNA' simultaneously is a start to continue the quest/ search for the history and characteristics of Amsterdam *outside* the museum walls.

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[5] Pepper's ghost is an illusion technique using plate glass, Plexiglas or plastic film and special lighting techniques. It can make objects seem to appear or disappear, to become transparent, or to make one object morph into another. It is named after John Henry Pepper, who popularized the effect.

This is also true for the Web. The entire collection of the Amsterdam Museum (75,000 objects) is now online. Within this collection, the objects of 'Amsterdam DNA' are highlighted separately. The museum also made a special trailer for display on the web, which is shown on www. amsterdammuseum. nl, and on Facebook and Youtube.

The reactions of the public concerning the use of technology in Amsterdam DNA are for the most part positive. Nevertheless, research brought to light that the use of technology does not suit all our visitors in every situation. It was, for instance, found that part of the public, does not like to use Apps. Furthermore, it became clear that some visitors miss a traditional booklet to take home as a souvenir. The information on the web could not replace this need. Meanwhile, on the basis of this feedback, such a book has been written. It contains a map showing the four DNA tours, and it is sold in our museum shop.

In what way is the approach in the 'digital' age different from the way this story was told with more 'old-fashioned' means?

The use of digital technology in Amsterdam DNA fits in the tradition of the Amsterdam Museum to continuously experiment with new ways to achieve the most effective and stimulating transfer of information. The museum always tries to use the new (affordable) options, available in a specific period, to develop effective methods of communication with the visitors. Throughout the history of the museum, this has led to an expansion of various ways to address the public. The main changes resulting from Amsterdam DNA are the structural use of 3D animations to tell the core story, the personalization through Q&R codes and the expansion of the transfer of information outside the museum walls by means of tours. The trend to provide information in different ways and places will continue in the next years In this process, traditional methods will probably not disappear. Based on the experience with Amsterdam DNA, it is more likely they will be complemented in order to meet the needs of an ever wider audience.

FRANCESCO CECCARELLI

THE "BOLOGNA DIPINTA" IN THE VATICAN PALACE AND ITS FACSIMILE. A PROJECT FOR GENUS BONONIAE-MUSEI NELLA CITTÀ

With regards to the outfitting of the Museo della Storia di Bologna in Palazzo Pepoli Vecchio (Genus Bononiae-Musei nella città), this essay aims to discuss an important aspect of the project, which was organized and coordinated by the present author and which resulted in the realization of a section of the permanent display in the palace, that is, the one dealing with urban cartography and the representation of the city in the sixteenth century.

This particular project, known as the 'Sala Bologna' project, was born out of the desire to illustrate the representation of the city of Bologna's historic form through cartography. It developed around a conceptual node that allowed to experiment – in a museological context – new technologies coupled with previously unknown representational models.

The project included the production of a faithful facsimile, realized through digital technology, of the south wall of the so-called Sala Bologna in the Vatican. This remarkable room, which is inaccessible to visitors, contains the largest geo-iconographical frescoes of the Italian Renaissance representing the city of Bologna and its countryside. The museological project was led by the Department of Architecture of the University of Bologna, in collaboration with the Madrid-based studio Factum Arte, directed by Adam Lowe, as well as Wesleyan University (USA).

Keywords: Museo della Storia di Bologna, Genus Bononiae-Musei nella città, Sala Bologna in Vaticano, Factum Arte, Geoiconography

Introduction

The new Museo della Storia di Bologna (Museum of the History of Bologna) was inaugurated in January 2012 inside the fourteenth-century Palazzo Pepoli Vecchio, which was renovated for this purpose by the Milanese architectural studio Mario Bellini Architect(s). This was the final stage of an ambitious project for a multi-building museum spread throughout the city of Bologna and conceived according to the newest museological concepts, which was developed by the Fondazione della Cassa di Risparmio di Bologna and financed with over 70 million euros over a period of almost ten years[1].

In addition to the Palazzo Pepoli, this complex project, known as Genus Bononiae-Musei nella città, has involved the restoration and outfitting of numerous other historic buildings[2]. Its goal has been to go beyond the traditional notion of a city mu-

[1] For a description of the Genus Bononiae project, see: http://www.genusbononiae.it/index.php?pag=8.

[2] The museum itinerary through the city consists of several points: from the Biblioteca d'Arte e di Storia di San Giorgio in Poggiale, to the churches of San Colombano, Santa Cristina and Santa Maria

Plate XIV - A display in the exhibition about the work of Jan Luyken. Children were stimulated here to find the right combination between objects on the wall en the engravings displayed below.

Plate XV - The 'Golden Age' room. One of the large glass screens is visible, as well as several of the objects in the room which are connected in this film. In the hands of the visitors the information booklet with the QR-code.

Plate XVI - The Militia Gallery, 2012.

Plate XVII - The 'red 'wall and two key-objects in the first part of Amsterdam DNA.

Plate XVIII - The interactive bicycles. The screen in front of the cyclist displays specific streets in the city, in past and present.

Plate XIX - Processing the data and producing the facsimile, Madrid – June 2011 (Photo by Gregoire Dupond-Factum Arte).
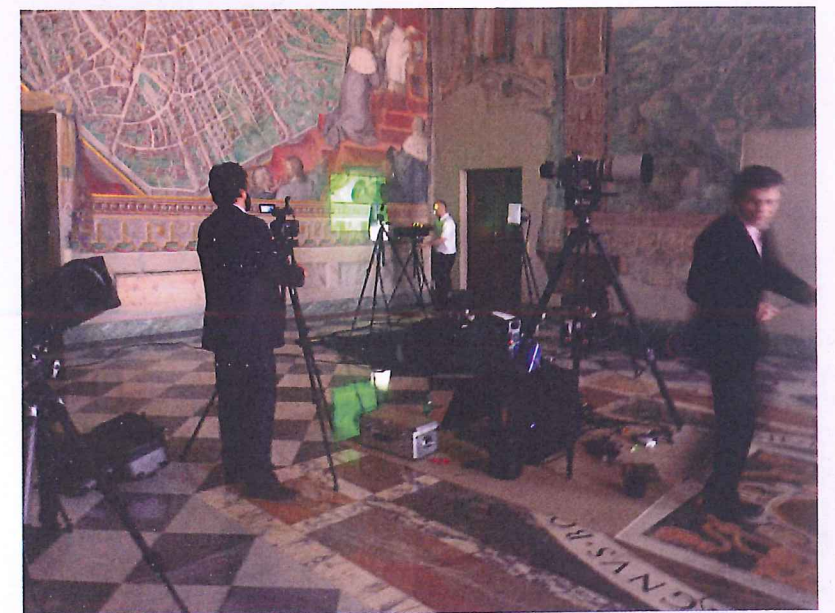

Plate XX - Factum Arte's recording of the Sala Bologna, Vatican City - May 2011 (Photo by Gregoire Dupond-Factum Arte).