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Digital Costume Display

Katia Johansen
Royal Danish Collections at Rosenborg Castle, kj@dkks.dk

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PRESENTING ROYAL COSTUME

KATIA JOHANSEN
kj@dkks.dk
www.kongedragter.dk

Figure 1. *Rosenborg Castle, Copenhagen, became the museum of the Royal Danish Collections in 1838. It was built by Christian 4th of Denmark (1577-1648).*

Visiting a museum is often a social occasion for many users. Prior to a museum visit they have usually looked for information about opening hours, prices, special exhibitions, traffic directions and the like. Museums guests are often a couple or a group, sometimes a family. Their visits are planned, and have required some degree of organisation. When they enter the museum proper, they are looking forward to the museum's collections and exhibitions. We know that many basic factors determine whether the visit is a success: is it simple to get the tickets, find the exhibition, is the catalog too expensive, are there attractive souvenirs and a good coffee shop, and is the on-site staff welcoming, knowledgeable and helpful?

When customers visit the same museum on-line, they experience a different kind of interaction. Visiting the virtual museum feels like the museum is being brought home instead. The digital visit is usually a personal experience rather than a social one. Not requiring braving traffic, climbing stairs, and deciphering and following signs means that the digital visitor often samples more types of information than he might have found at the physical museum.

The digital presentation creates new opportunities to engage more and different groups of visitors. Not least of all those who can't or don't choose to visit the museum itself. The museum must thus present itself in a diversity of ways, and the digital presentation is now considered as important as the physical manifestation. Museums need to meet the challenge of presenting their collections, research and exhibitions to visitors both in cyberspace and in reality. This requires new ways of thinking, and well-trained professionals with good ideas.

Costume is popular in museum exhibitions, but requires a lot of preparation by specialists, organized conditions and a good deal of space for exhibition - and even then it can't even be shown for very long at a time. That's why a digital presentation is a good alternative or supplement. "Kongedragter" (Kings' costume) goes even further, revealing things impossible to show in a conventional exhibition. We move in close, we turn the costume around, we see it from behind and inside, we could go in their pockets, and we can see how the costume is shown in contemporary portraits by the best European artists.

Rosenborg's costume collection is very unique. The pieces are in general well preserved, and though the collection is small by most standards, each piece is exceptionally well documented. The collection is still officially the property of the monarch and contains the objects which the royal family has chosen to preserve since the early 1600s. The clothing was worn by members of the royal family, making it possible to date each garment, follow its tailoring, repairs and recycling.

Figure 2. *Some of the kings' and princes' garments from ca. 1630 in the Royal Danish Collections, prepared for photography.*

The garments tell us about life at court, how court tailors and embroiderers worked, and show festive court dress from royal ceremonies made famous through paintings and reports. The costume collection at Rosenborg is actually used to date many other museums' pieces, comprising as it does a considerable portion of all the extant 17th century costume in the world. These are among the oldest costume not found in graves, but having been preserved in their original state, often in their original cupboards and chests almost to present day. Only in Stockholm and Dresden are there comparable, well-documented collections. And, unusual for museum collections, the Danish collection consists primarily of men's garments (most museum collections are 90% women's clothes): clothes which, incidentally, were worn by some of Europe's most powerful men throughout history.

As Copenhagen is, regrettably, the only European capital now without a permanent costume gallery, a digital exhibition at *www.Kongedragter* was conceived to present some of our finest costume for virtual visitors. As the Royal Collections already understand that web-based information is vital, shown in its well-designed website (www.rosenborgslot.dk), it is obvious that a presentation of the costume collection is important. At present the royal costumes site is only in Danish, but will in the future also be available in English.

Figure 3. *Advertising flyer for the website for royal Danish costume: www.kongedragter.dk. This carefully designed digital presentation of royal costume appeals to both children, teachers, casual visitors and professionals.*

Presentation concept: This website was conceived and designed to contain information that anyone who is interested can use. Unusual for a website, there is no specific target group - other than those who are interested. The site contains information comparable to a 200 page book, in addition to a wealth of illustrations of extremely high quality. The language is simple at the beginning, increasing in complexity in the longer texts.

The idea of presenting historic costume for children is that they can become interested through games, seeing costume and details that they haven't noticed before. Their parents and teachers can find background information which they can use immediately in dialog with the child and his initial experience through the games, giving everyone the opportunity to learn more if they like. Museum professionals can find technical information and details which have not previously been accessible, including pattern drawings, analyses, conservation information and technical details of weaving, embroidery and tailoring on an academic level. The innovative part of this site is that everyone can begin at his own level of knowledge, as well as seeing how the material is presented to others at *their* levels.

Content: Costume of 16 Danish kings from Frederik II to Margrethe II are presented in chronological order (though they can be examined individually, in any order). A primary goal of this site is to keep the images and names of the kings present and in chronological order; as visitors become more confident about who is who, a useful historical framework is gradually created. A story is told about each king based on one important garment. The pieces are chosed on the basis of their importance, their history, their relationship to a certain occasion, or use of a particularly rich embroidery or materials. There is a wide range of types of costume, as well as in the supporting material, which is presented as contemporary portraits in various techniques. This provides a well-balanced amount of useful information, as well as indicating the range of sources that are available for further study.

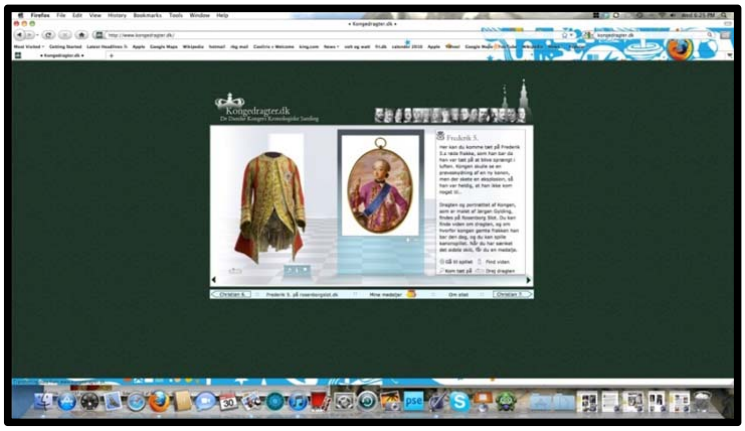

Figure 4, left. *Screen shot of the red frock coat worn by Frederik 5th during the trial shooting of a newly-developed, rapid-firing cannon in 1750. The cannon exploded, and the king was injured. His frock coat was saved in the Royal Collections as a parallel to the blood-stained garments worn by Christian 4th when he was injured at war in 1644.*
Figure 5, center. *Side view of the king's frock coat, during rotation.*
Figure 6, right. *Detail of woven gold galloon, on-screen zoom.*

This site can easily be expanded with more costumes per king, or more details and technical information. An obvious supplement would be information about the queens' gowns, following up on several extremely popular special exhibitions of costumes. Another popular aspect would be how to study costume in portraits.

The website's material is presented as a separate unit, with its own entry portal, so it can be linked directly to other relevant sites as desired. To encourage the use of the information about the kings' costume and other information on the Rosenborg website there was a link between each king and his costume. Thus all visitors to the Rosenborg website (ca 500 unique hits/day) also have access to the costume website.

Visitors to the *Kongedragter* site find high-resolution images of the kings' costume. For each king a specific garment is presented, "hovering" in a well-defined room, next to a contemporary portrait which is related to the costume. The visitor can freely rotate the costume and zoom in to a very close look - up to just inches from anywhere on the garment. At the bottom of the stage are links in the form of icons: a jigsaw-puzzle piece, indicating playing: *game*; an "i" indicating learning: *information;*. The necessary navigational tools are a magnifying glass indicating *zoom*; and a curved arrow indicating *rotate.* Arrows left and right navigate to the previous or subsequent king.

games: Clicking on the game icon opens the game related to each costume. A short text tells about the garment and the occasion (a coronation, a war, a party), while the object of the game itself is described in a single short sentence. This part of the site is kept in a simple language directed towards children, as they may be beginning their exploration of the here. Teachers and parents can easily find more, pertinent information nearby. Games are played by the clock, and one can win medals and trophies, which are accumulated in one's personal scoreboard.

The games vary from king to king, but are in general in 5 types:
- puzzles to solve against the clock
- coloring a costume
- choose the right object (shoes, wig, jewels)
- memory (crowns, objects)
- participation (help the king direct the orchestra)

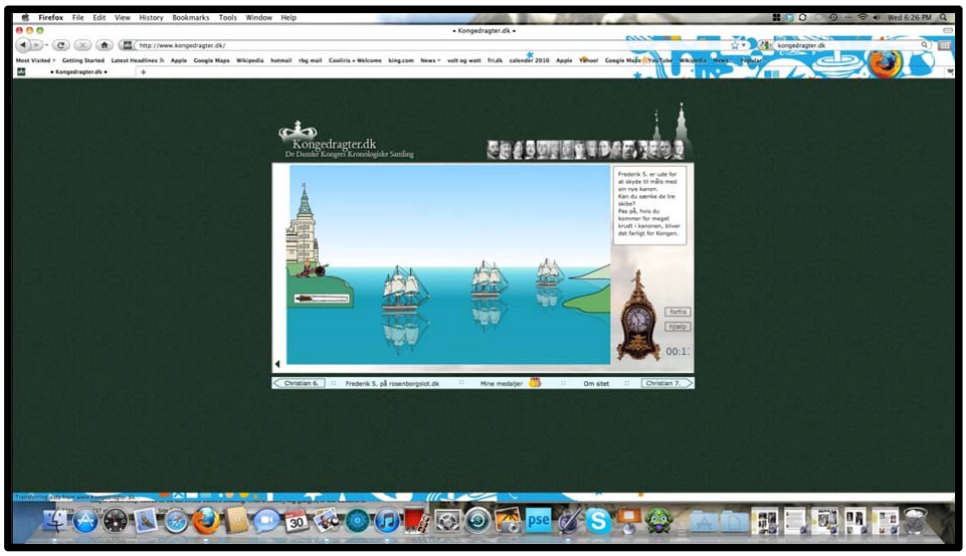

Figure 7. *Screen shot of one of the games: the object is to load and aim the cannon at the left to sink the ships. Each ship needs to be hit twice before sinking with a satisfying gurgle; if the cannon is loaded too much, it explodes, and the figure of the king falls to the ground. The game relates to the frock coat worn by the king when he was injured during the trial shooting of a new kind of cannon.*

information: Clicking on the "i" reveals an illustration of the garment, and a close-up of a special detail. The text about the object varies - perhaps concentrating on a technical detail, conservation problem or explanation of the fashion which the garment represents. The text begins simply, but increases in difficulty as one reads, so a child can read as far as he can before calling for help. A

teacher or parent can then help explain more, if the child is interested. At the end of each information page are links to a pattern of the garment, which opens in a separate PDF-file, for saving or printing. (Placing large amounts of text in a separate PDF-file allow the website itself to function more easily, particularly for computers without high-speed internet connection.) Patterns contain a wealth of information for those who understand sewing and tailoring, and are useful for those who wish to compare cut and size, as well as for making dress-up or theater costume. A second link is to the historical and technical information, also as a separate PDF-file. This includes a description of the garment, its materials and cut, its relation to contemporary fashion, how the garment has been preserved and exhibited, its condition and conservation, other garments which belonged to the same king, and sources and literature. The PDF-format means that there is access to unlimited space for information which can be downloaded and printed.

photography: An inexpensive, low-tech solution was devised for photographing the garments from all angles. Each piece was mounted on a suitable mannequin (these are usually specially made to fit and support the individual garment) which was turned manually on a rotating disc (mounted on ball bearings) on the floor. These 32 high-resolution TIFF-images were subsequently made into a Flash-film which allows the viewer to rotate the piece by dragging it to either side with the mouse. (Flash-films cannot be viewed on the I-phone and will require a new application if this is desired.) From the beginning it was decided that the costume could not be rotated in space, which is technically possible, but only rotated on its foot. Picturing a Danish king tumbling through space was not a desired outcome!

Figure 8. *Queen Margrethe II's gown by Erik Mortensen from Balmain (1987) is being photographed in the studio. Each exposure is taken as it is rotated by hand. Now the whole set-up can easily be automated, at least for smaller objects.*

The biggest difficulty with this method was centering the garment so it turned smoothly. A small weight on a plumb line above the garment was used to find the figure's core. Special arrangements were necessary to include accessories such as canes and hats, and for "lop-sided" objects such as the coronation garments with a long, trained mantle.

An unexpected bonus was experiencing a “new” way of looking at each piece on line with the magnifying glass on each digital image. Although I have worked with most of this collection for over 30 years, there are still surprises for me in it, just by changing my way of looking. It corresponds to the intensity of examining a familiar room in the dark, with just a small flashlight: this concentrates not only one’s field of vision but one’s framework, focus and perceptual acuity as well. This is a lesson that can be utilized in many ways for those of us who enjoy or “sell” visual experiences.

Figure 9, left. *Frederik III’s suit from about 1668 with original lace cravat. His cane is of enamelled gold and narwhal, at the time known as unicorn. To show the cane as if it were being held by the king, a special mount was contrived. It had to rotate along with the clothed figure.*
Figure 10, right. *After photography the mount and supports were removed digitally.*

Cost/schedule: The entire project was conceived and completed in under a year and went on-line in 2006. Financing was primarily in the form of a grant of DK 500,000 (about US $85,000) from the Danish Ministry of Culture, from a special project encouraging innovative digital presentations of museum collections. This project was one of 10 awarded that year.