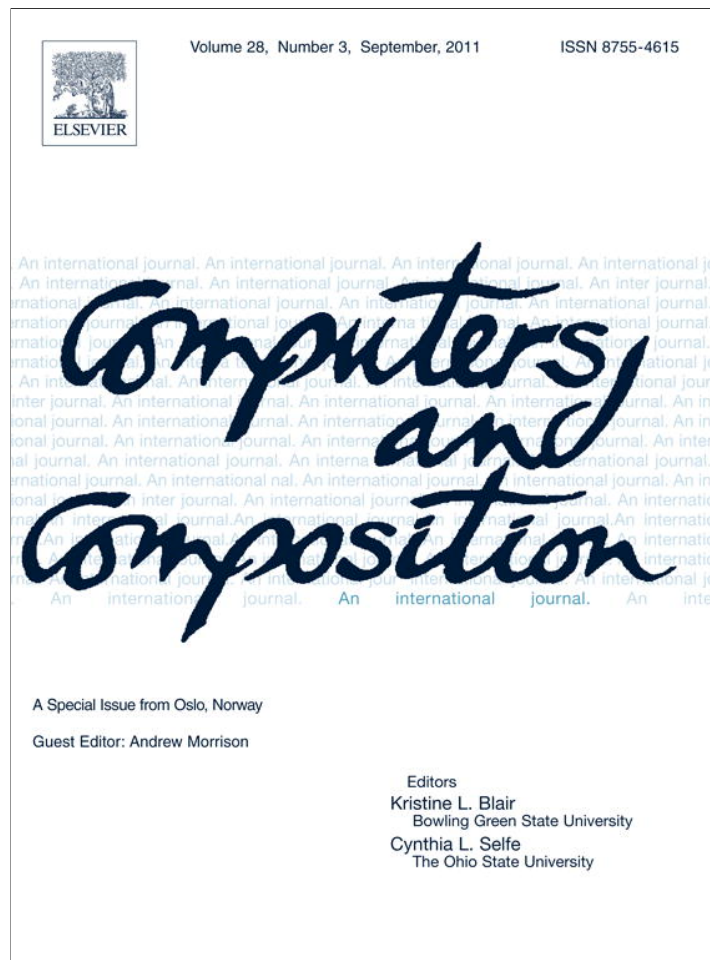


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Composing a Public Image Online: Art Museums and Narratives of Architecture in Web Mediation

Palmyre Pierroux^{a,*}, Synne Skjulstad^b

^a *InterMedia, University of Oslo, Box 1161, Blindern, Oslo 0318, Norway*

^b *Post-doctoral fellow, Department of Media and Communication, University of Oslo, Postboks 0317, Blindern, Oslo, Norway*

Abstract

As museums' public images become increasingly intertwined with architecture and tourism on a global scale, spectacular museum buildings have come to have a presence both in local, urban landscapes and online. We analyze the website presentations of two new national contemporary art museum buildings, the Tate Modern Museum in London and the National Museum of 21st Century Arts (MAXXI) in Rome, to explore the ways in which multimodal compositions and architectural narratives are designed to communicate a museum's public image. Applying methods from social semiotics and text analysis, we identify the compositional means by which narrative themes of transformation, social space, and recovered origins become linked with global market forces and destination branding through communication design.

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1. Norwegian Abstract

Identiteten museer formidler til offentligheten er ofte knyttet til spektakulære museumsbygninger og til global tursime. Disse signalbyggene er ikke bare fysisk tilstede i bybildet, men har også en sterk tilstedeværelse på museenes websider. I denne artikkelen analyserer vi utvalgte deler av to museers nettsider, britiske Tate Modern i London og det italienske MAXXI i Roma. Vi undersøker hvordan museenes identitet formidles gjennom multimodale fortellinger som dreier seg om museenes arkitektur. Gjennom tekstanalyser av multimodal kommunikasjonsdesign på websider viser vi hvordan temaer som transformasjon, sosialt rom og kulturminner knyttes til merkevarebygging av steder og til globale markedskrefter.

2. Introduction

A museum's identity has increasingly become associated with the museum's performance as a global brand, resulting from a new dialogue in the 1980s and 1990s between museum architecture and the market (Steiner, 2000). During this time, global tourism increased and the concept of "museum as spectacle" (Sherman & Rogoff, 1994) emerged to describe the trend of blockbuster exhibitions and "starchitects" designing signature buildings for museums, particularly contemporary art museums. From a historical perspective, spectacular museum buildings are nothing new, and there

* Corresponding author.

E-mail addresses: palmyre@intermedia.uio.no (P. Pierroux), synne.skjulstad@media.uio.no (S. Skjulstad).

URLs: <http://www.uv.uio.no/intermedia/english/people/aca/palmyre/index.html> (P. Pierroux), <http://www.hf.uio.no/imk/english/people/aca/synnes/index.html> (S. Skjulstad).

is a long tradition of architecture being portrayed as autonomous *objets d'art* with the architects as authors (Fallan, 2008). What is new, however, are the close associations between museums and architecture, digital media, branding, and fashion, as museums increasingly orient toward market laws and the strategies of fashion interests to function as sites in which not only art, but also lifestyles, are staged (Steiner, 2000). Today, new museum architecture is an integral part of what Anna Klingmann (2007) calls the “brandscape of architecture in an experience economy,” with marketing measures being applied to evaluate the brand appeal of a museum’s collections and exhibitions as well as to determine a museum’s destination branding, which is defined by its location and architecture (Caldwell, 2000).

A museum’s website is a crucial and strategic site in this global brandscape, a multimodal tool through which the museum’s public image is composed, developed, and communicated to increase tourism, among other aims. In this article, we explore the website presentations of two new contemporary art museum buildings to analyze the ways in which different media and architectural narratives are put to work communicating a museum’s public image on the World Wide Web.

The first examined website belongs to the Tate Modern in London, which presents a new building designed by architectural firm Herzog & de Meuron that is scheduled to debut in 2012 (<<http://www.tate.org.uk/modern/>>). The second website represents the new National Museum of 21st Century Arts (MAXXI) in Rome, which features a building designed by Zaha Hadid that opened in 2010 (<<http://www.maxxi.darc.beniculturali.it/english/progetto.htm>>). We focus on compositional strategies, interaction design, and modes of representation that mediate these public images on the museums’ websites. In the first part of the article, we present the interdisciplinary perspective and concepts that frame our analysis of how and which architectural narratives are used in multimodal compositions. We then apply these concepts to the analysis of architectural presentations on the respective art museum websites. We address the following questions: What is the role of architectural representations and narratives in branding a contemporary art museum? How are these representations and narratives articulated multimodally in the mediation of a museum’s public image online?

3. An Interdisciplinary Perspective on Communication Design

3.1. Communication design perspective

Semiotic and social semiotic approaches (Kress & van Leeuwen, 1996) have been used to investigate communication in museums, mainly through studies of printed text and exhibition design, with a focus on color, spatial organization, displays, labels, guides, and books (de Lourdes Parreiras Horta, 1992; Hofinger & Ventola, 2004; Insulander, 2010; Kress, 2010; O’Toole, 1994; Psarra, Wineman, Xu, & Kaynar, 2007). Semiotic approaches are also applied in the analysis of museum websites (Parry, 2005; Speroni, Bolchini, & Paolini, 2006). In this study, we similarly investigate a museum’s identity as it is communicated using different semiotic modes, with a particular focus on the mediational function of narrative in online multimodal compositions. From this communication design perspective (Skjulstad & Morrison, 2005) informed by both social semiotics and sociocultural approaches, we conceptualize interaction design, interface design, and content on websites as *an integrated textual whole* that mediates meaning rather than as a detailed grammar of web design concerned with color, font, and image placement.

3.2. Architectural theory

In architectural theory, the visual language of architectural forms is often compared to a linguistic system, with components of a building analyzed as rhetorical and semiotic elements of communication that “speak” to us. Such approaches are grounded in the understanding that architecture, like language, creates identity, and that buildings and their design emerge from and engage with specific social and political contexts (Butler, 2007; Alofsin, 2006; Sauge, 2010). In this article we are less concerned with the historical analysis of architectural style or design processes, however, than with the ways in which architectural narratives and representations are used to communicate identity to the public on these museum websites as part of a semiotic system and social language particular to a cultural, professional practice (Bakhtin, 1986). We use the term *identity* to refer to the “public image” of the museum, an analytical category devised by Ian Ritchie (1994) that focuses on the museum’s exterior architecture and placement in a prominent site in an urban setting. As Jensen (2007) points out, “a theoretical framework of narrative needs to be linked with notions of place if we are to understand the ways that narratives of culture are used as urban branding stories

in contemporary city planning” (p. 212). We draw on Ritchie’s (1994) concept of a museum’s public image as a material manifestation, and we extend this understanding to encompass online digital mediations of the physical building and site, paying close attention to elements of architectural discourse and representations in the communication design.

4. Analyzing Communication Design

4.1. Method

A search was conducted to identify national museums of contemporary art with buildings either recently completed or under construction that had presentations of the buildings on the museums’ websites. The Tate Modern and MAXXI websites both met this criteria. A comparative approach was adopted, and methods from social semiotics, textual analysis, and multimodal analysis were applied (see, for example, Barthes, 1970; Kress & van Leeuwen, 2001; van Leeuwen, 2005; Eikenes, 2010) to describe the communicative “modes” at play—images, sounds, videos, texts, and interaction design features—in the representations and narratives of architectural visions.

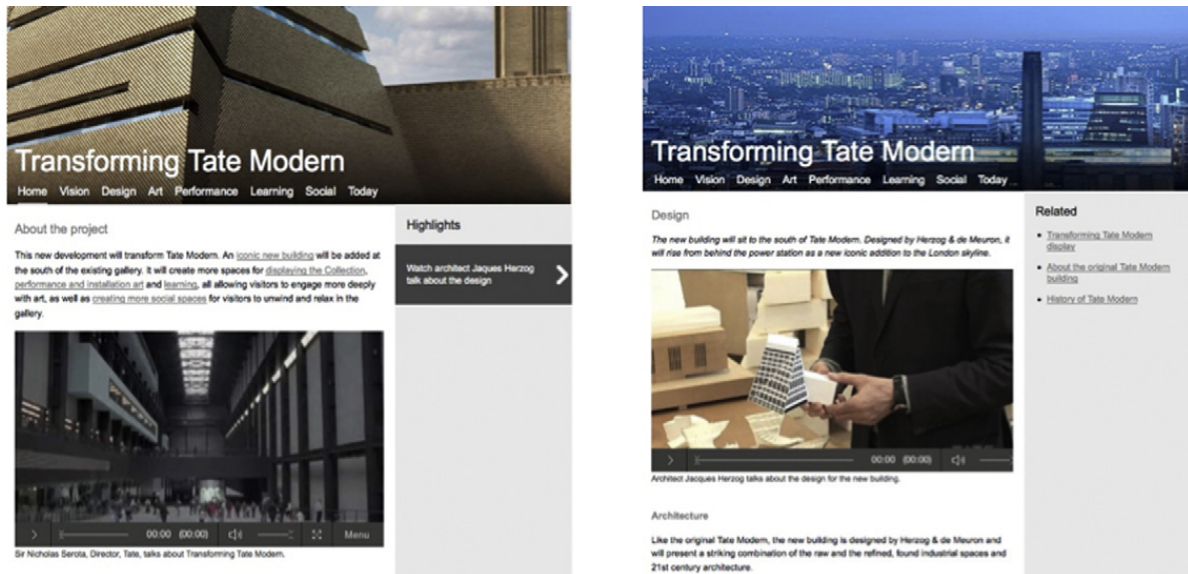
4.2. Analytical approach

According to Theo van Leeuwen (2005), an important aspect of social semiotics is the need to take into consideration how communication resources are used “in a specific historical, cultural and institutional context” (p. 1). Therefore, we first present a brief description of the national context of each museum building. We then locate the new building’s presentation on the website’s opening screen and describe the website’s navigational design. To investigate the semiotic work being done by different types of representational modes and narratives in the building presentations, we apply two levels of analysis. First, we identify the ways in which architectural discourse is incorporated into the museum websites in texts, images, and videos with architects and museum directors and curators. Architectural discourse refers to design concepts used by museum directors and architects to describe the features and envisioned experience of the new building, including the site itself, organization of space, use functions, form, scale, and references to other styles or precedents (Schön, 1983). In keeping with Mikhail Bakhtin (1986) notion of polyvocality, we thus conceive of a museum’s identity as performed and mediated multimodally and dialogically through the voices and utterances of both museum and architect. We have identified three narrative themes, or types of content, in the communication design of the yet-to-be-built or “unreal estate” (Morrison & Skjulstad, 2010): *transformation*, *recovered origins*, and *social space*. These narrative themes serve as analytic categories that organize our discussion and comparison of the two websites. The second focus of analysis is on the ways in which architecture is put to work communicatively in the global branding of the two contemporary art museums. This means that we identify specific compositional means by which architectural discourse functions as a proxy for the museum’s voice for branding purposes (Caldwell, 2000).

4.3. The Tate Modern building

The Tate Modern building has been the subject of extensive research, particularly from the perspective of urban renewal and re-branding linked with “cool Britannia,” a term launched in connection with the British politics of new Labour (Morris, 2003; Miles, 2007). The political aim of re-branding Great Britain coincided with the transformation of an abandoned power station into this national contemporary art museum in the South Bank/Bankside area, with the high-profile architectural firm Herzog & de Meuron responsible for the planning and design. From this site, as Phoebe Crisman (2007) points out, visitors may look directly across the Thames to St. Paul’s Cathedral and to the city beyond, thereby visually linking old and new iconic London monuments. The Tate Modern and its vast turbine hall quickly became both an iconic landmark and a catalyst for urban renewal of the Bankside area and abandoned buildings. Tate’s museum program and architecture won international acclaim, helping to revive London’s image as a leading center of contemporary culture. Similar to the Bilbao Guggenheim museum in Spain, the Tate Modern thus demonstrated “architecture’s potential to act as a brandscape in restoring the image of a city as well as in its capacity to spur economic patterns of growth and urban renewal” (Klingmann, 2007, p. 240).

It is against this background that a narrative of *re-transformation* is presented in the Tate Museum website, to which we now turn <<http://www.tate.org.uk/modern/transformingt.htm>>. During our research, the opening screen of the Tate Modern website included the category “Transforming Tate Modern.” This section communicated how the museum



Figures 1 and 2. Screenshots from the website of Tate Modern with linked videos by Director (1) and Architect (2).

would undergo a process of architectural transformation. Tate Modern is constructing a new building adjacent to the already renovated power station on the site of this power station's original, gigantic oil tanks. The new building will contain a variety of spaces and galleries to accommodate large-scale works, performance art, photography, and a broad range of social interactions.

The composition of the website's opening screen is organized with a large header, which depicts a model of the new pyramid-shaped building. Below the header, a brief text presents the project. The Director of Tate Modern, Sir Nicholas Serota, and the architect Jacques Herzog share this screen (see Figure 1) in that their respective videos are both accessible from this front page. Compositionally, the compelling banner text, prominent image placement, and multimodal features create a dynamic entry point, functioning as "progressive lures" to engage the website visitor (Lidwell, Holden, & Butler, 2003).

The director's video explains the rationale for the new building from the museum's perspective. In this video, after a brief shot of the former power plant, the director is shown standing on the bridge in the vast Turbine Hall. Serota explains that Tate Modern had originally planned for between two and two and a half million visitors annually but that the museum instead receives about five million visitors per year. While Serota speaks, we are shown museum visitors quickly moving through the Turbine Hall. Ambient piano music plays in the background. The scene then shifts to the architect's office, and a series of clips showing details of small-scale models of the new museum building are presented (see Figure 2). Architect Pierre de Meuron tells us that the building should enable Tate to "connect with the people" and to be "even more part of London." As he speaks, a digitally generated image of the new museum is presented before the video returns to the director in the large hall. The video again shows a digital rendering of the new museum, the oil tanks upon which the new building rests, and a horizontal pan of the adjacent London buildings. The video and ends with a simulation of the new building rising from behind the existing Tate Modern. Though the video is only one and a half minutes long, the museum director and architect perform a narrative of transformation that dialogically anchors the strong connections between Tate Modern and the city of London. The video emphasizes the new museum building as an urban, social space and connects to an overarching narrative of re-transformation through architectural intervention through the website's page design.

The videos presenting the re-transformation of Tate Modern emphasize the use of architecture in different ways by large groups of visitors. The visitors are present in the director's discussion of the rationale for a new building, and they are represented as scale figures in the models discussed by architect Jacques Herzog, who describes a broad range of museum spaces designed for strictly social purposes (see Figure 2). This focus on visitors' social interactions is in keeping with steady trends in visitor studies and museum learning research showing that visitors rarely visit museums alone (Hooper-Greenhill & Moussouri, 2002). In art museums, visitors are often in pairs with either friends or partners,



Figures 3 and 4. Screenshots from the Tate Modern website.

and large events and concerts are commonly arranged in museum spaces designed for public gatherings outside of the galleries.

This awareness of the museum as an urban, social space is similarly emphasized through other interaction design features that use social media online. Participation in architectural discourse is offered by means of an official blog, the *Great Tate Mod Blog* <<http://modblog.tate.org.uk/>>, which engages visitors in Tate's new building design. Website visitors are invited to use their mobile phones to make suggestions to the architects Jacques Herzog & Pierre de Meuron by blogging and tagging images of favorite spaces, materials, ambience, and designs (see Figure 3). Texts and images are uploaded to a "mood board" that dynamically represents this collective activity, which is embedded in a part of the website that features a multimedia presentation of the architects' plans for the new building (see Figure 4).

Compositional strategies involving the use of social networking features represent an important development in communication design and the identity-making work done by museums (Pierroux, in press). The Tate Modern has a presence on YouTube called the Tate Channel (<<http://www.youtube.com/user/tate>>) as well as a presence on Facebook (<<http://www.facebook.com/tategallery>>) and Twitter (<<http://twitter.com/tate>>). Museums also increasingly incorporate the persuasive techniques and branding strategies employed by online advertisers for products like automobiles and mobile phones (Morrison and Skjulstad, 2010, in press). We point out that while social media potentially invite new forms of collective participation in knowledge practices in museums, participation as a marketing strategy raises a number of issues for interaction and communication design. Visitors contributing to the *Great Tate Mod Blog*, for example, become participants in a new discursive space in the museum as they contribute architectural ideas for the "spectacular new building." At the same time, while the ideological aim of the museum's use of social media for architectural feedback supports principles of democratization, dialogue, and participation, this social media use is grounded at least as much in the economic context of branding. The mood board and blog thus reflect a growing communication trend in public institutions, in schools, and in a variety of businesses where participating users also may be seen as "active creators, circulators and commentators of persuasive marketing" (Morrison & Skjulstad, 2007, p. 221).

The narrative of loss and recovery is a recurring theme in architectural discourse on the process of forging a whole from historical origins, embedded in the "mythologisation of site and design" (Butler, 2007). Tate Modern's public image has been forged through the convening of museum history and the specific history and significance of *this place*, the very site at which South Bank gained and subsequently lost historical significance as a force in the industrial era. The re-purposed Turbine Hall became the symbol of these recovered origins (Butler, 2007) and a signpost of the Tate Modern brand, and this narrative is continued in the online mediation of the museum's re-transformation and new building (see Figure 5). Three massive sub-level oil tanks, remnants of the old power station, constitute the foundation

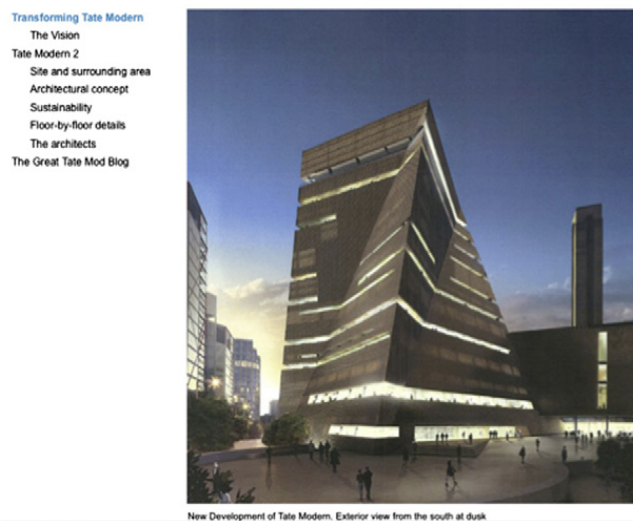


Figure 5. Screenshot from the Tate Modern website of the digital rendering of the new building by Herzog & de Meuron, Architects.

for the planned addition to the museum (see Figure 6). As part of the logic of re-transformation through acts of recovery, these tanks symbolically serve as the *origins* of the new structure.

Although the oil tanks will not be a prominent feature of the museum facade, their great symbolic importance is made apparent in the website's communication design, which includes a 360-degree navigable movie feature (see Figure 7). Users navigate through a maze of raw concrete structures, zooming and moving about in a computer-game-like digital environment. Steven Poole (2000) points to styles of computer game graphics as means of luring players into believing in imaginary worlds and making us look "into the screen or canvas, rather than just looking at it" (p. 129). Tate Modern thus borrows from visual conventions in computer games and from conventions often found in the online marketing of unreal estate, where "along with CAD and desktop software tools... [designers] reach for the hyper-real representations of the photographic" (Morrison & Skjulstad, 2010, p. 199). The simulation of these vast underground spaces is part of the multimodal architectural narrative of origins and recovery.

4.4. The National Museum of 21st Century Arts (MAXXI)

The website for The National Museum of 21st Century Arts (MAXXI) at <<http://www.fondazionemaxxi.it/>> contains narratives related to the museum's identity-building process as it has moved from the early planning and construction phases of a completely new institution, to the building process, to its current status of "newly opened." The opening

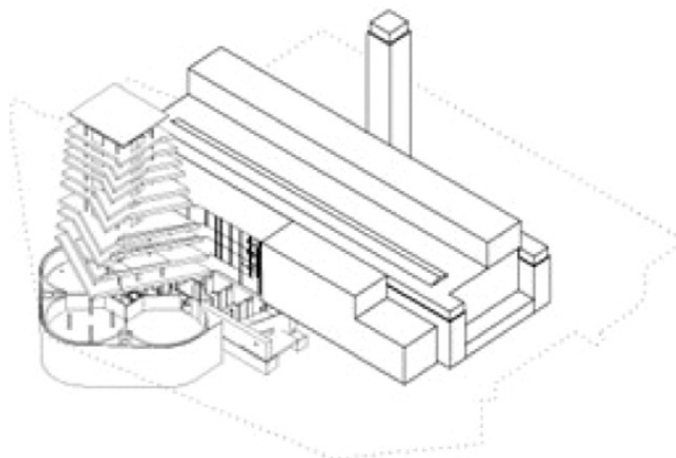


Figure 6. Screenshot from the Tate Modern website. The illustration shows the vast underground oil tanks that form the basis of the new museum building.



Figure 7. Screenshot from the Tate Modern website. The illustration shows a digitally rendered image of the former oil tanks as gallery spaces.

screen of the English portion of the MAXXI website is dominated by images of the award-winning building by British-Iraqi architect Zaha Hadid, one of the stars in architecture today. Large photographs of the building exterior cycle through a banner headline feature that appears throughout the website.

Our analysis focuses on the homepage in the English section titled “Museum” and the link in the left menu titled “Architectural Project”. The “Museum” page presents a brief text about the new institution MAXXI, which is the first national museum of contemporary art in Rome. The text informs us that the museum is “projected towards the future,” an aim unambiguously reflected in the “decision to seize the opportunity to carry out a grand public work with the innovative and the spectacular architectural forms of the architect Zaha Hadid.”¹ The founding of this new institution, and the significance placed on the architecture that will promote its identity, illustrates the ways in which national institutions are “informed by a society’s ideas, its forms of social organization, the beliefs and values that dominate at a particular moment and its distribution of resources” (MacLeod, 2007, p. 72).

The enormity of the bureaucratic and financial undertaking to construct a new national museum requires broad public and civic support. Like the Tate Modern in London, MAXXI, incorporates a narrative of transformation through urban and cultural renewal. The website points out that MAXXI is the “first institution of national character dedicated to contemporary creation,” and the museum is indeed the first and only national museum for contemporary art in Italy.² This emphasis on the contemporary establishes MAXXI’s forward-looking public image through the symbolic significance that the new institution—a national contemporary art museum—has in transforming Rome’s cultural landscape.

The relation between the museum’s “central and strategic location within the city” (as it is described on the website) and the aims of urban renewal is not explicitly communicated. The forces at play in transforming this urban area may nonetheless be understood by referencing broader discourses of global tourism and architecture in tourism websites and in international art magazines, where MAXXI’s location on *Via Guido Reni* is described as being “isolated” from the main classical attractions in other parts of the city, a location that needs urban regeneration. Shara Wasserman (2003) explains the strategic aspect of MAXXI’s location in this particular urban setting and the transformative potential for this part of Rome by pointing to the new building’s proximity to “a veritable survey of Italian post-war architecture.” In this sense, the signature MAXXI building is associated with urban regeneration through its implicit appeal to a target audience of “insiders” knowledgeable about the area’s architectural history.

The main content of the MAXXI website related to architecture and public image is found in the section “Architectural Project” section. The link from the home page leads to a page with text and a short video that plays automatically (see Figure 8). The text accompanying the video describes the competition through which the building’s architect was selected and the awarding of the commission to Hadid “for her convincing and skilful integration within the urban context.” The two-minute video, which is in English with Italian subtitles, presents architect Hadid talking from the construction site about her vision for the design of the building. As she talks, electronic pop music plays in the background. Hadid describes the design as bound to the specific context of “this place,” meaning the building site.

¹ Retrieved from <<http://www.maxxi.darc.beniculturali.it/english/museo.htm>>

² Retrieved from <<http://www.darc.beniculturali.it/MAXXI/english/maxxiarte.htm>>

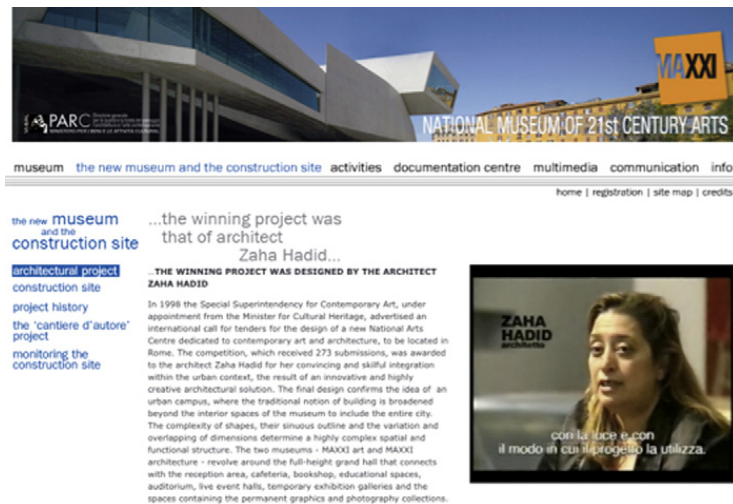


Figure 8. Screenshot of the video with Zaha Hadid from the MAXXI website.

This context includes the historical significance of the military barracks and buildings at the perimeter of the site and the layers of history that need to be considered when building anywhere in Rome. Layers become a metaphor for the stacked, curvilinear forms comprising the building, which Hadid refers to as a “layered city.”

The MAXXI website is linked to a range of social networking sites where images and comments on the award-winning architecture are an important part of the content generated by the public. However, a dialogue with visitors in the sense of a blog or online comments is not incorporated in the museum’s website as part of its public image. Rather, a narrative of the museum as a social space is mediated through architectural discourse in a video featuring Zaha Hadid speaking about the orientation of the museum building to a public piazza and in videos of public events in which mainly young people roam the museum and piazza while listening to outdoor concerts.

4.5. Composing identity

Analysis of communication design on the Web enables us to identify the ways in which institutions such as museums communicate their public image multimodally. A multilevel analytical approach allows for a deeper understanding of how and which narratives are intertwined with practices of global branding through specific communication and interaction design features. In this final section, we reflect on relations between narratives in architecture and branding as they have been identified in the communication design of the two museum websites.

The theme of transformation is central to the museums’ public images, communicated online by being integrated into broader narratives of a re-branded London and a revitalized area of Rome. The *transformative role* of the existing Tate Modern building in the regeneration of an underdeveloped part of London has been crucial to the branding of the museum and its international public image as creative, urban, and cool. In the communication design for the new building, transformation through architectural intervention is similarly articulated in texts, images of the planned building re-shaping the horizon, and a video in which the museum director and architect point to architectural features that will increase Tate Modern’s popularity. MAXXI’s public image and identity is transformative in the sense that the new building is situated in an out-of-the-way urban setting that public officials wish to revitalize, capitalizing on interest in existing and envisaged prominent works of modern architecture and thus in the area as a tourist destination. The political rationale for a new contemporary art museum in Rome appears to bank heavily on the popularity of architectural discourse within global tourism based on the prominence of text, images and video of Hadid and the new building on the website.

We have further identified an architectural narrative “recovery of origins,” which creates a forward-looking institutional identity through continuity with the past. The power station that originally gave identity to this part of London has been recovered through the transformation of the building and its Turbine Hall into an international tourist destination. This narrative is repeated by means of digital representations and virtual architectural tours of the vast underground oil tanks from which the new building will rise. In the MAXXI website, a powerful narrative of recovery of origins plays out in the depiction of Rome as a city distinguished by historical buildings. In a prominently featured video on

the website, the architect Zaha Hadid uses drawings and models to explain how the MAXXI building is conceived as carved onto and into historical layers of the city to emerge as the site of a future-oriented Rome. The multimodal narrative “recovery of origins” is embedded in the public image of institutions in which past, present, and future merge.

The third narrative that we identify as important to the design of a public image is an architectural concern for museums as social spaces. In the Tate Modern website’s online videos, architects talk and use physical models to emphasize their design concerns related to spaces for social interaction. Through the use of social media, the website also creates an online social space in which visitors can contribute to an architectural “mood board” and blog. In a video of architect Hadid on the MAXXI website, a similar concern with spaces for social interaction is communicated through drawings, images, and talk of connections between piazza, public, and museum events.

We have pointed to the significance of architectural narratives in multimodal compositions on museum websites when analyzing the global branding of museums as cultural institutions. We acknowledge that a museum’s identity is developed historically, based on associations with the perceived quality of its collections, the research that it publishes, its physical location, and the building itself. This kind of multimodal textual analysis nonetheless illustrates how architectural discourse is put to work mediating the branding of a public image that is directed toward trends in global tourism. Analysis of both narrative content and the semiotic modes used in Web mediation can contribute deeper understanding of the multiple levels of cultural representational activity comprising the design of communication.

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References

- Alofsin, Anthony. (2006). *When buildings speak: Architecture as language in the Hapsburg Empire and its aftermath, 1867-1933*. Chicago: Chicago University Press.
- Bakhtin, Mikhail M. (1986). *Speech genres and other late essays* (V.W. McGee, Trans.). Austin, TX: University of Texas Press.
- Barthes, Roland. (1970). *S/Z*. New York: Hill & Wang.
- Butler, Beverley., (2007). *Return to Alexandria: An ethnography of cultural heritage, revivalism, and museum memory*. Walnut Creek, CA: Left Coast Press.
- Caldwell, Niall G. (2000). The emergence of museum brands. *Marketing Management*, 2(3), 28–34.
- Crisman, Phoebe. (2007). From industry to culture: Leftovers, time and material transformation in four contemporary museums. *The Journal of Architecture*, 12(4), 405–421.
- de Lourdes Parreiras Horta, Maria. (1992). *Museum semiotics: A new approach to museum communication*. Doctoral thesis, University of Leicester, Faculty of Arts, Leicester, UK.
- Eikenes, Jon Olav. (2010). *Navigation: A sociocultural exploration of kinetic interface design*. Doctoral thesis, The Oslo School of Architecture and Design, Oslo, Norway.
- Fallan, Kjetil. (2008). Architecture in action: Traveling with actor-network theory in the land of architectural research. *Architectural Theory Review*, 13(1), 80–96.
- Hofinger, Andrea, & Ventola, Eija. (2004). Multimodality in operation: Language and picture in a museum. In Eija Ventola (Ed.), *Perspectives on Multimodality* (pp. 193–209). Amsterdam, Netherlands: John Benjamins.
- Hooper-Greenhill, Eileen, & Moussouri, Theano. (2002). *Researching learning in museums and galleries: A bibliographic review*. Leicester, UK: University of Leicester.
- Insulander, Eva. (2010). *Tinget, rummet, besökaren. Om meningsskapande på museum*. Doctoral thesis, Department of Didactic Science and Early Childhood Education, Stockholm University, Sweden.
- Jensen, Ole B. (2007). Culture stories: Understanding cultural urban branding. *Planning Theory*, 6(3), 211–236.
- Klingmann, Anna. (2007). *Brandscapes: Architecture in the experience economy*. Cambridge, MA: The MIT Press.
- Kress, Gunther, & van Leeuwen, Theo. (1996). *Reading images: The grammar of visual design*. London: Routledge.
- Kress, Gunther, & van Leeuwen, Theo. (2001). *Multimodal discourse: The modes and media of contemporary communication*. London: Arnold.
- Kress, Gunther. (2010). *Multimodality: A social semiotic approach to contemporary communication*. London: Routledge.
- Lidwell, William, Holden, Kritina, & Butler, Jill. (2003). *Universal principles of design*. Beverly, MA: Rockport.
- MacLeod, Suzanne. (2007). Occupying the architecture of the gallery. In Simon Knell, Suzanne MacLeod, & Sheila Watson (Eds.), *Museum Revolutions: How museums change and are changed* (pp. 72–86). London: Routledge.
- Miles, Malcom. (2007). The culture industries: Symbolic economies and critical practices. *Social Analysis*, 51(1), 13–27.
- Morris, Andy. (2003). Redrawing the boundaries: Questioning the geographies of Britishness at Tate-Britain. *Museum & Society*, 1(3), 170–182.

- Morrison, Andrew, & Skjulstad, Synne. (in press). Laying eggs in other people's pockets. In Barbara Gentikow, Egil G. Skogseth, & Svein Østerud (Eds.), *Literacy practices in late modernity: Mastering technological and cultural convergences*. Cresskill, NJ: Hampton Press.
- Morrison, Andrew, & Skjulstad, Synne. (2010). Unreal estate: Digital design and mediation in marketing urban residency. In Ina Wagner, Tone Bratteteig, & Dagny Stuedahl (Eds.), *Explorations in digital design* (pp. 189–219). Vienna: Springer.
- Skjulstad, Synne & Morrison, Andrew. (2007). Talking cleanly about convergence. In Tanja Storsul & Dagny Stuedahl (ed.), *Ambivalence towards convergence: Digitalization and media change*. Nordicom.
- Ritchie, Ian. (1994). An architect's view on recent developments in European museums. In Roger S. Miles, & Lauro Zavala (Eds.), *Towards the museum of the future: New European perspectives* (pp. 7–30). London: Routledge.
- O'Toole, Michael. (1994). *The language of displayed art*. London: Leicester University Press.
- Parry, Ross. (2005). Digital heritage and the rise of theory in museum computing. *Museum Management and Curatorship*, 20(4), 333–348.
- Pierroux, Palmyre. (in press). Real life meaning in second life art. In Barbara Gentikow, Egil G. Skogseth, & Svein Østerud (Eds.), *Literacy practices in late modernity: Mastering technological and cultural convergences*. Cresskill, NJ: Hampton Press.
- Poole, Steven. (2000). *Trigger happy: Video games and the entertainment revolution*. New York: Arcade Publishing.
- Psarra, Sophia, Wineman, Jean, Xu, Ying, & Kaynar, Ipek. (2007). Tracing the modern: Space, narrative and exploration in the Museum of Modern Art, New York. Paper presented at the *International Space Syntax Symposium*, Istanbul, Turkey.
- Schön, Donald Alan. (1983). *The reflective practitioner*. New York: Basic Books.
- Sherman, Daniel J., & Rogoff, Irit (Eds.). (1994). *Museum culture: Histories, discourses, spectacles*. Minneapolis, MN: University of Minnesota Press.
- Skjulstad, Synne., & Morrison, Andrew. (2005). Movement in the interface. *Computers and Composition*, 22(4), 413–433.
- Speroni, Marco, Bolchini, Davide, & Paolini, Paolo. (2006). Interfaces: Do users understand them? Paper presented at the Museums and the Web 2006: Proceedings. Retrieved from <http://www.archimuse.com/mw2006/papers/speroni/speroni.html>.
- Steiner, Dietmar. (2000). Is it a cathedral, a museum or a shop? In Helen Castle (Ed.), *Architectural Design*, 70(3), 20-23.
- Sauge, Birgitte. (2010). The rhetoric of the interwar period: The competition for a new office building for the Norwegian Shipowners' Association. In Magnus Rönn, Reza Kazemian, & J. E. Andersson (Eds.), *The architectural competition: Research, inquiries and experiences*. (pp. 511-533). Stockholm, Sweden: Axl Books.
- van Leeuwen, Theo., (2005). *Introducing social semiotics*. London: Routledge.
- Wasserman, Shara. (2003). Report from Italy: Roma renovatio. *Art in America*, June 2003, pp. 55-59.