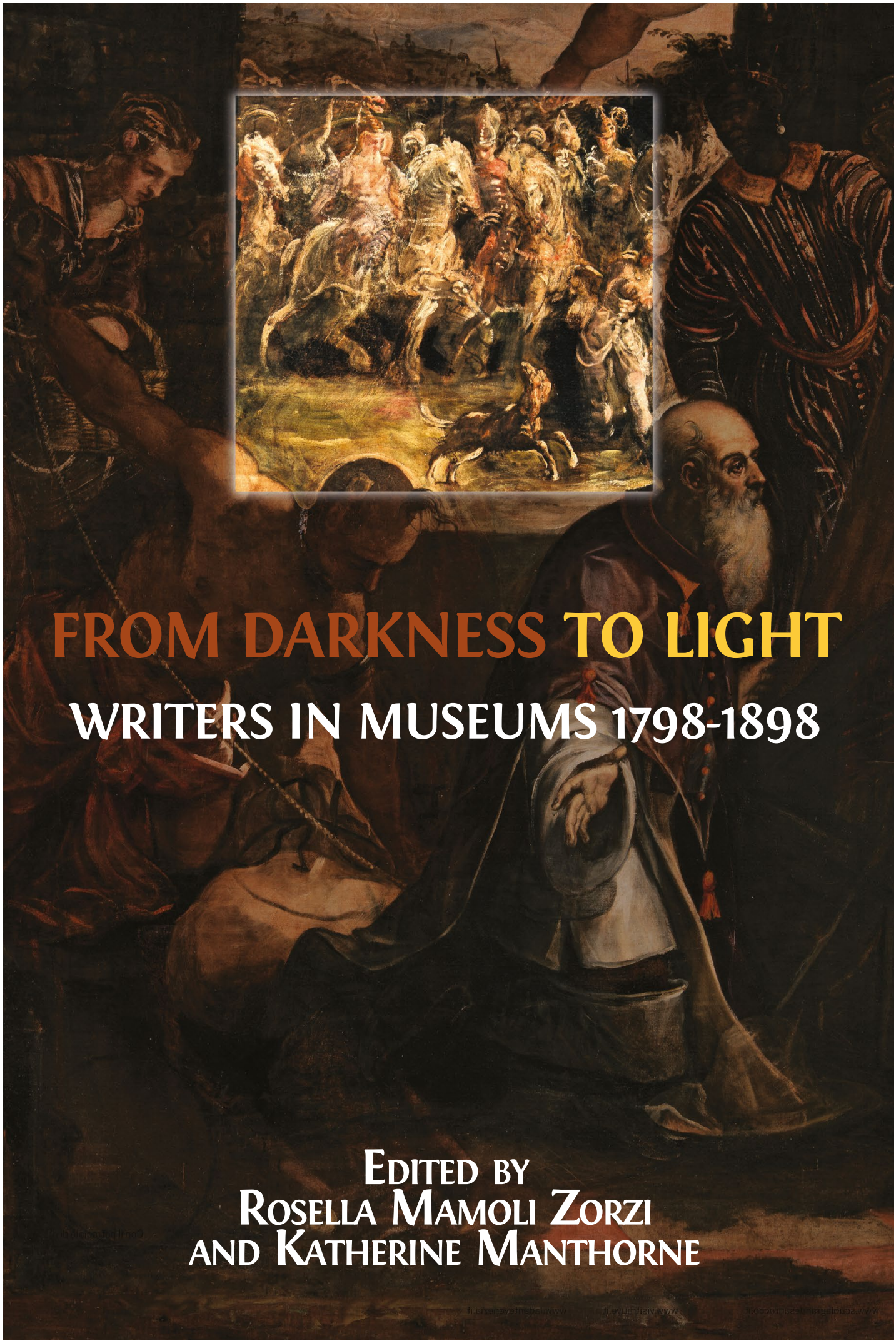

FROM DARKNESS TO LIGHT

WRITERS IN MUSEUMS 1798-1898

EDITED BY
ROSELLA MAMOLI ZORZI
AND KATHERINE MANTHORNE

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26. The Museum on Stage: From Plato's Myth to Today's Perception

Alberto Pasetti Bombardella

The Platonic allegory of the myth of the cave is represented in an engraving by Jan Saenredam, made in 1604, two thousand years after the original concept was formulated and four hundred years before our time.[1] During this period the concept of light has evolved due to scientific and technical progress, but also as a result of the physiological evolution of the human brain in response to new environmental stimuli. According to the myth, prisoners are kept trapped in a single body position and they perceive their reality as limited by their condition.[2] They view the projection of shadows on a wall, which form the only reality they know and, therefore, the only possible truth. This myth represents symbolically the relationship between what is seen by the human eye and what could be seen if only one's perception was altered. If a prisoner could escape the wall behind him, he would discover the origin of the light and therefore a different truth.

In the field of lighting design, aspects such as positioning, visual angle, intensity and timing are physical factors developed to respond to technical and optical issues. These factors affect our perception of the visual scene, a process that requires a more complex conscious and unconscious elaboration. The historical evolution of evocative spaces, as

1 This engraving was shown during the exhibition 'Les Aventures de la verité' at the Maeght Foundation, November 2013, Saint Paul de Vence, France.

2 Plato, *The Republic* (Cambridge: Harvard University Press, 1935), pp. 119–234.

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for a theatre stage, involves scenic designs — sometimes illusory — that invite an increased perceptive involvement from the viewer. The Greek theatre is our starting point and today's video mapping techniques, which can include lighting that ranges from traditional candle-light to digital light, is our destination. Today, neuroscientific research allows us to understand visual perception according to cognitive processes that could not even be imagined some time ago.[3]

From the Theatre to Neuroscience

Ever since classical Greek theatre, the stage has been a major contemplative focus, forming an archetype for visual perception that has been developed in the following centuries. More precisely, during the Renaissance, the Baroque years, neoclassicism and the beginning of the nineteenth century, the perception of theatrical space evolved with the invention of innovative stage machinery and lighting technology. The physical spatial relationship between spectators and actors on stage depended on the development of an optimal architectural design, which enhanced the immersive nature of the theatrical experience.[4]

Light as an artefact evolved from the incandescent light source. Some attempts were made in the post-Renaissance era to direct the radiation of light toward the stage and the scenery. Nicola Sabatini invented a mechanism that could reflect light onto the stage, using a specular surface modulating directionality and flux.[5] However the major steps towards the full control of lighting effects depended on the development of gas lighting first, and subsequently on electrical supply in the mid-nineteenth century. As a result, theatres became a field of never-ending experimentation and a place to develop innovative solutions and visual effects that were then adopted by architects and, later, by film directors.

3 Today, diagnostic techniques are made possible using 'brain imaging' which splits into structural imaging (cranial diseases) and functional imaging (metabolic diseases), using computerized tomography and nuclear magnetic resonance in order to enhance brain activity according to external stimuli.

4 Both sceneries and perspective on the stage represent a first virtual step toward spatial reproduction. Stagecraft represents a major technical evolution in which the spectator gets involved emotionally.

5 Luca Ruzza, *Nicola Sabbatini. Pratica di fabricar scene e macchinari ne' teatri* (Roma: Ed. Nuova Cultura, 2011).

In Renaissance painting, the two-dimensional representational technique common to medieval and Byzantine art fell out of use as perspective was introduced, involving the observer more deeply. From the second half of the sixteenth century, artists such as Caravaggio and his followers developed a new optical effect later known as the 'dark room' technique. Today, these visual solutions are scarcely explored by the scientific community on a neurological basis. Nevertheless, Semir Zeki[6] has studied the visual phenomenon from the inside, studying the ways in which the brain interprets the light signals coming from art works. He has stated that the relationship between subcortical visual functions and the brain is essential to create an image. What the human eye perceives depends on a complex interaction between the visual primary cortex and different sub-cortical areas that deal with specific aspects of vision (colour, morphology, movement). Brain processes function as a sophisticated computer that reacts to external stimuli by activating individual stored visual interpretations. Therefore, the brain takes part in the creation of an image, with the viewer as a co-author of the scene.

Towards a Museum on Stage

The design of an exhibition today depends mostly on the quality of its visual communication, which leads to new ways of viewing its cultural contents. In this respect exhibitions employ techniques that are closer to theatre lighting strategies, almost putting cultural heritage on a conceptual stage, enhancing the evocative potential of objects and artworks using accent lighting and luminance control. A new digital lighting system, guided by curators and historians, has a pervasive effect that allows the viewer to explore new interpretative paths and to reach new levels of perception, which were not even conceivable in the past. Light, in this respect, becomes a narrative tool improving the quality of visual perception. Thus, it is possible to conceive a general view of a sixteenth-century painting, such as Tintoretto's *Crucifixion*,[7] and

6 Semir Zeki, *Inner Vision*: *An Exploration of Art and the Brain* (Oxford: Oxford University Press, 1999).

7 *The Crucifixion* was painted by Jacopo Robusti, Tintoretto, in 1565 and represents the largest painting in the Scuola Grande di San Rocco (1224 x 536 cm), https://www.wikiart.org/en/tintoretto/crucifixion-1565

subsequently to emphasize details, enhancing the perception of colours and choosing the most appropriate colour temperature.[8] New lighting techniques may represent a new approach to the perception of art, but it is equally true that a guided interpretation is always a partial truth, just as the prisoners in the Platonic myth see only a version of reality. Therefore, the idea of the 'museum on stage' represents, nowadays, a big opportunity to enhance the fruition of cultural heritage, allowing new innovative paths for a deeper emotional experience. The dynamic lighting design solution at the Scuola Grande di San Rocco, developed for the extraordinary *Crucifixion*, represents a first attempt in this direction.

8 These interpretative choices should be made keeping in mind that the original lighting conditions are not replicable, because of the pigment fading due to the historical exposure.