

SEEING THE UNSEEN.
OPTIC, ACOUSTIC AND THE SPACE BETWEEN.

By Matteo Melioli

There exist special edifices, such as Saint Mark's basilica in Venice, that, by virtue of their geometry, interfere in space perception and annul any form of hierarchy among the senses. As a result, as the visual constrictions falter, a previously unexpressed imagery resurfaces. It is at this time that a whole world corresponds to the extreme transience of perceived space, one unveiled by the creative force of the invisible, by the power of absence and dream, where architectures far removed from the time and space of our perception reveal themselves to our senses due to the strength of their unconscious ties.



Figures 0a, 0b

(<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>)

The story of this project has come into being in a fortuitous way. I was in Venice surveying one of the apses in Saint Mark's and, at the same time, supervising a project in Marghera, Venice's industrial area on the mainland. I was visiting places as different in shape and history as they were removed geographically. In spite of their differences, as time went by my conviction became stronger that something bound these places together, something that was still vague, a mere feeling, but enough to start drawing a few initial sketches.

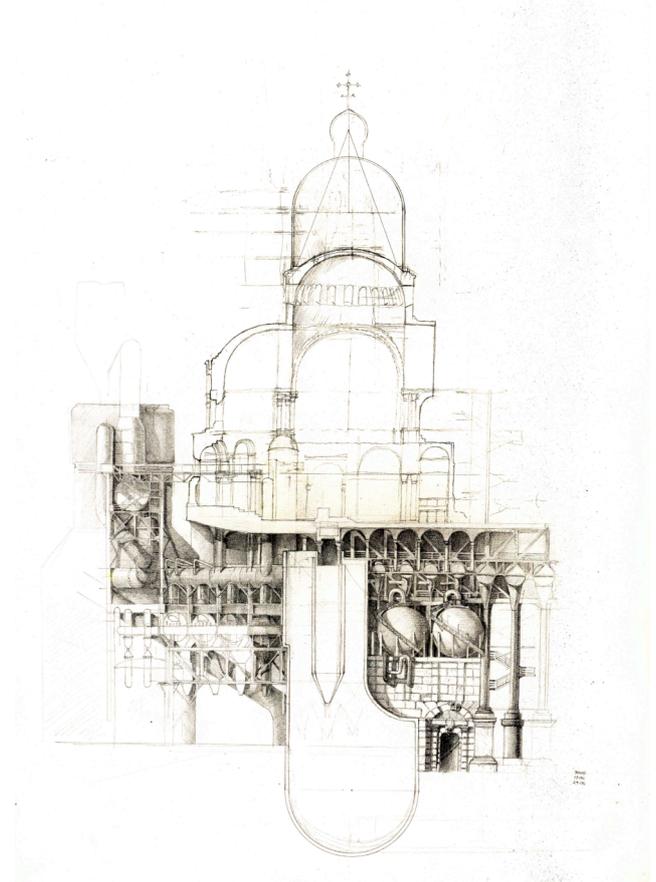


Figure 1

(<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>)

At first I drew only volumes overlapping, the volume of the basilica and the volume of Marghera's industrial storage; in their overlapping, the circular shape of the former reminded me of the convexity of the latter. There was no melding between the structures; they overlapped while being independent from one another. This drawing (see Figure 1[†]) displays the basilica sectioned along the nave, with its galleries, its transepts, and the double hemispherical domes. Beneath the basilica, Saint Mark's crypt turns into an hybrid space, crossing with the space of the industrial passageways, while the columns turn into pipes and the tombs into tanks (see Figure 2). At the bottom, a big tank encloses the drawing, suggesting at least a visual parallelism with the basilica's large vault.

[†] To view a full-size and full-colour version of the images in this article, please go to <http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>.

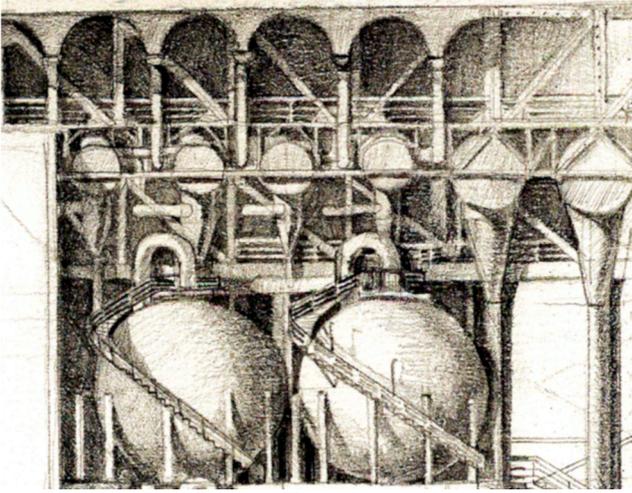


Figure 2

<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>

This drawing represents my first attempt to bring the two structures into contact, establishing similarities by literally merging parts of Saint Mark's and parts of the petrochemical plant. My attention was consistently focused on two visual figures: the dome and the tanks (see Figures 3, 4, 5).

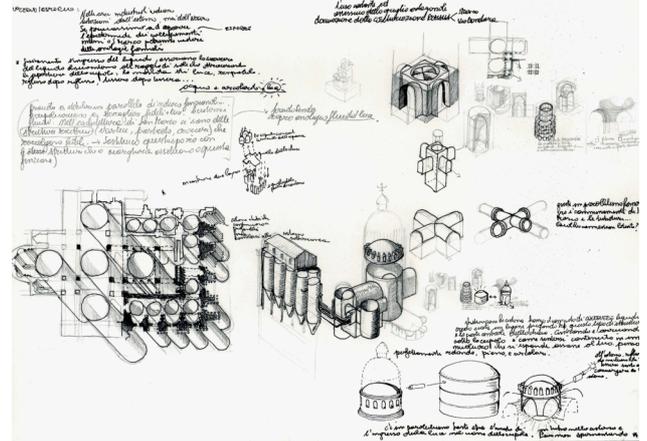


Figure 5

<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>

Their analogy seemed to be changing from a formal one into something more substantial, something, at least initially, linked to their function of 'containing': people in the cupola, fluids in the tanks. The idea started developing that a sort of 'fluid' is able to travel through places, simultaneously combining and unifying them. Surfaces open to create connections between the interspaces, transforming the closed space in my early sketches into a porous volume, outwardly open. Domes and tanks become containers of something that gradually acquires the substance of sound.

Once the religious or industrial feature of the buildings are lost, the drawing becomes the design of an acoustic chamber (see Figure 6), where sound links visible geometries together by fluidifying and mixing them, where sound, by modifying geometry, generates new spaces, again circular, again curvilinear preserving the idea of recollection and intimacy initially experienced both in Saint Mark's basilica and in the petrochemical tanks.

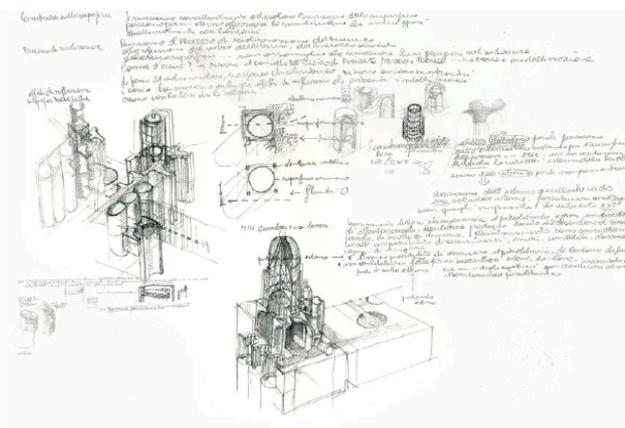


Figure 3

<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>

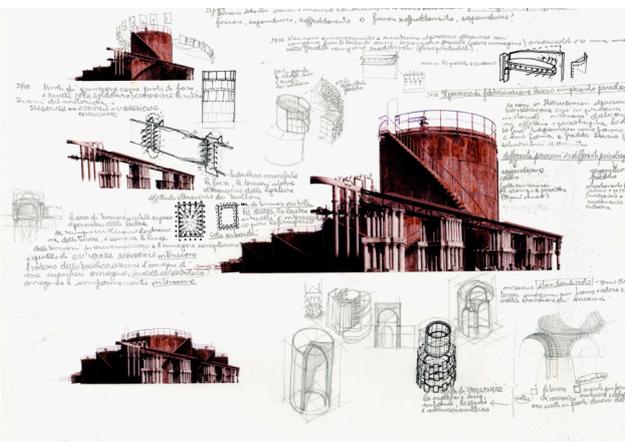


Figure 4

<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>



Figure 6

<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>

The mixing and reconstructing of parts of the buildings, the overlapping of visual and acoustic images, all generate a tension that induces the form to change. The examples drawn from Saint Mark's cathedral and Marghera demonstrate the force sound possesses in creating images by distorting the physical space that surrounds the observer. Anyone who has

indeed experienced the echo in a dark space, such as the interior of a tank or Byzantine basilica, ‘can attest to the extraordinary capacity of the ear to carve an immense volume into the void of darkness. The space traced by the ear becomes a vast cavity sculpted in the very interior of the mind’.¹ The echo reflected by the walls puts us in direct contact with a space invisible to the eye; thus, sound becomes the measure and scale of our perception, moulding a space intimate and vague in our imagination. Quoting Edmund Carpenter, the acoustic space ‘is not a pictorial space, boxed-in, but is dynamic, always in flux, creating its own dimension moment by moment, without fixed boundaries’.²

Touched by sound, it is as if something repressed or dismissed resurfaces from our unconscious mind. Sound has the power to evoke, as is the case in Saint Mark’s and Marghera, experiences far removed from the time and place of our perception, creating in real places invisible ties, imaginary architectures, and ‘ghost’ spaces.

Only the present-day tendency towards the ephemeral justifies the way sight predominates over the action of the other senses, reinforcing the fact that we are subjugated by alluring and shallow images. In reality, space perception is a process in which sight, hearing and touch converge to generate a unified, continuous and consistent image of the phenomenon we are experiencing. When perceiving a space, ‘I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once’.³ An image is, therefore, an experience that fully involves the observer, in his entirety as an individual and the whole of his senses.

But how can the same space appear simultaneously through two opposite phenomena. How can a visual space exist together with its acoustic equivalent when the former denies the latter’s premises? Let us imagine walking in Saint Mark’s and listening to the echo of our steps propagating and fading away in the distance between the basilica’s galleries. As we walk forward, we get the feeling that we are moving in an endlessly extensive space (see Figure 7).

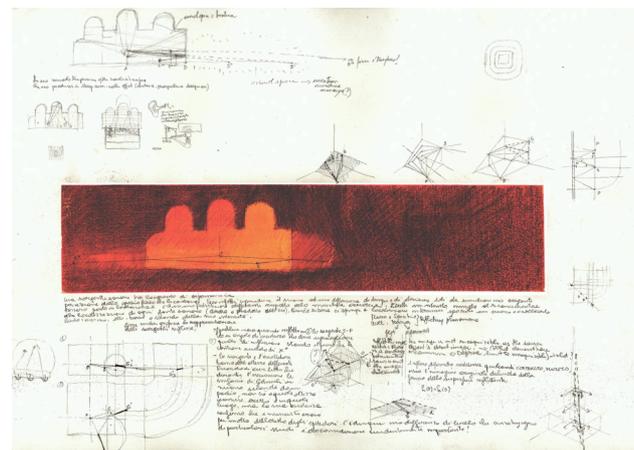


Figure 7

(<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>)

A sound's echo dilates during the period of its reflections in a space already existing for the observer through sight. As a consequence, observers find themselves between two contradictory realms: an “objective” realm, connected to the sense of sight and conditioned by perspective and an “imaginary” realm created by echo and sound reflexions. From the perceptive viewpoint, perspective and sound reflection behave in ways as opposite as the spaces they generate. Perspective tends to compress differences at a distance on the line of the horizon; on the other hand, sound reflection phenomena prolongs geometrical space in many directions, extending it beyond the horizon of the visible*. The consequent situation that comes into being represents a phenomenological paradox. The doubling of space, in fact, triggers a process of internal division: it is as if our cognitive apparatus has to process contradictory data, albeit sensing their common origin. Moreover, the sense of belonging to a space is based on the univocal identification of all the sensory data gravitating around that particular environment and, in this specific example, it means

* This difference can be partially associated to different ways of localizing sounds or objects in space. In fact, as far as visual perception is concerned, we know that the position of a point or the extension of a body in space correspond to the position and extension of the image generated on the retinal surface by that point and body. ‘Audition has no such direct representation ... apparent sound direction must be derived from the neural representation of the interaural differences in the time of arrival of a sound wave at the two ears and the interaural differences in level of loudness’.⁴ Visual space is thus generated by a direct relation between observer and extension of the observed object. Acoustical space instead is generated indirectly by the time gap between the sound directly perceived and the sound reflected by the walls (echo). The geometrical translation of these phenomena similarly features the above mentioned differences: prospective space compresses distant objects along the horizon line, whereas acoustic space expands that very same horizon by virtue of the increasing distance between listener and source.

¹ Pallasmaa Juhani, *The Eyes of the Skin: The Architecture and the Senses*, London: Academy Editions, 1996, pp. 34-35.

² Edmund Carpenter, *Eskimo Realities*, New York: Holt, Rinehart and Winston, 1973, p. 68.

³ Maurice Merleau-Ponty ‘The Film and the New Psychology’, in Maurice Merleau-Ponty, *Sense and Non-Sense*, translated by Hubert L. Dreyfus and Patricia Allen Dreyfu, Evanston: Northwestern University Press, 1964, p. 48.

that being in a place should exclude the possibility of being at the same time in another.

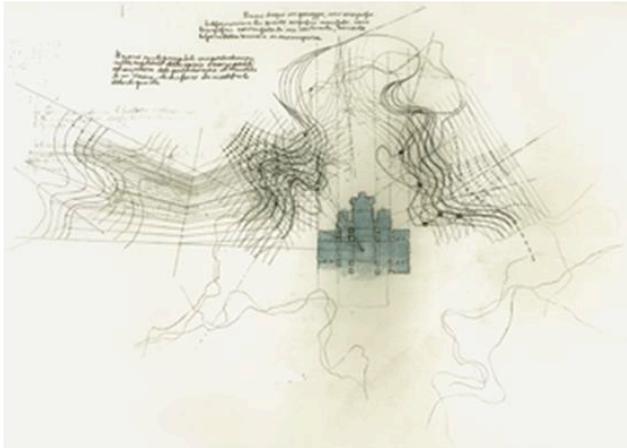


Figure 8

(<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>)

The geometry of saint Mark's cathedral, constitutes an exception to this rule. Let us imagine getting closer to the pillar where the nave and aisles meet. The field of vision, which it dominates broodingly volume of the pillar, clashes with the acoustic field: here, the echo coming from the dome and transepts suggests a depth denied by the pillar's bulk (see Figure 8). Distorted by the basilica's architecture, the seen and the heard differ to such an extent that the observer is unable to recognize unambiguously the phenomenon he perceives. It is as if acoustic space and visual space together create a force field so intense that it causes a rupture, a void in the image's unity (see Figure 9). *In absentia*, during perception each sense establishes free connections between those elements of imagination that were previously hidden, generating synaesthesia, and revealing unconscious ties, like those between Saint Mark's and Marghera.

Between sight and hearing an unpredictable and unstable world opens, one 'defined by surprise and an unpredictable variation';⁵ a world suspended between disappearance and reappearance, loss and resurfacing. This world corresponds to the extreme transiency of the space perceived by the senses, an opposite one revealed by the senses, by the creative power of the invisible, by the strength of absence and dream.

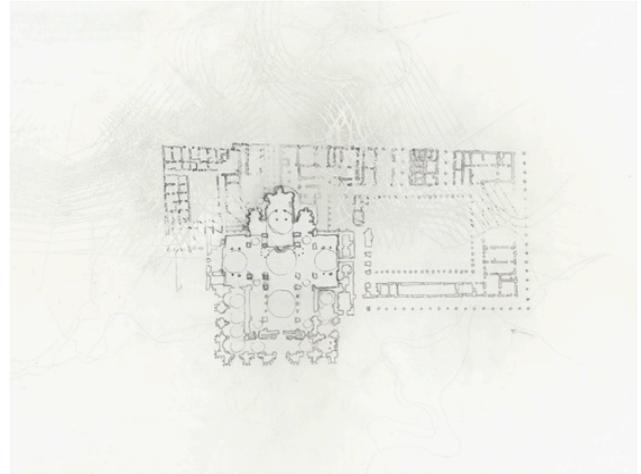


Figure 9

(<http://www.ucl.ac.uk/ics/opticon1826/matteomelioli>)

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PhD 2, The Bartlett (by Design).

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⁵ Paul Virilio, *The Aesthetics of Disappearance*, translated by Philip Beitchman, London: Semiotext(e), 1991, pp. 22, 23.