



Exploring the Boundaries of Perception: Interview with Valeria Bottalico

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Keywords:

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ABSTRACT:

In this conversation, Valeria Bottalico explores the intersection of art, perception, and accessibility through the Doppio Senso program at the Peggy Guggenheim Collection in Venice, a project designed to make modern and contemporary art accessible to individuals with visual impairments. Doppio Senso challenges traditional museum experiences by integrating tactile exploration and multisensory engagement, allowing both blind and sighted visitors to interact with art in new ways. Bottalico highlights how Doppio Senso redefines accessibility—not as a separate initiative, but as a core element of the museum experience for everyone, as the project fosters participation, challenges perceptions, and broadens the very definition of seeing.

In questa conversazione, Valeria Bottalico esplora l'intersezione tra arte, percezione e accessibilità attraverso il programma Doppio Senso presso la Collezione Peggy Guggenheim di Venezia, un progetto pensato per rendere l'arte moderna e contemporanea accessibile alle persone con disabilità visive. Doppio Senso sfida le esperienze museali tradizionali integrando l'esplorazione tattile e il coinvolgimento multisensoriale, permettendo sia ai visitatori ciechi che a quelli vedenti di interagire con l'arte in modi nuovi. Bottalico sottolinea come Doppio Senso ridefinisca l'accessibilità, non come un'iniziativa separata, ma come un elemento centrale dell'esperienza museale per tutti, promuovendo la partecipazione, mettendo in discussione le percezioni e ampliando la stessa definizione di vedere.

Opening Picture:

Doppio Senso. Percorsi Tattili alla Collezione Peggy Guggenheim. Photo © Fei Xu.

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Valeria Bottalico

Valeria Bottalico is an Italian educator and art historian specializing in museum accessibility. She has been instrumental in developing and leading *Doppio Senso* at the Peggy Guggenheim Collection in Venice, a program that offers tactile experiences and educational activities for individuals with visual impairments. In addition to her work at the Guggenheim, she has contributed to various cultural accessibility projects, including the Abecedarium project at Ocean Space in Venice, which promotes environmental awareness through an eco-glossary in Italian Sign Language.

In light of the thematic dossier presented in the third issue of *MMD*, this section dedicated to experience and audiences features an interview with Valeria Bottalico. An Italian educator and art historian, Bottalico has been instrumental in developing and leading the *Doppio Senso* program at the Peggy Guggenheim Collection in Venice, which offers tactile experiences and educational activities for individuals with visual impairments.

In addition to her work at the Peggy Guggenheim Collection, Bottalico has contributed to various projects aimed at increasing accessibility in cultural institutions. Notably, she has been involved in the *Abecedarium* project at Ocean Space in Venice, collaborating with researchers and artists to create an eco-glossary in Italian Sign Language, thereby promoting environmental awareness through art. Bottalico's dedication to inclusive education and her innovative approaches have established her as a leading figure in the field of museum accessibility in Italy.

In this conversation, Bottalico explores the intersection of art, perception, and accessibility through *Doppio Senso*, a project designed to make modern and contemporary art accessible to individuals with visual impairments. *Doppio Senso* challenges traditional museum experiences by integrating tactile exploration and multisensory engagement, allowing both blind and sighted visitors to interact with art in new ways.

Discussing the theoretical foundations and practical methodologies behind the project, and drawing from philosophy, neuroscience, education, and art history, Bottalico

highlights how *Doppio Senso* redefines accessibility—not as a separate initiative, but as a core element of the museum experience for everyone. The project fosters participation, challenges perceptions, and broadens the very definition of seeing.

As *Doppio Senso* approaches its tenth anniversary and has become a permanent service at the Peggy Guggenheim Collection, Bottalico reflects on its evolution, the challenges it has faced, and the impact it has had on museum accessibility in Italy. She also shares insights into other projects that build on its successes, contributing to an ongoing dialogue about how museums can engage diverse audiences in meaningful ways.

The interview was held on 10th January 2025.

1. Can you describe the genesis of *Doppio Senso*? How does the project contribute to the broader discourse on accessibility in museums and what theoretical and practical insights does it offer for enhancing participation across different visitor groups?

The choice of the name *Doppio Senso*¹ for the museum's tactile mediation project, launched in 2015, stems from a multilayered reflection. On the one hand, the program initiated a gradual yet progressive process of accessibility to artworks for blind individuals at the Peggy Guggenheim Collection. On the other, its goal goes beyond mere accessibility: it aims to foster active and conscious engagement with art, in line

with Peggy Guggenheim's vision. This fits within the broader framework of democratizing cultural heritage, ensuring it is accessible to all audiences—not by categorizing people, but by designing mediation tools that are useful for everyone.

This is why the project is not called *Doppio Senso: Accessible Tours for Blind and Visually Impaired Visitors*, but *Doppio Senso: Tactile Tours at the Peggy Guggenheim Collection*, referencing the possibility of experiencing artworks through touch—a service offered to all visitors of the Venetian museum.

From the outset, the choice of the name *Doppio Senso* was a clear statement of intent, reflecting Peggy Guggenheim's attitude toward art, the mission of the Solomon R. Guggenheim Foundation, and the avant-garde spirit of the 20th-century pieces displayed in the museum. These works break with tradition to open up new forms of relationship between art and audience. The goal was to move beyond vision alone, using tactile language—an essential way of understanding the world for blind individuals—to make art accessible to all. Thus, the project was not just about adapting abstract art for blind audiences but about using tactile language as a universal tool, enriching the experience for every visitor.

Conceptually, the project title *Doppio Senso* is in fact based on the physiological principle that the act of seeing involves the use of two senses: sight and touch. The core idea is that touch is a concrete and analytical sense, while sight is a synthetic one. In the blink of an eye, vision allows us to grasp the overall image but often overlooks details,

which are rarely retained in memory. Touch, on the other hand, is a sense that explores step by step, detail by detail, and is inherently analytical. It does not immediately capture the whole but enables the recognition of individual elements, gradually constructing a mental image through a psychological and mnemonic process. This reinforces the idea that, physiologically, the act of seeing is completed through the integration of both touch and vision. Hearing, too, plays a role in reinforcing this perception—not necessarily of seeing itself, but of observing and perceiving through the integration of these two senses. The goal of the project is to ensure that, for both sighted and blind individuals, the fusion of these senses triggers a psychological process that leads to the creation of a mental image. Each of us, thanks to mirror neurons and the information passing through our retinas, generates mental images.

The *Doppio Senso* concept is also embedded in the structure of the program, which involves two key figures: a sighted person (that is me, as I have personally guided the experimentation over the years), who assists visitors in transitioning from visual to tactile interpretation, helping them construct a mental image of the artwork; and a blind person, sculptor Felice Tagliaferri, who shares his sensory and methodological experience in tactile interpretation.

Through this dual approach, the tactile tour becomes a dialogue between two modes of perception, offering insights into experiencing 20th-century artworks not only through sight but also through



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touch and tactile language. Abstract art, when it shows a geometric and structural nature, lends itself particularly well to this experience, as it encourages a process of abstraction that is shared by all visitors, regardless of their visual ability. In this way, the project not only makes art accessible but transforms it into a shared and democratic experience, staying true to Peggy Guggenheim's vision of a museum as a "laboratory of new ideas." Thus, the project was not conceived as a separate initiative but is fully integrated into the museum's mission.

Doppio Senso also draws from philosophical and scientific influences. In this context, we can refer to a concept introduced by neurologist Oliver Sacks: *The Mind's Eye*, which is also the title of an audio description project adopted by the Guggenheim Museum in New York, inspired by Sacks' text. It suggests that our mind, by generating mental images, creates an "inner eye" that allows even those who cannot see to "see."

My interest in English empiricism, particularly the essays published in *The Spectator* by Joseph Addison and Richard Steele highlight the Enlightenment concept of imagination as an association of ideas—a notion that ties back to the *Mind's Eye* and the representation of images. A central question in this discourse comes from the Irish philosopher William Molyneux: *cube or sphere?* That is, if a person born blind (congenitally blind) were to regain sight, having learned to distinguish between a cube and a sphere only through touch, would they be able to visually differentiate them without touching them? This question, referred to in John Locke's *Essay Concerning Human Understanding*, remains open. Despite scientific advancements, including stem cell research, there are still no documented cases of congenitally blind individuals regaining their sight.

Doppio Senso develops from these questions—some of which are quite challenging—that have accompa-

Fig. 01: Doppio Senso. Percorsi Tattili alla Collezione Peggy Guggenheim. Photo © Fei Xu.



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nied me throughout my practice. By engaging with 20th-century artworks and philosophical and scientific reflections, the project seeks to explore the boundaries between perception, imagination, and representation, fostering a dialogue between art, science, and cultural mediation.

2. What specific methodologies did “Doppio Senso” implement to foster an inclusive museum experience for blind, visually impaired, and sighted visitors? How do tactile explorations and sculpture workshops function within this framework to enhance multi-sensory engagement?

From its inception, the Peggy Guggenheim Collection recognized the significance and innovative nature of this initiative, as it was the first time in Italy that abstract art was being discussed in terms of tactile accessibility. Even for the Fondazi-

one Istituto dei Ciechi (Institute for the Blind People Foundation) in Milan, that provides technical support to the program, this was the first experience in translating abstract works into tactile form. This project has since become a reference point, as other Italian museums later approached the same center in Milan, requesting the model developed by the Peggy Guggenheim Collection.

In Italy, two museums have played a pioneering role in the field of accessibility and tactile engagement with art. The first is the Museo Tattile Omero in Ancona, named after the great poet Homer, who is traditionally depicted as blind. Founded by two blind individuals, Aldo Grassini and his wife Daniela Bottegoni, this museum houses a collection of replicas of some of the most significant architectural and sculptural masterpieces in art history. Among the architectural models, visitors can explore 3D dismantlable reproductions of the Pantheon, the Parthenon, and other iconic works,

Fig. 01:
Doppio Senso.
Percorsi Tattili
alla Collezione
Peggy
Guggenheim.
Photo © Fei Xu.

designed to be experienced through touch. Additionally, the museum features replicas of famous sculptures, such as Donatello's *David* and Michelangelo's *Moses*. These reproductions were primarily created to allow blind individuals to learn about and appreciate these masterpieces through tactile exploration.

The second museum is the Museo Tattile Anteros, located in Bologna within the Istituto dei Ciechi Francesco Cavazza (Institute for the Blind People Francesco Cavazza). This museum focuses primarily on paintings, with a collection based on the concept of perspective bas-relief. Through this technique, major pictorial masterpieces have been translated into bas-reliefs, making them accessible to blind individuals. However, the Anteros Museum mainly concentrates on figurative artworks.

This raises an important question: how can 20th-century art be made accessible, in line with Peggy Guggenheim's vision? During this period, art underwent a radical transformation: it was no longer necessarily figurative but became increasingly abstract. This shift presents a particular challenge for individuals born blind (*congenitally blind*), who have learned to understand the world through four senses without ever having experienced sight. For them, touch and hearing become compensatory senses, replacing vision. In contrast, individuals who *acquired* blindness after having experienced sight retain a sensory archive based on visual memories, which makes it easier for them to grasp abstract concepts as well.

The situation is even more complex for children who lose sight at

an early age—around seven years old, for instance—during what Jean Piaget defines as the *concrete operational stage*. At this stage, children are still learning about the world through direct experience, and the loss of sight makes it more difficult for them to develop abstract thinking processes. This raises further questions about how to make abstract 20th-century art accessible, especially for those who have never had visual experience.

As it was the first time, the project began as an experiment, made possible by an initial grant. Right from the start, we debunked a common misconception: that it is easier for a blind person to appreciate figurative works of art rather than abstract ones. It is true that when translating a figurative painting, such as a portrait of a man or woman, a blind person can recognize human figures because they are familiar with their own body or the body of someone close to them. However, the tactile translation of a figurative painting or photograph is complex because everything is concentrated in the unique representation created by the artist. Moreover, it is more difficult to appreciate a landscape, as its spatial and geographical aspects require an understanding that goes beyond tactile, olfactory, or auditory elements. A blind person can distinguish a marine environment from a mountain one through smells, sounds, or tactile sensations like humidity, but the overall representation of a landscape remains a challenge.

Paradoxically, it may be easier to experience a 20th-century abstract work. The pieces selected for tactile translation in the *Doppio Sen-*

so program are often composed of geometric shapes, which make the experience less prone to interpretation and more accessible. Furthermore, the process of engagement levels all visitors. For this reason, the program is not aimed exclusively at blind people but at everyone. It invites participants to enter the artist's creative process, as the act of experiencing the work itself requires a mental shift toward abstraction. This process is similar to what a blind person does when exploring an artwork through touch: they build a mental image, detail by detail, creating a mnemonic archive that allows them to form an overall vision of the piece. On the other hand, a sighted person might initially feel disoriented in front of an abstract work, as they need to make an effort to abandon their dependence on sight and approach the artwork through a process of abstraction.

For example, the average visitor experiencing 20th-century art often struggles to mentally reconstruct a drawing like Picasso's *Bust of a Man*

in a *Striped Jersey*. After just a few seconds of viewing the piece, unless they have a particular interest, they tend to move on. However, if we expose a sighted visitor to a tactile exploration using a tactile board, we force them to engage more deeply with the artist's creative process. In the case of a two-dimensional work like the one by Picasso, the tactile board extrapolates the volumes suggested by the brushstrokes, transforming the work into a bas-relief. This approach reinforces the geometric deconstruction of the bust and the figure, prompting the viewer to mentally reassemble the entire portrait.

Therefore, *Doppio Senso* is not just an accessibility project, but a true tool for realizing that participatory vision that defines contemporary museums. By integrating senses like touch and sight, the project aims to create an experience that actively involves the public, overcoming physical and cultural barriers and promoting an art that is truly for everyone.



Fig. 03:
Doppio Senso.
Percorsi Tattili
alla Collezione
Peggy
Guggenheim.
Photo © Fei Xu.

3. Over the nearly ten years since its inception, what have been the primary challenges encountered in the implementation of Doppio Senso, and how were these addressed?

The *Doppio Senso* project began in 2015, thanks to a small grant and, particularly, following a visit by an American sculptor who had lost his sight. This visitor contacted the Peggy Guggenheim Collection in advance, asking to touch a sculpture by Constantin Brancusi. At that time, the museum did not yet have a system in place for visually impaired visitors, but his request led to a unique experience: together with the then-director, Philip Rylands, we allowed him to touch not only the Brancusi sculpture but all the sculptures in the museum.

After this visit, that American sculptor made a \$20,000 donation, which enabled the project's launch with an experimental phase lasting four months, scheduling monthly appointments: Saturdays for adults and Sundays for children, from October 2015 to January 2016. *Doppio Senso*, in fact, was included in the museum's programming during a temporary exhibition dedicated to Indian artist Vasudeo Santu Gaitonde (1924-2001), who had been inspired by the works of Vasily Kandinsky and Paul Klee. Thus, in collaboration with the Fondazione Istituto dei Ciechi in Milan, two works from the permanent collection were selected to be translated into tactile form: *Upward* by Kandinsky and *Portrait of Frau P.* by Klee. The tactile translations were made in epoxy resin and thermoformed, and two booklets were created for

the occasion: one in Braille and one in large print, both in Italian and English, to guide tactile exploration. The third accessible work was the bronze sculpture *Young Woman in the Shape of a Flower* by Max Ernst, chosen in collaboration with the conservator, the museum's director, and the Opificio delle Pietre Dure, which handled the conservation and diagnostic aspects.

The interest in *Doppio Senso* was immediate: blind people and sighted visitors from all over Italy participated, demonstrating the need for an innovative approach. In March 2016, a symposium presented the case study of the project, attracting a new three-year grant that allowed the expansion of activities. During this period, more works from the permanent collection were translated into tactile form, using techniques like thermoforming and resining to reproduce paintings. At the same time, the sculpture section was enhanced by introducing original works by Alberto Giacometti, Marino Marini, and Jean Arp, after evaluating their conservation status and tactile readability.

In 2020, additional funding from the Veneto-based company Florim helped solidify the program, transforming it into a permanent service of the museum: it was decided, in fact, to show the tactile translations next to the original works in the galleries, integrating them permanently into the exhibition path. Until then, in fact, these tools had been movable and primarily used during guided activities. Since 2020, a complete kit has also been introduced—a tactile catalog that includes reproductions of 11 works from the Permanent Collection, in



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addition to the displayed tactile tablets. The catalog is available in Braille, in both Italian and English, and in large print, making it accessible to a broad audience.

The service offered to visitors is flexible and free. It is possible to book a guided tactile visit or use the tablets independently, even for those passing through Venice. In the past two years, the program has been further enriched by another appointment, called “masterclass” and part of the museum’s public programs, consisting in a two days’ workshop centered on the themes explored in the temporary exhibitions.

The masterclass represents an additional service within the *Doppio Senso* initiative, which, in 2025, will celebrate its first 10 years. One of the program’s goals is to create an ever-growing community of an audience more aware of 20th-century art, with the intention of engaging the “non-public,” including blind people, and making art accessible to everyone. This aligns with the museum definition proposed by ICOM, which views museums as places of

enjoyment, accessibility, aggregation, and participation. Every museum is responsible for making its heritage accessible, activating processes of audience engagement and audience development to find strategies and tools that allow all citizens to access culture.

In this sense, a key element of *Doppio Senso* is the application of the principle of “Design for All,” as defined by the Stockholm Declaration in 2004,² which calls for the active participation of end users in the design process. This approach was realized with the involvement of the aforementioned blind sculptor Felice Tagliaferri, who was chosen not only as a user but as a co-creator of the program. Tagliaferri, in addition to being a talented sculptor, learned to navigate the museum spaces independently, becoming a key figure in conducting workshops and activities. His presence was essential in ensuring that the program addressed the real needs of blind people, demonstrating how co-participation of end users is an indispensable pillar for an inclusive project.

Fig. 04:
Doppio Senso.
Percorsi Tattili
alla Collezione
Peggy
Guggenheim.
Photo © Fei Xu.

4. As “Doppio Senso” nears its tenth year, can you discuss the subsequent projects or initiatives that have emerged from it? How do these ventures build on the project’s initial achievements and contribute to scholarly discourse on engaging diverse audiences in museum contexts?

Doppio Senso has been an opportunity for experimentation, study, and research, pursued with a rigorous and replicable approach. Thanks to this work, *Doppio Senso* has become a trailblazer for other initiatives related to the accessibility of cultural heritage in other museum contexts.

A significant example of this is the *Valori Tattili* project, created in 2018 at the Accademia Carrara in Bergamo. The occasion was the cataloging of the sculptures donated to the Fondazione Accademia Carrara by Federico Zeri. Unlike *Doppio Senso*, tactile reproductions were not used in that context, as the focus was on highlighting the original works, starting from the idea that sculpture inherently involves tactility and that one of its values can be found in the ability to be explored also through touch.

The project was carried out in an interdepartmental manner, involving the educational department of the foundation and the conservation department, in collaboration with the restoration center at Venaria Reale. After an assessment based on criteria such as the state of conservation, tactile legibility, and narrative potential, six marble sculptures from the Federico Zeri collection were selected, while a group of blind individuals was trained for one year as cultural mediators, learning to

understand the works from multiple perspectives, from art history to materiality.

These blind mediators first learned to understand the sculptures for themselves and later, through a series of exercises, were trained to mediate these works to a broader audience. During the training, they deepened their knowledge of the artists’ creative and production processes: they studied how ears, nostrils, and other details were sculpted, discovering which chisel tips were used and how the artist shaped the material. This journey transformed blind people into storytellers of cultural heritage, capable of guiding other visitors through a deep and meaningful tactile experience.

The project further developed by including the collection of medals and plaques, donated to Accademia Carrara by Mario Scaglia. The blind mediators are now learning about these works, and tactile boards illustrating the process of creating a minted medal have been displayed in the museums halls, showing the tools and materials used in the production of these items. Regarding the medals and plaques, the tactile experience has been sometimes integrated with sound elements, making art accessible through multiple sensory channels. The future goal is to also train individuals who are deaf or have cognitive disabilities, following the Design for All approach: the idea is to use the languages and mediation methods developed for some audiences and make them available to others, exploring new forms of accessibility that go beyond the visual experience.



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Like *Doppio Senso*, *Valori Tattili*—which started as an experimental project—has become a permanent program and a service for visitors. Today, it includes symposia and conferences, specific workshops related to the museum’s programming, and a monthly appointment where visitors can experience the artworks with the guidance of blind mediators. This evolution highlights how the program has expanded its scope, providing deeper, more comprehensive access to art through sensory exploration and continued community engagement.

Thanks to the PNRR funding, several new projects have emerged across various cultural contexts. One of them is an initiative designed for Ocean Space in Venice, a research center and exhibition space managed by the foundation TBA21—Thyssen-Bornemisza Art Contemporary. Located inside a deconsecrated church, Ocean Space hosts a rich program of site-specific works, created specifically for the center in

collaboration with contemporary artists. Here, the *Ocean for All* program has been developed, offering monthly visits where works can be experienced tactilely or accompanied by sign language interpreters, making them accessible to all audiences, both adults and children.

As an extension of the project *Ocean for All*, a long-term research initiative called *Abecedarium* was created, in collaboration with research institutes such as the ISMAR (National Institute of Marine Sciences) and the LACAM laboratory of the Department of Cognitive Sciences at CNR (National Research Council). This project involves deaf people from across Italy in the creation of an eco-glossary in sign language, the visual-gestural language used by the deaf community. The goal is to leverage the performative nature of sign language—already an artistic language—to disseminate scientific and environmental themes through contemporary art.

Fig. 05:
Doppio Senso.
Percorsi Tattili
alla Collezione
Peggy
Guggenheim.
Photo © Fei Xu.

The project aligns with the mission of the TBA21 foundation and its patron, Francesca Thyssen-Bornemisza, which aims to explore significant environmental and social issues through the lens of art. In this case, deaf people have become protagonists, demonstrating how sign language can be a powerful tool to communicate complex issues in an accessible and engaging way.

Work is also underway to implement a simplified writing method known as “easy-to-read,” which is used by people with cognitive disabilities but can also benefit individuals with a migratory background and a basic level of language proficiency (A1 or A2). These texts, facilitated and validated directly by end-users—people with cognitive disabilities—serve as tools that can help children, migrants, and anyone in need of more accessible language when engaging with cultural heritage.

I believe the most interesting aspect of these initiatives is that they are co-designed with the end-users, ensuring that they address their real needs. This approach, grounded in the Design for All concept, transforms museums into truly accessible spaces where the experience of cultural heritage becomes a shared and democratic practice.

Endnotes

1 *Doppio Senso* can be translated both as “Double Meaning” and “Double Sense,” reflecting the project’s dual focus on the intellectual and sensory dimensions of art engagement. The term plays on the idea of a deeper, multifaceted interaction with artworks, accessible through both visual and tactile experiences.

2 Bottalico refers to the EIDD Stockholm Declaration, adopted on 9 May 2004, at the Annual General Meeting of the European Institute for Design and Disability (EIDD) in Stockholm. See <https://dfaeurope.eu/what-is-dfa/dfa-documents/the-eidd-stockholm-declaration-2004/>.