ARTISTS' ARTICLE

Views on Thresholds by Transdisciplinary Partners

A Shared Journey Continues

SILVIO WOLF AND **INNA ROZENTSVIT**

ABSTRACT

This article is a reflection on a *journey* of *transdisciplinary partners* from two different and unusually paired "sets" of disciplines: photography art (Silvio Wolf, SW) and cross-pollinated research in the fields of applied clinical neuroscience and psychoanalysis (Inna Rozentsvit, IR). This relationship originated in examining the "beholder's share" phenomenon and moved on to further collaboration on the topics of "thresholds" and "visible/invisible," as they relate to these two individuals' personal and professional beings.

OUR SHARED JOURNEY: THE INTRODUCTION (IR)

Our artist-and-scientist relationship started in winter 2013, when Silvio attended my presentation on the connection of visual arts and neuroscience, based on the 2012 book by the Nobel laureate neuroscientist Eric Kandel, *The Age of Insight: The Quest to Understand the Unconscious in Art, Mind, and Brain.* During that presentation, I asserted that appreciation of art, especially visual art, and the differences humans experience, lie in the concept of the "beholder's share," which Kandel used in his book as one of the main ideas connecting our mind and our senses with what we "see"/experience (see supplemental materials 1 and 2). That was the beginning of our journey, including email correspondence, meetings in NYC, and learning from each other. Later, I took two of Silvio's courses at the School of Visual Arts (NYC): "Visible and Invisible: The Lens as Interpretation of Reality," and "Seeing is Thinking: The Image as a Threshold of Reality" [1] (see supplemental material 3).

Our collaboration came to fruition through the ART-ECO-WELLNESS™ project (https://artecowellness.com), which transforms existing architectural and natural environments into spaces of personal wellness experience, based on the concepts of psychogeography. Psychogeography was defined by the Situationist International as the "study of the specific effects of the geographical environment (whether consciously organized or not) on the emotions and behavior of individuals" [2] (see supplemental material 4). Our work on this project included the topics of "thresholds" and the division or merger of visible/invisible, and in 2018, we brought these topics to a larger transdisciplinary audience of artists and scientists, at the 6th Visual Science of Art Conference in Trieste, Italy [3,4].

ON THE THRESHOLD: THE NEURO-BIO-PSYCHOANALYTIC RESEARCHER'S PERSPECTIVE (IR)

What is a threshold? Per Merriam-Webster, *threshold* represents being both here and there; the ending and the beginning; and a "point of departure or transition" [5] all at once (and *not* a termination, conclusion, death).

What is so special about thresholds that Silvio is so focused on this topic, and why did I become engaged in it? With immersion in Silvio's work, you perceive it as being deeply philosophical and psychological, and not *just* photography. In this context, it was fascinating for me to learn that Silvio's attraction to thresholds is intimately related to his always knowing what he was *not*—all related to his personal/family experiences and state-of-the-world circumstances (see supplemental material 5). Thresholds, for him, were a place of conflict and anxiety at first, but after some decades, they became a place of rest, where anxiety recedes, and he feels balanced and able to be "WHO I AM." He explained: "My images express this suspended timelessness. Neither here nor there. . . . I have found myself attracted by places of transition, and not by choice, but intuition: always 'in-between.'"

This quest for "in-betweenness" is not Silvio's idiosyncrasy: It was the life's work of many, including D.W. Winnicott's "transitional" spaces (brought from one's earlier level of development, and that's why considered "safe," to the next level of his/her *self*-growth) and Martin Buber's *Zwischenmenschliche* ("interpersonal" in English, referring to a fruitful interaction between two people through a meaningful conversation), and

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their transdisciplinary dialogues about the fields of philosophy, healthcare, politics, and family therapy, among others [6].

What is the threshold for me? It is not as poetic (although Silvio and I had very similar family/world circumstances of knowing who we are not (see supplemental material 5) and represents "the *magnitude or intensity that must be exceeded* for a certain reaction, phenomenon, result, or condition to occur or be manifested" [7]. From the area of biology, we know that a threshold is attained only after a certain voltage is reached, the action potential generated at the cellular level, and communication between the cells then continues, cell-to-cell (see supplemental material 6).

For me and for my basic discipline, neurobiology, everything starts with cells (neurons), the very building blocks of our physical beings. To the dismay of my philosopher and psychologist friends and colleagues, I agree with Kandel, who sees the reductionism approach as the basic investigatory method, which "doesn't oversimplify a problem, [allowing] for a deep understanding of key components that can be extrapolated more broadly" [8].

The other components of the quest for understanding the visible/invisible/threshold are the concepts of "analogy" and "imagination" that humans use to understand the invisible or subvisible, known since Descartes. The visible is based not only on our organs of perception, the eyes [9], but it's our minds that "connect the dots"—so we can "see"—when the basic mental representations of the elements of all visible-invisible-subvisible experiences exist in our brain/mind dyad (brain and mind are inseparable, from in-the-womb human experiences and until we are no more in physical existence). An example would be the "invisible ships phenomenon" (which we have described in our earlier article [10]), illustrating that "seeing" is a mental construct based on mental representations.

Another point of difference between my thresholds and Silvio's lies in linguistics: my mind sorts thresholds through medical/clinical terms, like "pain threshold" (which is high for me, as I was brought up in a stoic Russian culture) or "curiosity threshold" (which is low for me, the learning junkie). Also, my thresholds are not related much to emotions often described by Silvio; and my "seeing" is rather related to the *meaning making* of the information processed by our individual brain/mind dyad.

EVERYTHING THAT JOINS, SEPARATES: AN ARTIST'S INTERPRETATION (SW)

In my work, understanding of the thresholds refers to the images inspired by architecture. Reflecting upon the concepts of *limit, absence,* and *elsewhere,* I explore the threshold through metaphors of space, symbols of places, and, ultimately, presence and absence of light.

In architectural images, I recognize the threshold in transitional sites interpreted as models of reality—that limit between here and elsewhere, presence and absence, unveiling a site's potential for experiences and otherness. It connects and separates simultaneous visions of interior and exterior, a border between two worlds, of which one could not exist without the other—everything that joins, separates. Each photograph results from a physical encounter and a direct experience. Led by perception and intuition, as well as the coincidence of a physical and mental position, there is a recognition of a given place expressed in time and space, rendered by means of light.

My predilection for zones of transition seems to indicate that photography, which I consider a symbolic language, can be thought of as a threshold between the visible and its multiple levels of interpretation—the point of balance between material/immaterial and real/possible (see supplemental material 7).

Photography is a means and an interface, a two-dimensional plane where two opposite flows of information meet and mutually shape each other. One is endlessly streaming from the outer world in its thorough and raw state, and the other from our invisible inner world, where images are formed, processed, and brought to light. The image plane is an active threshold placed between the Subject and the Real: Us and It.

My Photographic Work

The Two Doors

A direct analogical photograph of the passageway through two different doors (Fig. 1a): The door in the background is Western-styled and rectangular, the one in the foreground is arched, fashioned according to the Islamic tradition. Outside is the desert, inside is a sunny courtyard. Between these two doors resides a non-illuminated environment, unrecorded because of the film latitude and exposure constraints. The result is darkness, rendered visible by the surrounding light.

In the two visible areas of the image, inside and outside are simultaneously present and mutually exchangeable. What I could not record is at the core of my interrogation: that unseen yet existing space framed by the void generated by the two doors. The resulting image indicates the possibility of crossing, a prerequisite of passing from one place to the other. Central to the matter is the experience alluded to by the image, which is a metaphor of our existential condition—all life is a constant crossing of thresholds. (See supplemental materials 8 and 9 for more information on my photographic work mentioned in this article.)

Large Mihrab

The architectural element depicted in this image is the most extraordinary symbolic model of space I ever encountered: the mihrab, the Islamic prayer niche (Fig. 1b). It represents a pure direction of the gaze, and for the worshipper (beholder), it indicates the most sacred place. The mihrab's significance is in the identification of a void and making it visible. One can perceive this niche having either a concave or a convex form; the former indicates an absence; the latter is an illusion. In my vision, the mihrab results from a double negation—it is neither a place nor a thing, absent in the very space of its location. It always represents another place, which is distant and not directly visible; it is a void that indicates an elsewhere. I see the mihrab as a symbol capable of giving humanity the power of ubiquity because it allows the believer to be here and there simultaneously, a virtual place and an act of faith.

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a b

Fig. 1. (a) *The Two Doors*, archival pigment print mounted to Dibond, 190 × 125 cm, 1980. (b) *Large Mihrab*, archival pigment mounted to Dibond, 190 × 125 cm, 1989. (© Silvio Wolf)

Large Mihrab embodies a unique metaphorical value; it allows for seeing Photography as a Threshold that indicates a double virtuality. A photograph *is* and *is not* what it shows; we look and see through its surface, beyond and elsewhere, to see the image, we think of the object. Like the mihrab, the reality conveyed by a photograph resides beyond the image. Photography simultaneously is the illusion in the real state and the Real in virtual form.

Apse

The apse of a church built with white and grey stones reveals a surprising resemblance to Islamic architecture through its re-presentation in a foreshortened and inverted photograph (Fig. 2a). Once again, the photographic transposition of a three-dimensional physical place into a two-dimensional virtual space reveals a vision of reality undetectable by the naked eye—or perhaps only perceptible within the illusionary surface of an image?

Canvas

Above the chancel (where a choir sits in a church), a large, stained white cloth is suspended in midair (Fig. 2b). The photographic reduction of three-dimensional reality to a two-dimensional image reveals the perceptual ambiguity of planes, mutually conveying the idea of an interior or exterior space, either as foreground figure or background. Is the cloth suspended in front of the apse or is it a recessed space accessed through the two symmetrical edges of its aperture?

The ambiguous shape of *Canvas* appears inverted from the material and spatial reality of the place depicted. Is the problem in the way things are or how they appear to us? Can the image be seen as the active threshold between "reality" and what our mind can "see" and express visually, in the form of an image?

The Third Door

A wooden ladder placed diagonally across the steps blocks a portal to a steep, stone staircase (Fig. 3a). The open doorway and the closed passage seem to represent the possibility of crossing and an obstacle to its overcoming at the same time. To enter and exit, ascent and descent are impossible; only an *in-between* state can be experienced.

My work always indicates a mental process and an awaiting, but never a fulfilment. It solicits the choice of a physical and mental position that requires deciding where to be and how to see, standing on the threshold, where two opposite polarities coincide on the two-dimensional plane of a virtual image. What I experienced in the presence of that door, at that moment, does not merge with what I see in the resulting image. One is generated by the other; in the gap between the two lies an unstable fracture and a perceivable mystery. In this respect, Gaston Bachelard's words—"there are two 'beings' in a door . . . [which] awakens in us a two-way dream, that it is doubly symbolical. And then, onto what, toward what, do doors open?" [11]—allude to the mystery poetically recognized in the apparently familiar form of a door. In my opinion the mystery lies not in the way things "are," an ontology we may never grasp, but how we *see* and, ultimately, *experience* them.

Aperture

Using a drastically long shutter speed and thus erasing any movements and presence, I captured this photograph of a black curtain crossed by visitors entering and exiting a darkened projection room (Fig. 3b). The resulting image is a Threshold between light and darkness, between equally invisible interior and exterior spaces. This work belongs to the *Mirror Thresholds* series (see supplemental material 9),

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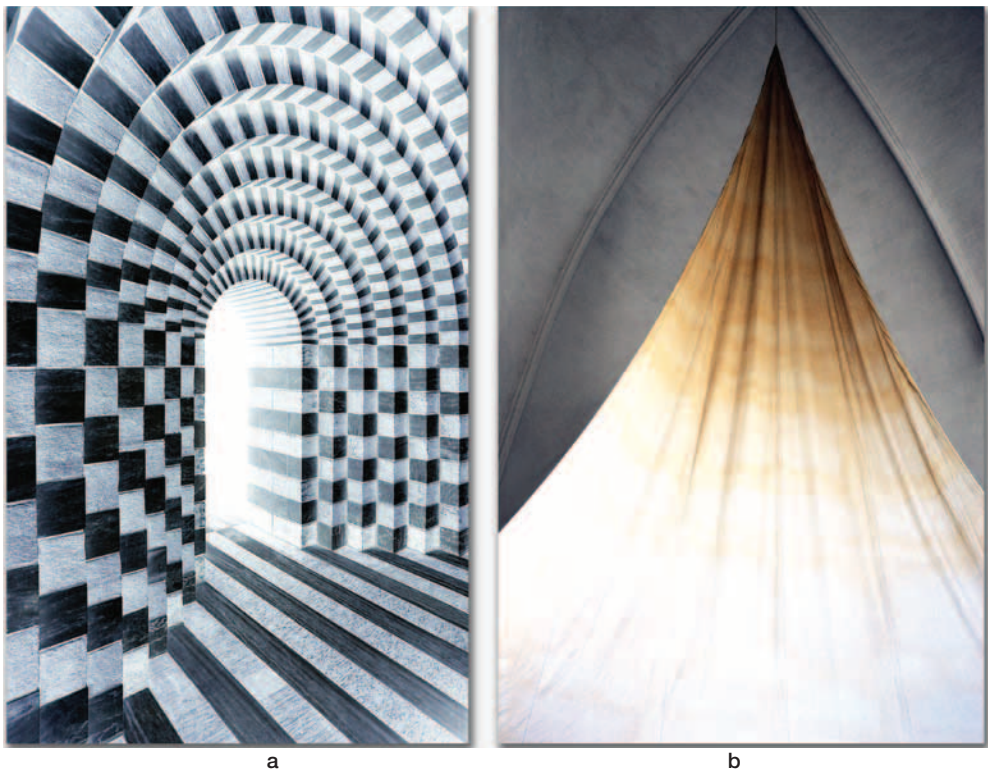

Fig. 2. (a) *Apse,* archival pigment mounted to Dibond, 200 × 125 cm, 2006. (b) *Canvas,* archival pigment mounted to Dibond, 190 × 125 cm, 2006. (© Silvio Wolf)

which are direct inkjet prints on mirror surfaces, in which the beholder's reflection appears in the image-less portions of the original image. It simultaneously represents what is inside and outside: Exactly where the surface is devoid of an image, in the gap left free by the absence of information, it embraces both the phenomenological world and the inner world of the image.

Mirror Thresholds extends the idea of photography from the very place of the shot to that where it is seen, and the exposure from the moment when taken to the present of the observer's *hic-et-nunc:* their gaze, time, and experience. The beholder's attention shifts from the referent, reduced to a distant background noise of retinal vision, to the viewer who confronts the actuality of the work, activating it at every new glance.

The image simultaneously presents and re-presents, establishing a participatory relationship with the observer. The viewer's act of "looking" involves (actively) the visible and its interpretation. So, I wonder: Is the truth of an image inscribed in the eye of the beholder? Where is it to be recognized? As the pearl in an oyster is generated in a point of contact and friction, does it reside in the place that simultaneously unites and separates two streams of information and two truths—on the threshold?

OUR SHARED JOURNEY CONTINUES (IR)

In conclusion, a few comments about the "truth" of the threshold and about "seeing" truthful images that Silvio is talking about here. Silvio shared with me once that the photographic image reveals something that he was not aware of at the time of its conception, and that on the threshold of looking/photographing/seeing lies the *inner truth* of the image revealed along an endless process of exploration.

In the meantime, my understanding of this is that the "truth" of any seen image is *in the eye of the beholder*, which the art historian Ernst Gombrich called "beholder's share" [12], implying that what we "see" depends on our life experiences, upbringing, and our cultural/ethnic/linguistic makeup, among other personal factors. Eric Kandel [13] illustrates it with examples of three well-known painters (visual artists, in current terminology): Gustav Klimt, Oscar Kokoschka, and Egon Schiele (see supplemental material 10).

Kandel explains that despite Klimt, Kokoschka, and Schiele having shared the same creative atmosphere of prewar Vienna and attended the same salons (where the cross-pollination of art, medicine, and science happened), these three individuals saw and portrayed life differently: Their "truths" were different. That is why we experience Klimt's Vienna as golden/magical; Kokoschka's as very realistic, while also emotional; and Schiele's as edgy/unsettled. From the neuroscience perspective, the simple "truth" is: Vision is the *information processing* that includes the bottom-up processing and the top-down modulation. The first one includes conduction of visual information from our eyes, through complicated visual pathways, to the visual cortex at the back of our brains, while acquiring additional, nonvisual, information via functioning of brain connectomes. The top/down modulation involves one's meaning making (in cortical and associated subcortical areas of the brain) that is based on prior life experiences and each individual's life assumptions. When we "see," we make interpretations about the image based on our mind's "content" gathered through our life experiences (see supplemental material 11). I agree with Kandel that there is no "innocent eye," and that "all visual

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Fig. 3. (a) *The Third Door,* archival pigment mounted to Dibond, 2020. (b) *Aperture,* layered UV inkjet print on silver mirror, 190 x 125 cm, 2009. (© Silvio Wolf)

perception is based on classifying concepts and interpreting visual information. One cannot perceive that which one cannot classify" [14]. For Silvio, this sounds too simple and prosaic, but I do not give up, because "truth has many dimensions, and the way you arrive at truth in complex situations is through many perspectives" [15], and we continue this fulfilling journey together. I believe that only *trans*-disciplinary collaboration [16], when partners learn each other's language well enough to navigate in the other's discipline, can lead to real breakthroughs and paradigm shifts.

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