The Scene of the Crime: Imaging the Interior

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This essay engages with historical and contemporary images to analyze their role in the production of interiors. Dioramas feature in this history as a modeof representation that falls between image and interior. Looking to L.J.M. Daguerre's diorama building, Thorne's Miniature Rooms, and Colonel John F. Ohmer's domestic camouflage, the space of the diorama is not the just that of the projected picture but is inseparable from its material and dimensional data as well as from the interior in which it is entangled. In contemporary, electronic images, representing the interior takes on a different disposition. Like the historical images that precede them, electronic images rely on the depth constructions that render them visible. However, contemporary images are always in translation and perpetual animation.

The author examines the characteristics of contemporary images and their implications on the interior of architecture in two projects. The first is a temporary theater done she designed in collaboration with Emmett Zeifman for The Industry's production of Hopscotch. The second is a projection room made as the scenic design for Insight Theatre's production of Silent Sky. In this work, conceiving of images as contingent surfaces that frame possible interiors, opens up their political potential. The interplay between interior and image gives rise to reshaping how the interior is depicted, navigated, and engaged.

The prevailing condition of flatness in the mediated present, filled with screens and projections, makes the image the premier stage for contemporary conversations in architecture. While technologies of surveillance and targeting have reshaped our view of the world, privileging the aerial view,[1] so has the desire to produce nested images of the interior. However, images present a particular problem with concern to interiors. That problem lies in the interior's particular resistance to being imaged. At a remove, the interior is inaccessible and requires a violent cut, puncture, or dismemberment to expose it. From within, its surfaces surround a volume and are challenging to objectify or visualize.

If we conceive of images as exclusively flat, and architecture as a spatial enterprise, images are bound to laminate architecture — and everything with it — in their liminal planes, merely representing rigid corners locked in position as a volumetric envelope.[2] However, looking more closely at images, it is evident that they are thick, layered artifacts — both in their internal structures and material. And if, in turn, we consider architecture's historical and contemporary response to images, it becomes clear that the corners find ways to loosen and the layered thickness of images can be peeled apart providing access to the interior.

Architects have long had to contend with transmitting information through what Robin Evans's reminds us are "not neutral vehicles."[3] By their conventions and constraints, drawings variously change information as it is encoded. Evan's addresses a drawing particularly disposed to revealing the interior: the developed surface drawing. Unlike the section cut that "compresses space," the developed surface drawing—that "turns architecture inside out" by unfolding the interior surfaces of a room—"fractures space and destroys its continuity."[4] The peculiarities of the drawing type result from its particular attitude toward the interior and in turn impact the interiors generated through its process.

Images and drawings are indeed not equivalent, but both are strictly bound to the rules of their formats. In these rules are latent opportunities for misreading, for pulling apart and reconfiguring their constructions. In the fluctuation between drawing and interior — much like that between image and interior — the format fuses with the interior, and pictorial qualities meld with and material ones.[5] Given this, how might the way that we conceive of and depict the interior change in relationship to images, specifically electronic images? And how can images enter into a direct relationship with built work, transmitting their material properties onto constructed surfaces?

PICTORIAL ELEMENTS: THE FRAME AND THE SCREEN

In order to investigate the problem of imaging the interior, it is useful to look to history for clues as to how the interior or has been conceived and depicted. This culling of historical images is not intended to muddy the distinction between electronic, photographic, and other images. While these categories of images are definitively different, the analysis of their underlying structures has the potential to be useful from one realm to another. Considering the construction of images can place the electronic image in dialogue with a set of strangely related aliens found in the annals of history.

In early image-making, two key elements play a pivotal role: the frame and the screen. In linear perspective construction, the frame surrounds a screen conceived as a window to the "real."[6] The frame in this context is the perimeter of the canvas or material surface, often paired with a molding or frame

Figure 1: Similar to Daguerre's paintings, this work by Jean-Paul Favand, Naguère Daguerre I, depicts (top) The Bay of Naples at the end of the day, Canvas lit by the front (90%) and the back (10%), (bottom) Eruption of Vesuvius on the Bay of Naples by night, Canvas lit only from behind, 2012, Jean-Paul Favand.

Figure 2: Eugene R. Kupjack, Thorne's Miniature Room at The Art Institue of Chicago, (top) Louis XV French Library, c. 1720, c. 1937, (bottom) French Bedroom, 16th Century, c. 1937, courtesy of the author.

that reifies this edge. The denotation of the Latin perspectiva "to see through" reveals the screen to be an imagined immaterial plane corespondent in location to the painted surface — the picture plane — that projects illusory space beyond.

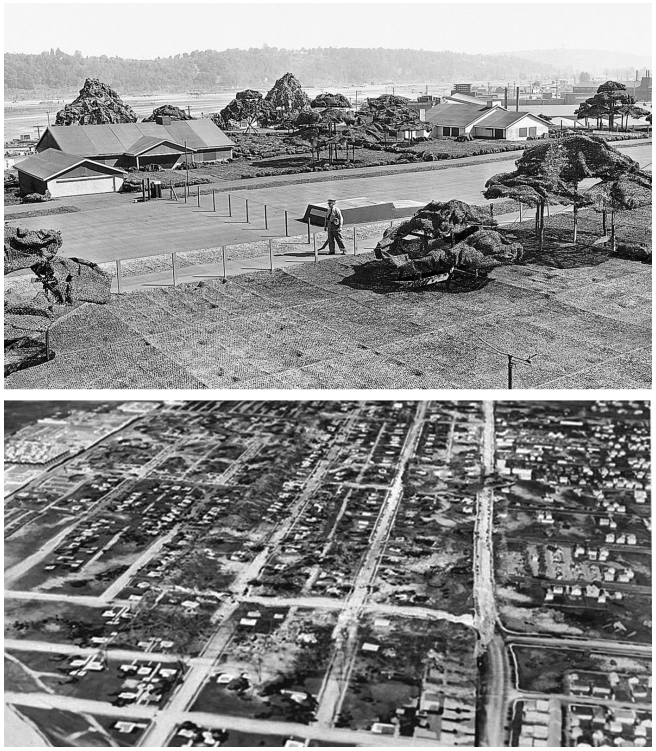
Given its projective ambitions, perspective is fraught with the problems of its claims to objectivity, hinging on the presupposition that it presents a universal reproduction of "reality."[7] Perspective laminates the interior, binding it to a singular point of reception and discarding with the capabilities of the painted surface by wishing it out of being. However, history gets a second chance at "seeing through" in a way that acknowledges and the surfaces that construct the image and, consequently, the interior — the word diorama shares the same meaning.

A BRIEF HISTORY OF INTERIOR AND DOMESTIC SCENOGRAPHY

Dioramas are interiors that aspire to be images. A diorama may be a composite of a painting, a building, a built-in, a model, a room, or an accumulation of like or disparate things. Neither scale, nor size, nor the mechanism of the apparatus defines something as a diorama. The common thread is in the unsettling of the relationship between the frame and screen and the unusual conditions of flatness produced in their detachment.

The earliest example is L.J.M. Daguerre's diorama building developed between 1821 and 1822, related to Franz Nikalaus König's earlier Diaphanorama of 1811.[8] The building consisted of three tunneling chambers and a rotating viewing platform that would turn the audience to face one of these at a time, thus displacing the spectators' movement to the building. Each chamber housed a two-sided linen painting, set back 13 meters from the front row of seats, framed by the surrounding tunnel, and illuminated by large, concealed windows with mechanical shutters to direct light.[9] While the linen screens were painted on their front with standard illusionistic techniques, the back side of the surface followed a different logic; shadows were rendered with paint thick enough to be opaque, while points of light were left as blank linen.[10] (Fig. 1.) The screen was then illuminated from the front to reflect light or from the back to refract.

In this case, the surface is not as flat as it might seem. The linen is built out from both sides of the surface, subtly offsetting in layers or increasing in viscosity. Further, it is indelibly tied to the tunnels that frame it and to the mechanism that shifts the relationship of light to the screen. The frame and screen form an apparatus calibrated to control pictorial qualities, or "effects."[11] The specific attributes required to manifest the illustrated picture ultimately supersede it. That is, the space of the diorama is not that implied by the projected picture,



Colonel John F. Ohmer's camouflage techniques applied by (top) H. Roy Kelley and Edward Huntsman-Trout for Douglas Aircraft Company (bottom) and John Stewart Detlie at Boeing's "Wonderland" in Seattle, WA, c. 1942, from Bill Yenne's *Panic on the Pacific: How America Prepared for the West Coast Invasion.*

but by the interior that it inhabits and the dimensional data of its material details.

Another type of diorama sources from the from furniture that was developed to contain and display collections of miniatures, what ultimately came to be known as dollhouses.[12] Eugene R. Kupjack's dioramas — an extensive collection of miniature rooms made for Narcissa Niblack Thorne — are models, set into the wall like built-in cabinets and framed like pictures. (Fig. 2.) The paradox of Daguerre's two-sided painting shifts to the "walls" of the picture. The walls of the one inch equals one foot model are always doubled; the first enclosing layer lines the interior of the depicted period room, the second is offset from that by about six inches and is painted in the guise of an exterior atmosphere and environment. These two walls form the delaminated screen, accompanied by one other: the full-scale wall in which the diorama is immured. In turn, the frame is not only the literal oak boundary that surrounds the model, but it is also defined by the wood framing of the full-scale wall. This wall allows the diorama model allows for the nesting doll layers of doubled interiority to conceal their presence. Again, it is the calibrated details of the diorama's component layers — all operating in service of an illusion — that creates an alternate kind of interior than that intended by the illusion.

The last case would not typically be described as a diorama but can be folded into this history given the similarities of its parameters to the previous two cases. Colonel John F. Ohmer's camouflage was developed for the United States Military to conceal aircraft plants or military bases during World War II.[13] [14] (Fig. 3.) Earlier techniques of military camouflage — like that indebted to cubism and developed by Lucien-Victor Guirand de Scévola in the First World War — were based on the perceptual capacity of the eye and brain.[15] By contrast, Ohmer's strategy did not conceal to the eye, but the camera lens of aerial reconnaissance photography. Buildings were masked behind a giant painted canvas screen, executed by a team of Hollywood film-makers, that depicted a faux suburban landscape, hung on a frame. These large-scale theatrical sets were replete with four foot tall hollow wooden houses (just tall enough to produce convincing shadows), chicken feather and spun glass landscaping, inflated rubber or plywood cars, and lumpy burlap trees propped on wood stud tree trunks.[16]

Underneath the giant canvas screen the vast, open exterior space, can be thought of as imbued with the qualities of an interior under its fabric canopy ceiling. At once, the uncanny domestic landscape above lacks an interior altogether, operating only as an image of domesticity and an inaccessible "horizontal facade."[17] Once again, the screen is doubled, in this case at an extreme remove; the screen is not only the canvas but also the printed photograph. The characteristics of the flattened, low-resolution, large-scale model are calibrated to the mono-focal capacity of the cameras used in military reconnaissance.[18] The inclusion of the camera in the conception of this device creates for the strange distortions of the vertical dimension and duplication of the horizontal that creates the interior nested between the delaminated grounds.

In all three of these cases, the diorama's layered construction operates like a set, staging architectural scenarios. The doubling and deepening of the frame and the collections of layered screens creates strange constructions that unfold in response to the eye or camera. It is not their illusion that is of interest; it is their ability to negotiate the image by becoming an object with specific material and dimensional controls determining their layered formats. Dioramas are objects that wish to be images.

CONTEMPORARY IMAGES OF THE INTERIOR

In contemporary, electronic images, representing the interior takes on a different disposition, but one that we can read in light of the diorama. Electronic images are always in translation, and the data that underlies images is always already plural, as it is a set of related figures in perpetual animation.[19] [20] That data consumes power and occupies volumes, filling up hard drives and server rooms. Moreover, it undergoes multiple layers of translation when accessed — from

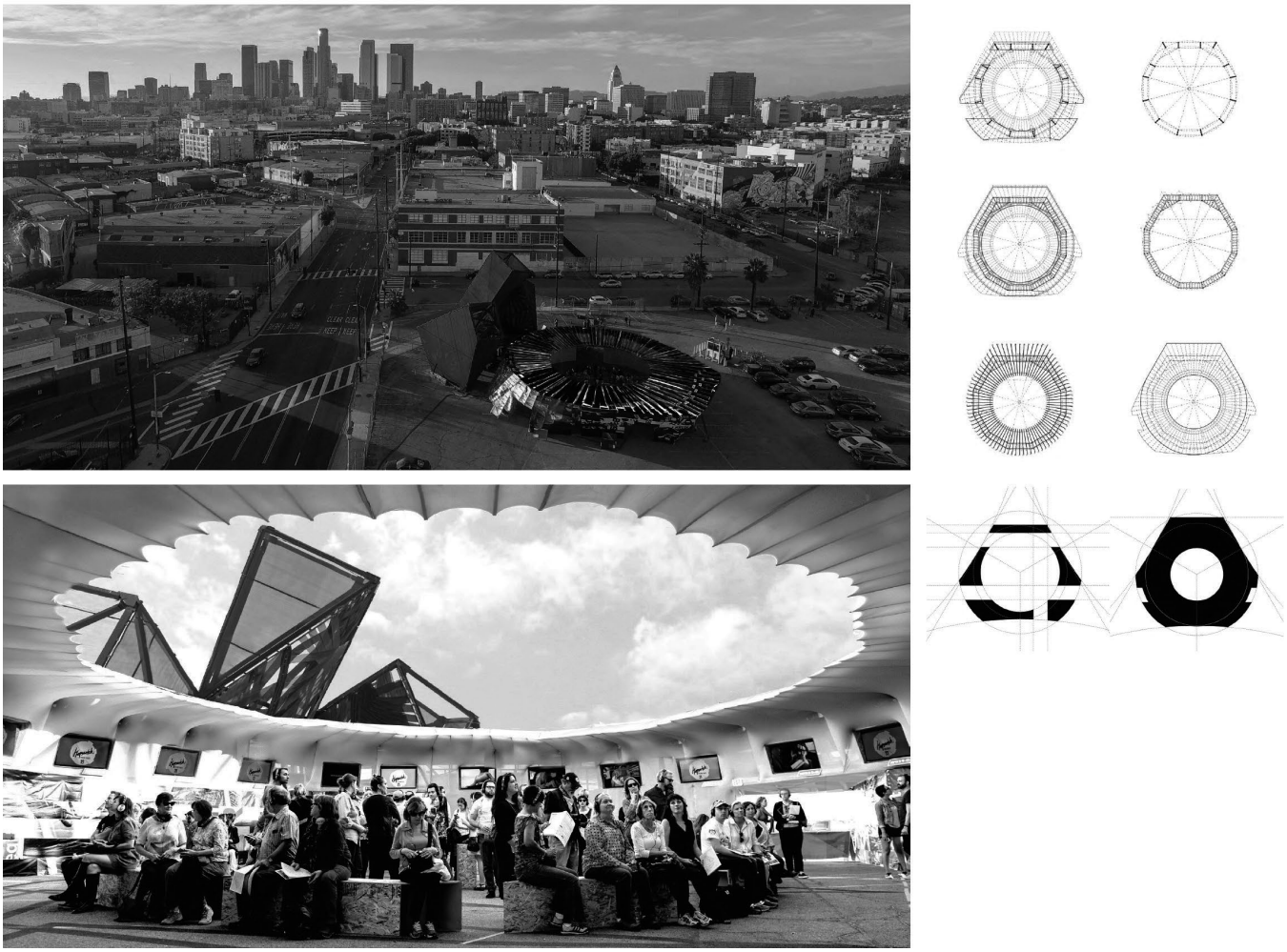


Figure 4: Hopscotch Opera Theater Pavilion, courtesy of the author.

letters, to numbers, to binary, to electronic signals, to picture elements — or pixels — that control the chrominance and luminance of a screen in relation to the human eye and brain's ability to interpret visual information when viewed at a distance.[21] Images must construct an optical illusion, not unlike dioramas.

This illusion is — similarly to the diorama again — created through material constructions with calibrated thicknesses. From the 6-layer LCD screen's modulation of light to variable paper thicknesses and topography of ink dropped or electrically charged powder fused to the face of the page,[22] images rely on the depth constructions that render them visible. The vast data sets of layered accumulations, constantly in translation, have gobbled up the singularity of any datum.

Innovations in images such as omnidirectional cameras and 360-degree panoramas, turn the interior into an exterior, when not filtered through a device or application. These images bend interiors open — or turn them into a globe with an implied, impenetrable, spherical interior — a black hole inside the image.[23] A similar situation exists in the spherical photo when it appears in Google Maps. The interior is resistant to connect to satellite views and can't convey the same kind of continuity that is possible in the "bird's eye view." The image plane that can be panned across is replaced by the fixed point around which the image sphere orbits. Shifting from exterior to interior means falling through aerial view into a succession of spherical photographic orbs. Transitioning between various spheres or trampolining from interior sphere to aerial plane and back characterizes a now incredibly familiar way of relocating without moving.

In these transitional thresholds, gaps in information expose a vacuous poche similar to that inside the spherical photograph. As those buildings documented are almost always photographed at night when empty, the same black appears in the photographed windows, erasing the exterior world that was just there a moment ago in the daylight of the aerial view. Strange sections emerge, fading out against the abyss. Orbiting to images of the floor reveals the absent footprint of the camera, approximating the ground to erase its presence.

Figure 5: Silent Sky Projection Room, courtesy of the author.

Mis-mapped images clad the exterior in its interior. These discontinuities between model and interface as frame, and image mapping and LCD as screen, reveal another kind of layered construction.

CASE STUDIES OF THE SCENOGRAPHIC INTERIOR

Engaging the potential of images requires looking for opportunities to build considering their logic. Theater sets are one arena particularly suited for this. Hopscotch — a project undertaken by my practice along with that of Emmett Zeifman for the so-named contemporary opera by director Yuval Sharon — falls between temporary theater and scenic design. (Fig. 4) Hopscotch's performances were conceived as a non-linear set of scenes that took place simultaneously in moving limousines, traveling along three routes to locations scattered throughout the city. Hosted in SCI-Arc's parking lot in Los Angeles, the theater featured live streams of distributed performances throughout the day as well as a live performance of the opera's finale. Given this, the room needed to house 24 screens, 300 audience members equipped with multi-channel receivers and headphones and — during the finale of each performance — a succession of limousines that entered into the pavilion.

The open-air, clad frame creates an interior within the city, from a composite of multiple sites visited throughout the performances. Like Thorne's miniature rooms, it is an interior that branches into alternate interiors: the set of urban rooms gathered in the walls of the pavilion. The theater becomes a large scale apparatus, calibrated to collapse the distance between in situ and remote performances. Like Ohmer's landscapes, the layers of screen and frames exist in great separation, pulled apart and turned to the electronic devices with which they interact, and with an even a greater number of layers involved. Lycra, LCDs, cell phones held by audience members to record the live stream, all operate as screens. The frame is variably cast as the wood framing, device frames, the map indicating linear routes, and the city of Los Angeles itself.

A related architectural, scenic design project developed in my practice is a theater set and projection room prepared for the St. Louis based Insight Theater Company's production of Silent Sky, directed by Maggie Ryan. (Fig. 5.) The main set element is a series of screens that form the projection room, which inscribes the front end of the black box theater. This doubled cage of the projection room offset from the black box enclosure mirrors Thorne's diorama. The room — a truncated pyramid missing a face — receives a projected animation of an exterior or interior scene. The enveloping image is distorted in order to map uniformly onto the oblique surfaces of the room. Within the projection, elements with parallel lines are rendered as a worm's eye obliques, aligning to the oblique geometry of the screen. Depicted corners coincide with the screen's corners. However, the corners of the screen surfaces do not meet; instead, they exist in a state of unfolding and displace the continuity of the projected image.

While projections are typically flat, these are layered constructions, wherein renderings are composited with frame by frame animations and video footage of models, and video of model surfaces, then projected on a three-dimensional screen. The projections are scheduled in software that programs simultaneous and staggered shifts in video, audio, and lighting. This programming of events onto the theater interior indelibly ties the programmed data to the room and creates an automated track of atmospheric changes.

THE POLITICS OF THE FLAT INTERIOR

Borrowing from historical models and recognizing their relationship to contemporary conditions opens new possibilities to define the interior. Calibrating the displacement of the screen from the frame allows for close readings and misreadings the rules of image-making. Recognizing images as delaminated and thickened artifacts reveals that images are not entirely flat. In between their layers, images form physical interiors and operate within conceptual interiorities specific to their formats.

Interiors have the capacity to restructure the images that are entwined with them. When the multifarious and material layers of images come in contact with interiors, the status of images as constructed artifacts becomes more apparent. The labor and constituent alterations within these images turn our attention away from the glossy illusion and toward the constructive elements that enter into ever image that reaches us through the media. In turn, in working through the rules of images, it is possible to create interiors that are not hermetic. Contingent surfaces that frame possible interiors spark the potential of the open and create opportunities for deterritorializing boundaries. With this boundary broken, their interior is not so much a room hiding its contents, but a screen displaying that which is collected within it. The relationship between images and interiors gives rise to reshaping how the both are depicted, navigated, and engaged.

ENDNOTES

1. Hito Steyerl, "In Free Fall: A Thought Experiment on Vertical Perspective" from The Wretched of the Screen (Berlin: Steinberg Press, 2012), 14.
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3. Ibid., 199.
4. Ibid., 203.
5. Robin Evans, "Translation from Drawing to Building," from Translation from *Drawing to Building and Other Essays* (London: Architectural Association Publications, 1997), 199. Evan's refers specifically to drawing and the

transcription of its qualities onto building.

6. Hito Steyerl, “In Free Fall: A Thought Experiment on Vertical Perspective” from *The Wretched of the Screen* (Berlin: Steinberg Press, 2012), 18.
7. 7. Ibid., 19-20.
8. 8. Helmut and Allison Gernsheim, L.J.M. *Daguerre: The History of the Diorama and Daguerreotype*, Second Revised Edition (New York: Dover Publications Inc., 1968), 14.
9. 9. Ibid., 20.
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11. Geoffrey Batchen, *Burning with Desire: The Conception of Photography* (Cambridge: MIT Press, 1999), 143. 125-7.
12. Susan Stewart, *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection* (Durham: Duke University Press, 1993), 61.
13. Cameron H. Malin, Terry Gudaitis, Thomas Holt, Max Kilger, *Deception in the Digital Age: Exploiting and Defending Human Targets through Computer-Mediated Communications* (London: Academic Press, 2017), 178.
14. Ohmer’s techniques used at Lockheed in Burbank, North American Aviation in Inglewood, Northrop in Hawthorne, Consolidated Vultee in Downey, amount others, were coopted and developed by architect H. Roy Kelley and landscape architect Edward Huntsman-Trout for Douglas Aircraft Company operated plants at Santa Monica, El Segundo, and Long Beach and by art director John Stewart Detlie for Boeing’s “Wonderland” in Seattle. Bill Yenne, Panic on the Pacific: How America Prepared for the West Coast Invasion (New York: Regenery, 2016).
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16. Bill Yenne, *Panic on the Pacific: How America Prepared for the West Coast Invasion* (New York: Regenery, 2016).
17. Amy Campos “Territory and Inhabitation,” in Gregory Marinic, ed., *The Interior Architecture Theory Reader* (London: Routledge, 2018), 75.
18. Bill Yenne, *Panic on the Pacific: How America Prepared for the West Coast Invasion* (New York: Regenery, 2016).
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21. Vlado Damjanovski, *CCTV: From Light to Pixels*, Third Edition (Waltham: Elsevier, Butterworth-Heinmann, 2014), 232.
22. By James D. Foley, Foley Dan Van, Andries Van Dam, Steven K. Feiner, and John F. Hughes, *Computer Graphics: Principles and Practice*, Second Edition in C (Boston: Addison-Wesley, 1997), 161.
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