BRAIN STUDIO

Olson Kundig Architects
Seattle, Washington
Web

Co-Authored with Susanne Abell

FIRM BRIEF

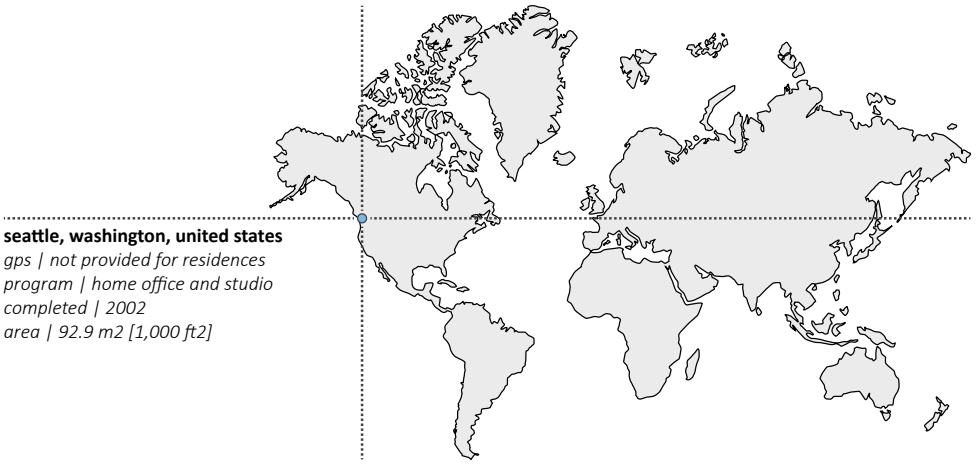
Olson Kundig was founded by Jim Olson in the late 1960's. Olson's work "explore[s] the relationship between dwellings and the landscape they inhabit in the Northwest." The firm was established "on some simple ideas: that building can serve as a bridge between nature, culture and people, and that inspiring surroundings have a positive effect on people's lives."[1] In 1986, architect Tom Kundig joined the firm and just a decade later he was named an owner. Kundig's visionary designs and inspired investigations into the making of place have significantly broadened the reach of the firm's reputation to an international audience. 2008 brought two more owners to the firm – Alan Maskin and Kirsten R. Murray – while Kevin Kudo-King became an owner in 2015. Their range of expertise pushed the firm more significantly into the arenas of exhibit design and interiors.

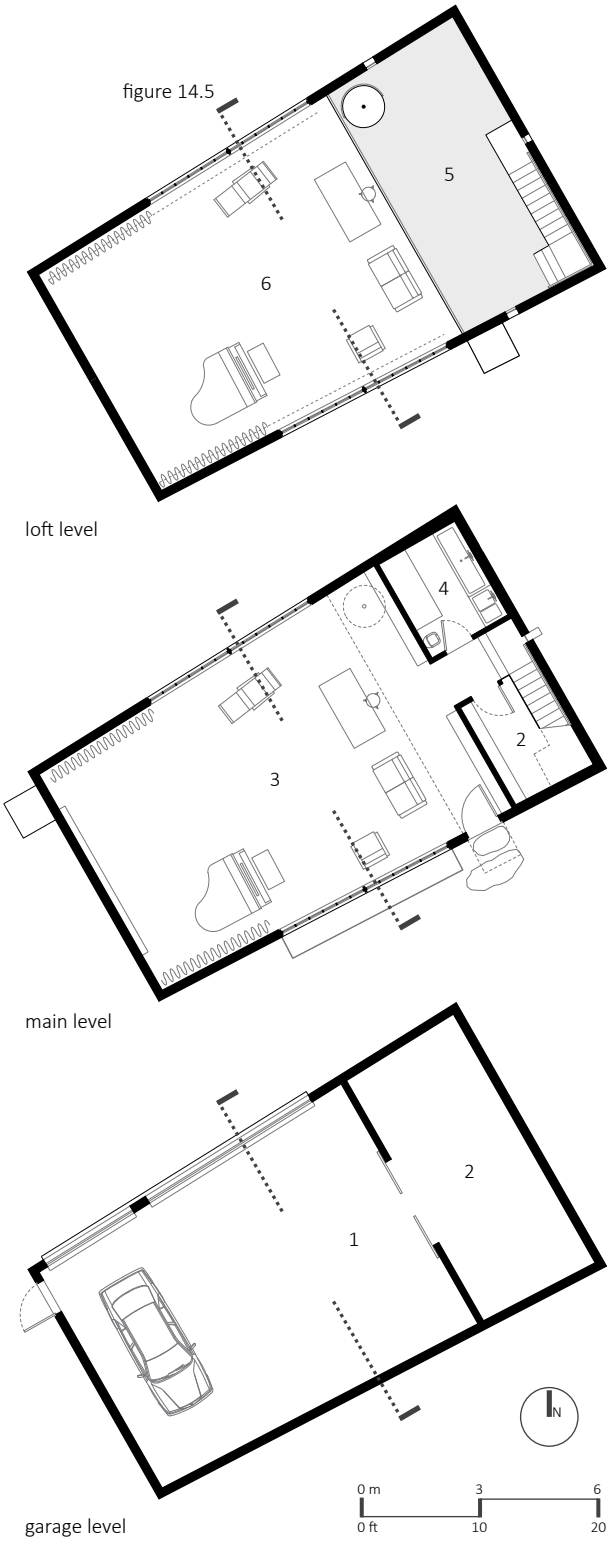
Olson Kundig's wide range of projects includes museums, educational buildings, places of worship, and, most notably, residences. The firm prides itself on its ability to "combine the capacity of a large firm with the intensity of a small one."[2] Each project is taken through a rigorous process of iterative design and critique, carefully exploring every detail of the work both internally and with a host of consultants including artists and skilled craftspeople. This approach has fostered ever-growing success for the firm. In 2009, Olson Kundig was awarded the American Institute of Architect's Firm of the Year Award. Their work continues to be published extensively in both journal and book form, including numerous books by four of the firm's partners.

Olson Kundig's architecture nurtures a symbiotic relationship with art and craft; it is derived alongside works of art creating "a seamless spatial experience"[3] for inhabitants. This relationship was established by Jim Olsen and has been strengthened through the integration of the kinetics that play a subtle but stunning role in the architecture of Olson Kundig, most prominently in the design work of Tom Kundig. Since earning his undergraduate and graduate degrees in architecture from the University of Washington – the later awarded in 1981 – the Washington native has received countless awards at all levels for his signature use of sleek, kinetic architecture and artful, rustic designs, including multiple high level awards from the American Institute of Architects. In 2012, he was inducted in Interior Design magazine's Hall of Fame while garnering their top award for his product line of steel hardware and accessories.

> *Whether opening a window or touching a stair railing, each time we are tugged, tapped, and whispered into paying attention. There is always an element of elegant invention…..He reminds us that small moments in life are precious. That is his gift to us.*[4] *Billie Tsien, "Doing"*

Fig 1 | *Location Map*





1 garage
2 storage
3 studio
4 darkroom
5 loft
6 open to below

Fig 2 | *Floor Plan © Olson Kundig*

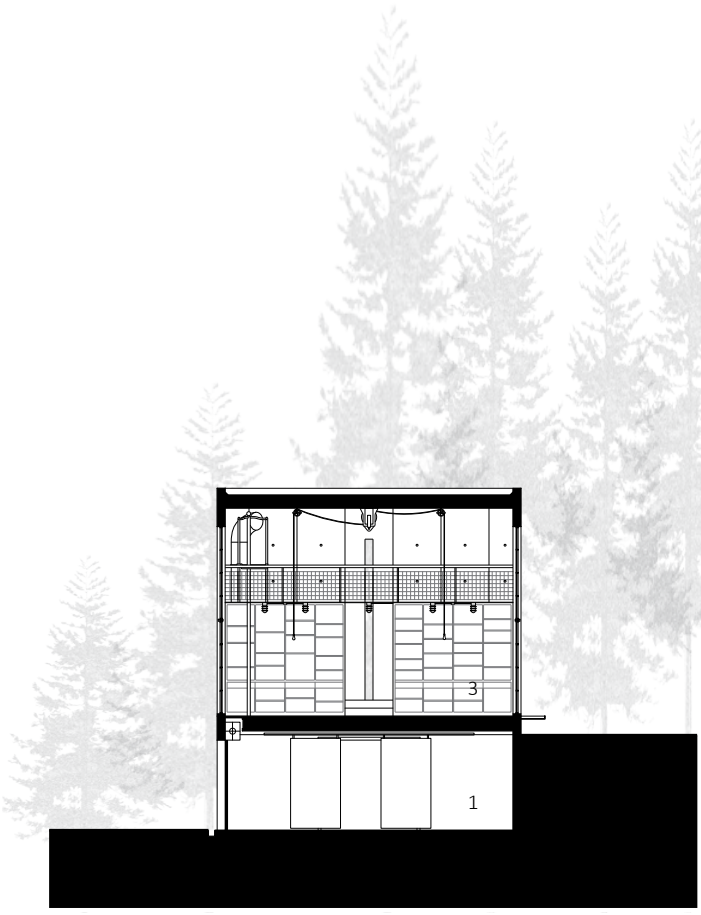


Fig 3 | *Building Section © Olson Kundig*

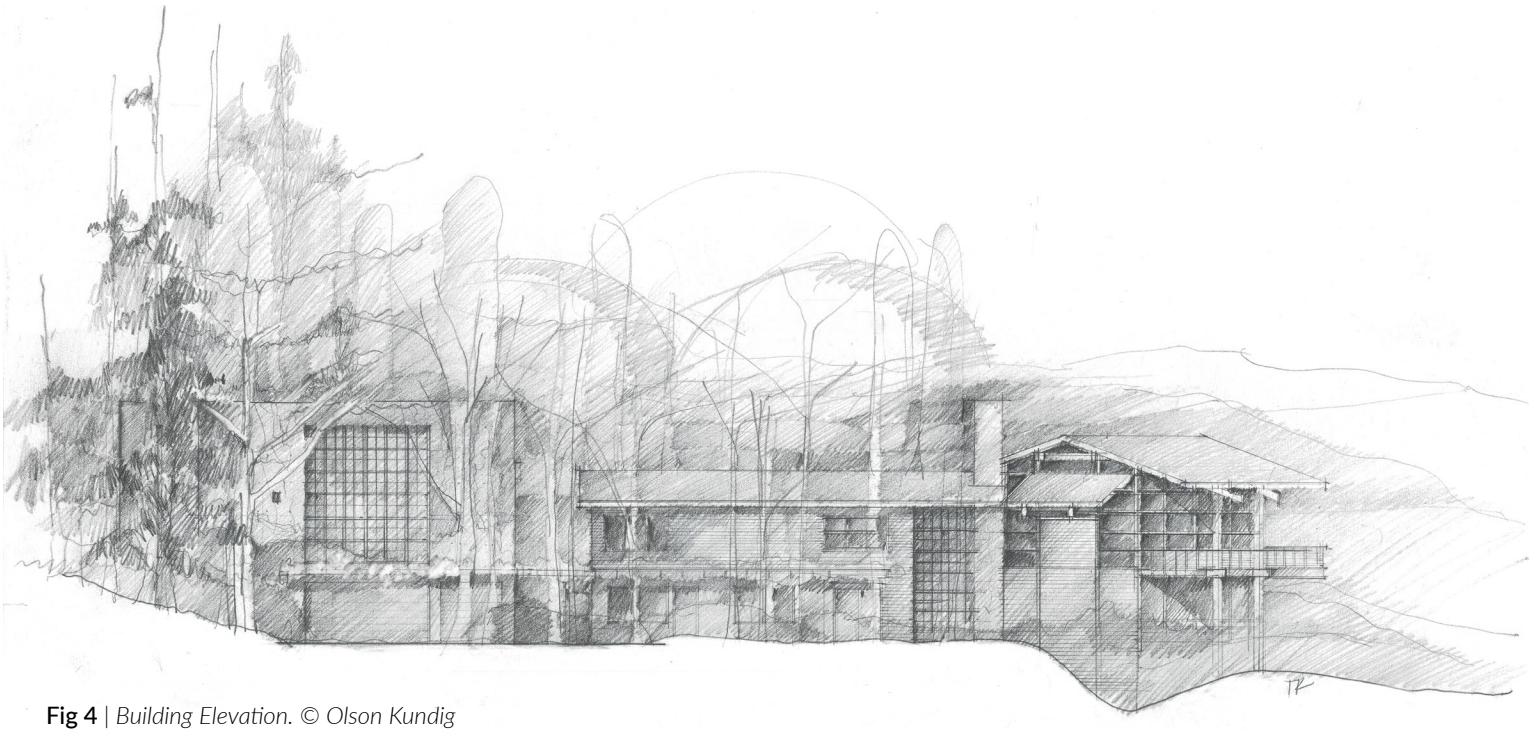


Fig 4 | *Building Elevation. © Olson Kundig*

PROJECT BRIEF

> *How to turn work into play? Build an austere concrete studio. Add romantic, 16-foot windows, books and a piano and start dreaming.*[5] *Pilar Viladas*

The Brain Studio is a small yet highly functional work space that was designed and built for David Wild, a writer, photographer, and film director. It sits next to Wild's 50's era lap-siding home north of downtown Seattle, which he shares with his wife, daughter, and beloved dog, Oscar.[6] Wild's studio needed to be a place for him to think, work, and play in peace; he referred to this retreat as being inside his brain, which resonated with the team and eventually inspired the project's name.[7] The small building "combines the expansive space of an industrial loft with the soft light of a forested hillside and the comfort of a favorite chair."[8]

The structure is simple; it consists of a double-height cast-in-place concrete box with large steel windows on two sides. On the east end of the box is a loft, crafted from raw steel. Tucked below are bookshelves, a darkroom, and storage space. The box sits into the sloping topography, allowing entrance to the main level on the near side of the structure (relative to the main house) and to a lower garage level from the far side. In addition to the three-car garage, this lower level also contains a sizeable storage room.

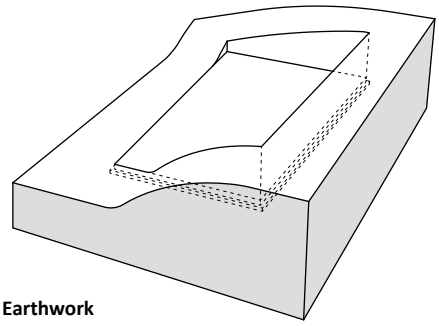
The space is accessorized to allow for flexibility. Heavy light-blocking curtains can be pulled to cover the large windows and darken the entire space for film editing. In addition, industrial pulleys are utilized to hold six hanging lightbulbs. The system allows the lights to be repositioned vertically in order to manipulate the ambiance and character of Wild's working environment.[9]

The conceptual model for this workspace was based on the garage, the "neighborhood birthplace of invention."[10] It was designed to serve as a neutral background to the creative work undertaken on a daily basis by Wild. But the space also needed to be flexible and adaptable to the changing needs of this field of work. Kundig explains that "the simpler the space, the more it becomes background to the complex sorting out of ideas."[11] Although designed as a serious workspace, the architecture also exudes a playful spirit. From the loft, you can hop on the recycled fire pole to swiftly move back down to the main level or join Oscar for a view out of one of his personal, dog-height lookout windows. This space wraps work and play together in a simple, but effective architectural design.

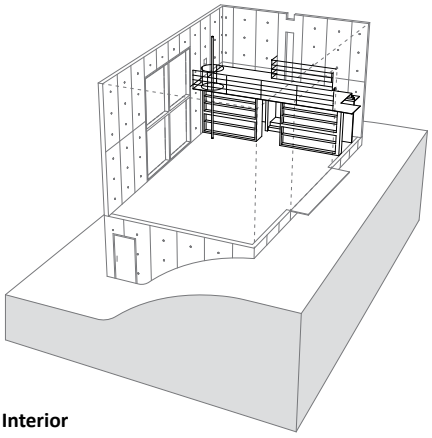
TECTONIC PRINCIPLES

ANATOMY

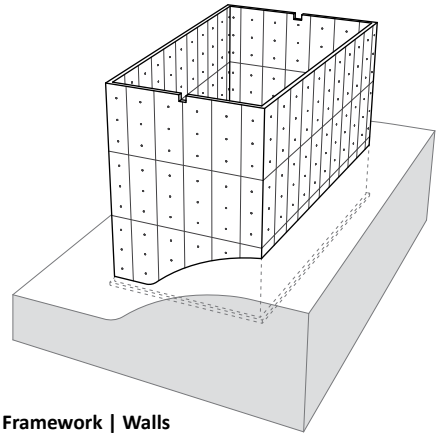
The Brain Studio's concrete box is embedded in the sloping terrain. The hillside cradles the building and ties it to the ground. The framework of concrete rises from the earth, with the poured-in-place walls serving as both a supporting structure and the expression or cladding of the building, as the material is left unfinished inside and out. A floor and roof are inserted into the box to provide full definition for



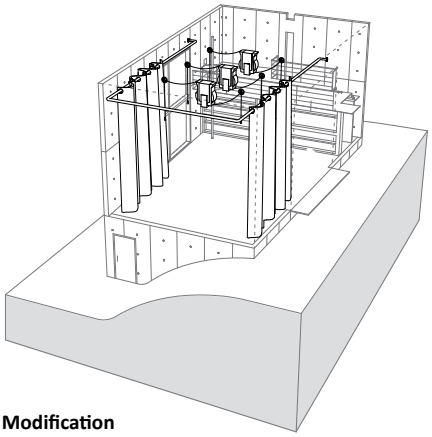
1: Earthwork
The building is cradled by the hillside, tying it to the ground.



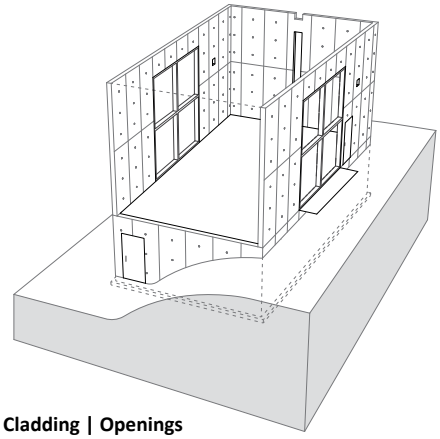
4: Interior
A steel assembly is inserted into the concrete structure at its east end, separating the program spaces.



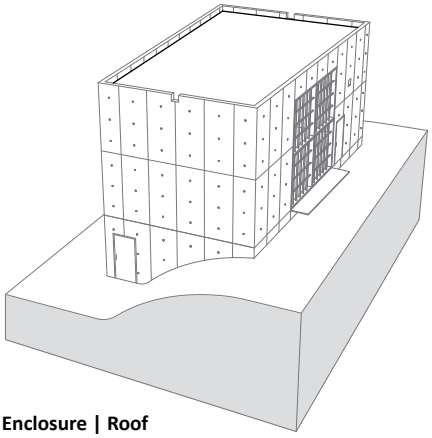
2: Framework | Walls
The building is defined by its concrete shell, which is left exposed inside and out.



5: Modification
The space is accessorised with various contraptions used to transform and modify the space.



3: Cladding | Openings
The concrete shell is perforated at specific locations, opening the interior to the surrounding environment.



6: Enclosure | Roof
A flat roof, concealed by the concrete walls, caps the structure and seals the space.

Fig 5 | *Building Anatomy*

the spaces. The loft, formed from steel and placed on the northeast end of the building, divides the studio's volume into programmatic zones and contrasts the concrete shell.

Semper believed that architecture develops not from construction, but from the need for enclosed space.[12] The Brain was created as a private and secluded workplace, a space of inspiration and creation. The Brain is a storehouse of knowledge; it is a hearth and its construction protects and nourishes the activity within.

STEREOTOMIC

The stereotomic mass of the Brain Studio lies in the three-story cast-in-place concrete walls that form the box. Each wall is 20.3 centimeters [8 inches] thick. Although they appear with the naked eye to sit orthogonally to each other, the walls actually shift slightly in plan to a subtle trapezoidal shape. This configuration prevents reverberation of sound, which can be amplified with right-angle (90°) spaces, optimizing the experience of listening to music or other audio recordings.[13] The unfinished concrete provides a rugged expression and serves as a neutral backdrop for the activities in and around the building.

The openings created in the concrete walls affect the reading of the studio. Punctures, such as those containing two large 16-foot square steel windows, are complemented by slices, like the tall slit window on the east wall. These openings usher light into the space and manipulate the impression of the building's mass. From the exterior, a view through the large windows can give the impression of an interior carved from a concrete block. When inside, however, a view towards the vertical slot window changes the impression dramatically; here the concrete wall appears to have been sliced with the resulting fissure oriented to frame a specific view. The different openings provide distinct impressions of the stereotomic mass of the building's walls.

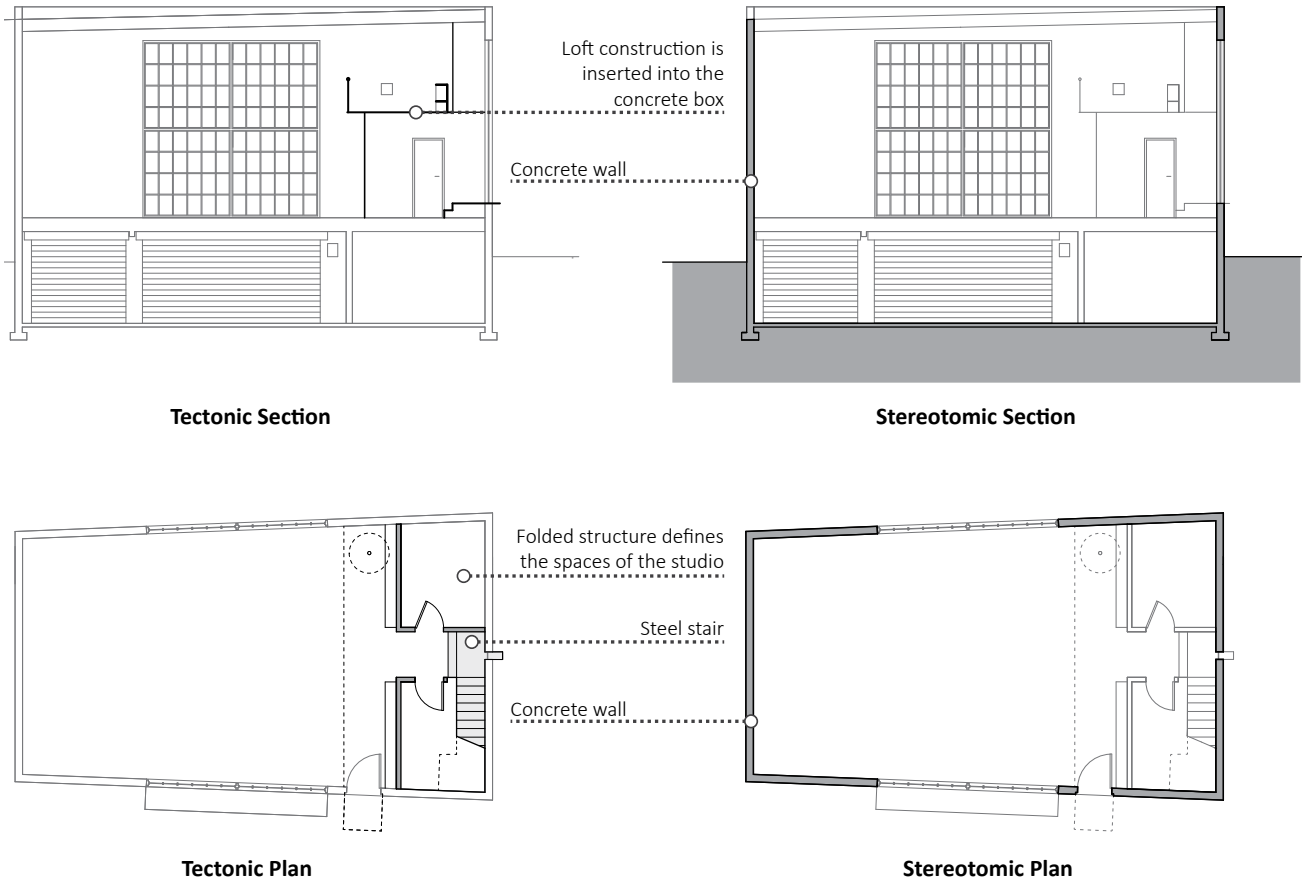


Fig 6 | *Tectonic vs. Stereotomic*

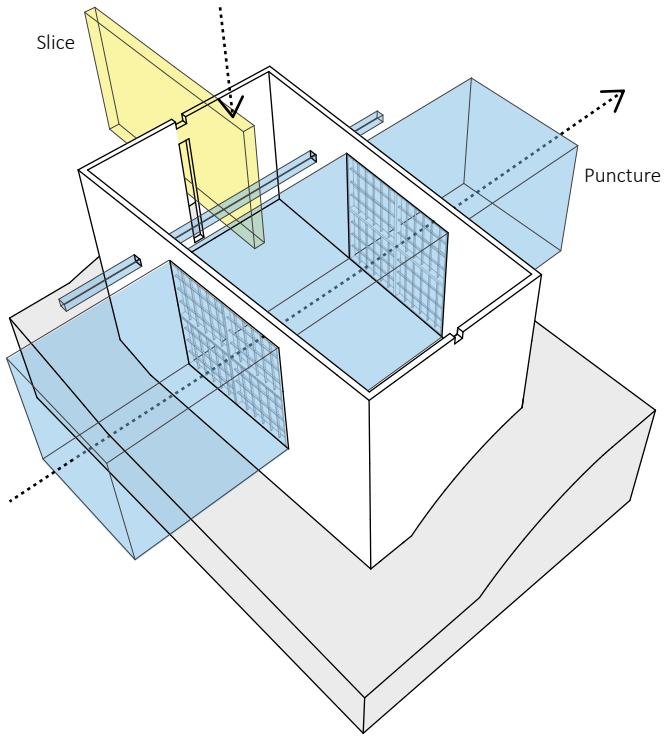


Fig 7 | *Manipulation of the building mass*

TECTONIC

Within the heavy concrete box of the Brain Studio are elements that are decidedly tectonic in character. The only interior construction is formed entirely out of 13 millimeter [1/2 inch] hot-rolled steel plates. These planes are welded and folded like origami to create structural stability.[14] Semper believed that designers should "[l]et the material speak for itself; let it step forth undisguised in the shape and proportions found most suitable by experience and science."[15] Although Semper surely would have disapproved of the use of steel as a structural element (see page ???), the raw steel plates are manipulated to demonstrate their material qualities, emphasizing their inherent strength, ductility, and malleability. The use of sheet steel was inspired by road construction plates as part of a creative process Kundig calls "the reinvention of the commodity." This reinvention of everyday items is prevalent in his work and serves to infuse 'poetics into the pragmatic.'[16]

In addition to the steel construction, a series of kinetic accessories adorn the interior of the studio. Kundig, who is known for his "gizmos," and the design team engineered the assemblies that are used to manipulate the surrounding space. These constructions are composed of a series of precise joints, intersections, and relationships between elements. They are explorations of the tectonic assembly of parts. In The Brain, the lighting of the main studio is rigged on a pulley system that allows a series of naked bulbs to be lowered and raised over the full height of the two story space. This intervention, like Kundig's others, embraces the idea of the joint, but a joint that allows not for secure connection, but transformation. As a result, the shifting light transforms the space based on the needs of the owner.

SPACE | REPRESENTATION

> *It's not about the architecture, but the space. Ideally, the building fades into the background.*[15] *Dung Ngo, "In the Realm of the Senses"*

The representative qualities of the Brain Studio are firmly rooted in Semper's ideas about the use of fabrics to define spatial quality. As permanent construction became commonplace, Semper theorized that mass construction was utilized predominantly for security and enclosure, but it was the interior adornment of the walls with carpets and other elements that defined space. The Brain's studio space at completion of the project was raw and unfinished, but soon it was clad in the creative process. Over time, the space changed as the mind and will of the inhabitant were imprinted on the structure. It transformed (and continues to transform) into a palimpsest of etchings, memories, and past work. Some of this cladding is permanent. The stair to the loft is inscribed with the words: "You'll have lots of time to rest when you're six feet under." These were inspirational words from his father.[18] Other elements that clad the space are temporary, continually changing with the introduction of new projects. These include sketches and photos attached to the steel construction with magnets and the projection of films on the concrete walls. In this small building, the character of the space is continuously changing based on the activities undertaken and facilitated by the ingenious construction of the project.

INTERSECTION

At several points in the Brain Studio, the folded steel loft intersects with the concrete perimeter wall, helping to both engage in a dialogue between the two elements and to project some of the interior conditions on to the exterior of the building. The first intersection occurs at the entry door. Directly above the door is a canopy formed from a single sheet of steel. This steel is an extension of the floor of the loft, penetrating through a slot in the concrete wall above the door. The element promotes the notion of a continuous folded plane of steel forming the loft, while also serving a functional role at the entry. In a similar fashion, the landing of the folded steel stair projects through the slot window. This finger of steel cuts through the wall and defines the bottom of the slice in the protective concrete wrapper of the studio.

A third example of intersection occurs with the loft's railing. Although the original sketches show a railing composed of steel folded up from the floor, the final scheme utilized a steel pipe as a top rail. The pipe runs from exterior wall to exterior wall, projecting through the concrete to the exterior of the building. The pipe is secured from the exterior on each

end using what Kundig refers to in his sketches as a 'neck bolt.' Again, the construction on the interior is projected to the exterior, this time in the form of an exaggerated joint.

DETAIL

The process of constructing a poured-in-place concrete wall requires the use of formwork to hold the concrete in place while it is curing. The formwork is held together with steel form ties, which, when removed, leave small holes that run through the wall. These are typically patched or plugged, but Kundig decided to take advantage of this construction phenomenon to further tie the building to the activities undertaken within. In The Brain, the holes were plugged with glass spheres. As the outdoor lighting changes throughout the day, these spheres cast subtle and playful beams of light across the space and sparkle at night as light escapes from the interior of the studio.[19] These glass plugs can also be seen as small lenses. In theory, when gazed through, each oculus would create an inverted camera obscura effect, an ode to the media work undertaken within the concrete walls.[20]

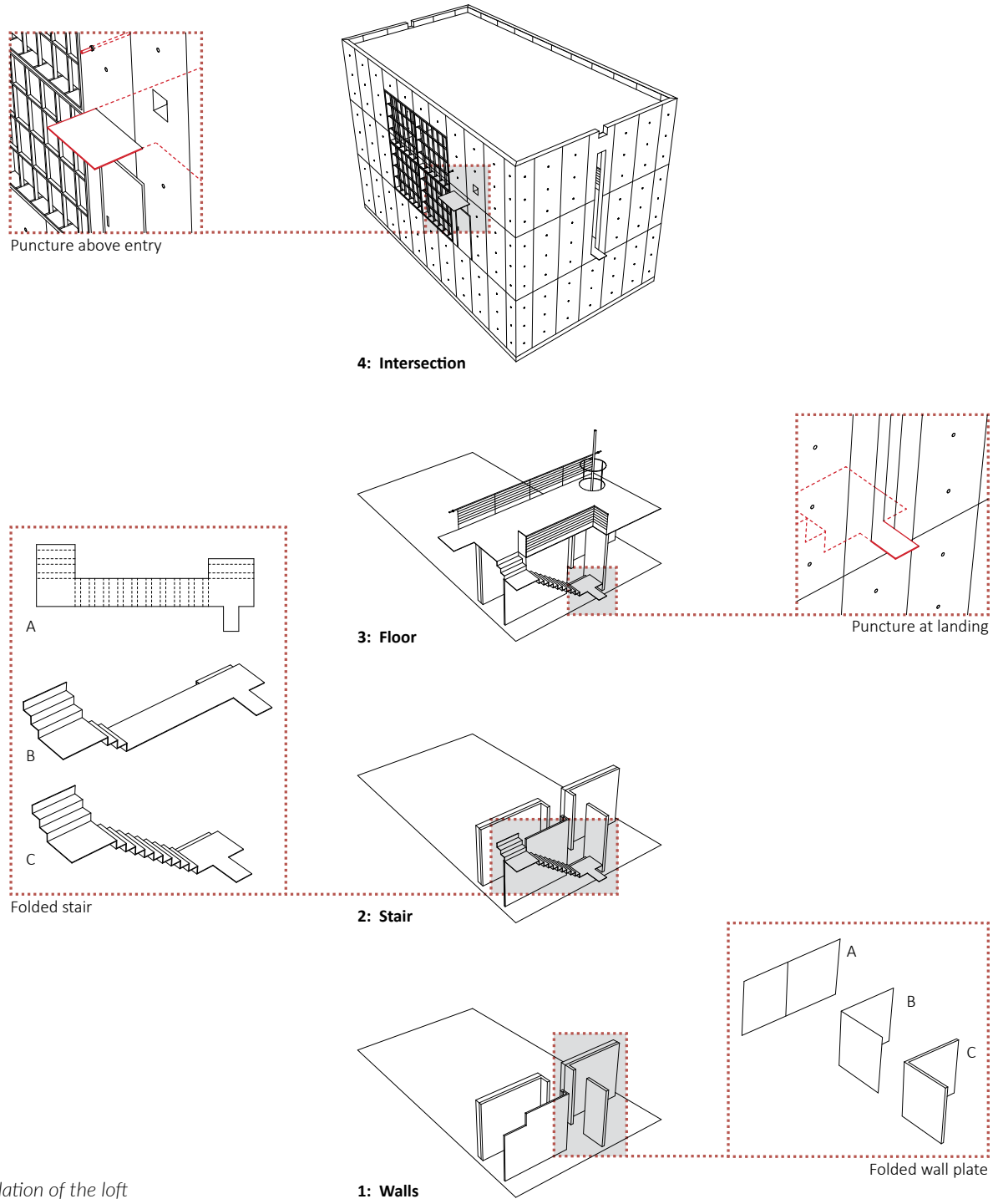


Fig 8 | *Manipulation of the loft*

ADDITIONAL RESOURCES

PROJECTS

Tacoma Art Museum Haub Galleries, Tacoma, Washington, United States, 2014 (47°14'51"N, 122°26'12"W)

Art Stable. Seattle, Washington, United States, 2010 (47°37'25.5"N, 122°19'48"W)

Wing Luke Museum of the Asian Pacific American Experience, Seattle, Washington, United States, 2008 (47°35'54"N, 122°19'22"W)

Delta Shelter, Mazama, Washington, United States, 2005

Chicken Point Cabin, Northern Idaho, United States, 2002

REFERENCES

Enlow, Clair. "Thinking inside the Box." Pacific Northwest: The Seattle Times Magazine, 2005.

Goldberger, Paul, and Oscar Riera Ojeda. Olson Sundberg Kundig Allen Architects: Architecture, Art, and Craft. New York: The Monacelli Press, 2003.

Kundig, Tom. Tom Kundig: Houses 2. New York: Princeton Architectural Press, 2011.

Ngo, Dung, ed. Tom Kundig: Houses. New York: Princeton Architectural Press, 2006.

Webb, Michael. Jim Olson Houses. New York: The Monticelli Press, 2009.

NOTES

1 "Firm History," http://www.olsonkundigarchitects.com/About/FirmHistory. Accessed March 22, 2015.

2 ibid.

3 "Working with Artists & Craftspeople," http://www.olsonkundigarchitects.com/About/FirmCulture. Accessed March 22, 2015.

4 Billie Tsien, "Doing," in Tom Kundig: Houses, ed. Dung Ngo (New York: Princeton Architectural Press, 2006), 109.

5 Pilar Viladas, "Editors' Choice: Design; Think Tank," New York Times, April 28 2002.

6 Clair Enlow, "Thinking inside the Box," Pacific Northwest: The Seattle Times Magazine (2005), http://seattletimes.com/pacificnw/2005/0522/cover_nseattle.html.

7 Dung Ngo, ed. Tom Kundig: Houses (New York: Princeton Architectural Press, 2006), 55.

8 Enlow, "Thinking inside the Box".

9 Ngo, Tom Kundig: Houses, 60.

10 "The Brain," http://www.olsonkundig.com/projects/the-brain. Accessed August 27, 2015.

11 Tom Kundig as cited in Sam Lubell, "Five Cubes and a Blimp," Architectural Record 193, no. 4 (2005): 116.

12 Gottfried Semper, Style in the Technical and Tectonic Arts: Or Practical Aesthetics, trans. Harry Francis Mallgrave and Michael Robinson (Los Angeles: Getty Research Institute, 2004), 247. Originally published as Semper, Gotfried. Der Stil in den technischen und tektonischen Kunsten; oder, Praktische Aesthetik: Ein Hndbuch fur Techniker, Kunstler und Kunstfreunde, 2 vols. Frankfurt am Main: Verlag fur Kunst & Wissenschaft, 1860.

13 Ngo, Tom Kundig: Houses, 55.

14 ibid.

15 Gottfried Semper, "Preliminary Remarks on Polychrome Architecture and Sculpture in Antiquity," in The Four Elements and Other Writings, ed. Harry Francis Mallgrave and Wolfgang Herrmann (New York: Cambridge University Press, 2010), 48. Originally published in 1834.

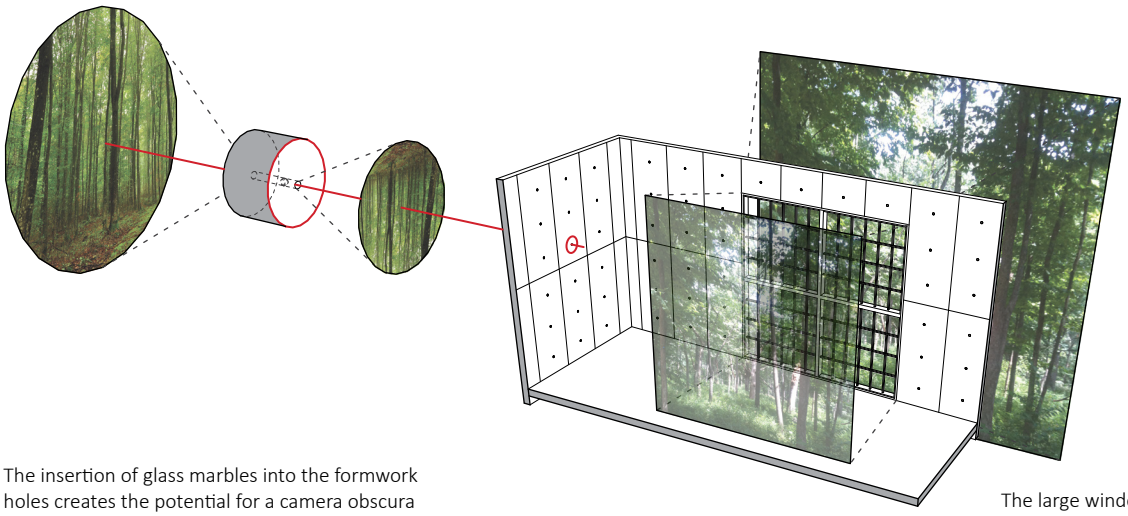
16 Dung Ngo, "In the Realm of the Senses," in Tom Kundig: Houses, ed. Dung Ngo (New York: Princeton Architectural Press, 2006), 50.

17 Lubell, "Five Cubes and a Blimp," 121.

18 Ngo, Tom Kundig: Houses, 67.

19 Enlow, "Thinking inside the Box".

20 This idea was taken from a series of process sketches provided by the architect.



The insertion of glass marbles into the formwork holes creates the potential for a camera obscura effect, transposing the building's surroundings in the interior for a viewer. Although certainly not a true camera obscura, the construction is reflecti of the process and ties directly to the nature of t work occurring within the Brain.

The large windows are also uniquely suited to the idea of projection. The space is conceived as reflective and inwardly focused. Therefore, the windows are not so much for looking out of as they are for bringing the surrounding environment into the space when desired.

Fig 9 | *The interjection of the camera obscura*