

M A T E R I A L

M I R R O R S

& R A U M

DISSERTATION CENTRATED AROUND THE WORK OF ADOLF LOOS

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W1668765



# CONTENTS

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1

ADOLF LOOS AND RAUM

3

RAUM AND MATERIALITY

6

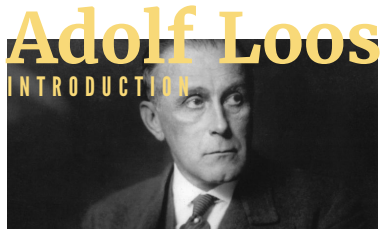
MATERIALITY AND MIRRORS

12

MIRRORS AND PERCEPTION

16

PERCEPTION AND RAUM



Adolf Loos, synonymous with space or 'raum' is known as a forefather of the modernist movement for the way he changed thoughts about the use of space. Despite this credit, he is not widely considered a modernist architect, "between about 1930 and 1960, 'functional' became a catch-all term for "modern" architecture"<sup>2</sup> an integral part of Loos' process and legacy. Creating buildings which functioned well and whose spaces had been designed to fit their function instead of having the functionality work around an existing floor plan. However several crucial differentiations in his design and that of the modernists set him aside. One of these differences was his use of materiality, and using this materiality to introduce intricate and detailed patterns and designs into his work. His 'ornamentation' through the use of materials was deemed unnecessary by the modernists. It is perceived Adolf Loos had a absolute stance of against ornamentation, however his work was in fact denouncing over-ornamentation allowing some decoration in his design. This decoration, alongside the fact that "Loos had no interest in the 'honest' expression of structure; only the appropriate use of material. For him architecture was like dressing, and one should be well dressed."<sup>3</sup> Through hiding the structural elements and creating thin facades to cover the true building materials meant that Loos would not become adorned with the title of a modernist.

Europe in the late 19th Century and early 20th Century was a place of historicism, neo-classical, lavish and decorative architecture. The embodiment of what Adolf Loos, the Vienna Secession and Modernism

i. JACKIE CRAVEN › Biography of Adolf Loos, Belle Epoque Architect and Rebel › ThoughtCo › 02/12/19 › [thoughtco.com/adolf-loos-architect-of-no-ornamentation-177859](https://www.thoughtco.com/adolf-loos-architect-of-no-ornamentation-177859)

1. ADRIAN FORTY › Words and Buildings: A Vocabulary of Modern Architecture › Thames and Hudson › 2000 › page.187.

2. PAUL DAVIES › ONLINE › <https://www.architectural-review.com/essays/reputations/adolf-loos-1870-1933/8653892.article> › 08/10/13

were against. Adolf Loos was a principal designer playing a major role in the revolt against the intricate classical design dominating Europe and his home city, Vienna.

Adolf Loos's known as a prominent architect, a designer interiors and furniture, an author and theorist was hitching a ride at the forefront of the building gust of wind flowing through central Europe in the early 20th century. He would become a cornerstone for modernist architecture. Loos initially looked at the Vienna Secession, a popular art movement of the time, looking at bringing more current and modern art and design to Vienna.

However Adolf Loos was more focused on creating his own interpretation of the priorities in a building, discerning what makes a space, and how different spaces related to different purposes. This started to develop the concept behind the Raumplan, Loos' revolutionary theory for building design. The Raumplan placed focus on buildings being a series of spaces, allowing a flow of light and passage, instead of a collection of independent rooms all with equal properties. Re-enforced by his paper 'Ornament and Crime' which was based on the theory of 'over-ornamentation'. It is widely accepted that the Raumplan went on to inspire the modernist movement, however not without considerable amendment and interpretation.

There are several alterations from what Loos built relative to traditionally modernist architecture, such as the Villa Savoye (by Le Corbusier) or Barcelona Pavilion (by Mies Van Der Rohe). The vast reduction in the use of materials, the reduction in the implementation of materials/mirrors, the use of lighter colours and more apparent structure designed into the buildings are all major factors not demonstrable in the designs of Adolf Loos. However, the modernist's lack of ornamentation, and how these architects thought about space bore strong resemblances to Adolf Loos' theories and work. Possibly showing these changes were significant enough, that while Loos was on a path towards modernism, modernism would never have directly result of Adolf Loos, it required the work of more wholly disruptive architects such as Le Corbusier.

# The Raum Plan and Materiality

## CHAPTER : 1

Throughout Adolf Loos' career his buildings and design theory changed, despite following the general theme of de-ornamentalism. In Loos' early work, such as his Café Museum (1899) or the Kärntner bar (1908), two majorly interior projects, he implemented a definite shift in ornamentation away from abundant garnishes, stonework and detail. The Café museum is minimal, representing Loos' inclination to reduce the amount of ornamentation and sticking to the occupation of the spaces, despite a lack of decor the large hanging mirrors through the space were a notable exception. Despite its modest size the Kärntner bar shows a wealth and luxury equal to that of a heavily ornamented building, however through the use of materiality instead of fine stonework. Despite these two interiors being designed within a decade of each other, the aesthetic of the architect seemed to have shifted.

Adolf Loos was implementing his Raumplan, bending and shifting it to create what was suited. This malleable idea was implemented in several ways, differing through Loos' projects. The height of ceilings created a considerable effect on the atmosphere; alongside the ceiling heights Loos would pay great attention to the materiality, lighting and acoustic qualities of the spaces, in order to curate an ideal space for whichever function he was designing.

Loos wanted comfortable, relaxed areas to have lower ceilings, more familiar and softer materials such as wood and carpets, allowing the inhabitant to feel more at home and enclosed in a comfortable space. When designing public spaces Loos made use of high ceilings alongside reflective materials such as polished marble and onyx. The changes in ceiling heights embodied ideas of the functionality and of how to behave in the space. In a room with a high ceiling there is a preconception of luxury and grandeur which people enjoy the sensation of presenting their public image. However in a bedroom or intimate space, it is necessary to feel more at ease, not where you need

to behave in a publicly acceptable manner, somewhere you can relax and feel comfortable without feeling on show.

These two concepts of creating spaces for the public eye and spaces where you could feel more comfortable and relaxed collided gracefully in the Goldman and Salatsch Building in 1910. On ground floor, the meeting of ceiling to walls are adorned with large mirrors, set to increase the sense of space. The main staircase creating an infinite space, a public and open atmosphere with very high ceilings, the use of massive mirrors and lines to draw the eye upward creates a sense of luxurious infinite. A direct contrast to the changing rooms upstairs which used woods, carpets and lower ceilings to create more comfortable, at private. This demonstrated the way in which Loos believed spaces for different functions should show different qualities, even within the same building through the different processes involved in purchasing clothing. The richness, decor and extravagance of the interior showed a contrast to Loos' more modernist side, the proposed exterior however would have no adornments around the windows above the second floor. While presently, not seemingly profound, at the time it was enough that it "so infuriated Emperor Franz Josef that he demanded his curtains be permanently drawn against it"<sup>4</sup> showing the radicalism of the building in the early 20th century in Vienna.

In Loos' writings, while materiality was not the focus of the majority of attention, Loos would mention it as an important part of the experience of his buildings "what I want is for people in my rooms to feel the material around them. I want it to have its effect on them I want them to be aware of the enclosing room, to feel the material, the wood, to see it, touch it,"<sup>5</sup> This quote clearly shows the importance of materiality in Loos architecture and how much of an affect that he believed the materials would have over the inhabitants of the spaces.

The major works of Adolf Loos include similarities, largely seen in the way that the architect used materiality, despite different functions and scales of the projects. In the kärntner bar (1908) there is an incredible example of his use of

3. PAUL DAVIES › ONLINE › <https://www.architectural-review.com/essays/reputations/adolf-loos-1870-1933/8653892.article>  
› 08/10/13

4. BRIAN ANDREWS › Words and Buildings: A Vocabulary of Modern Architecture › Thames and Hudson › 2000 › page.187.

materiality; from onyx to rich polished woods, green leather to large mirrors positioned above the eye line. The kärntner bar was far from 'de-ornamented' it was strewn with the in-built ornamentation of the material used for the interior facade. The Goldman and Salatsch Building (1910) sees many of these same materials, more spread throughout the project, leather sofas, polished woods, marble an enormous mirror in the stairwell, as previously mentioned. The Villa Müller in Prague (1930) the most recent of the three, was also embellished with polished woods, marbles and all have decorated ceilings.

All three buildings have common materials, the use of polished wood and varnished marbles were seen consistently throughout the spaces, these shiny materials which reflect light were perhaps intentionally considered for their ability to enable the increased movement of light around the rooms. The materials carefully choreographed to create the illusion of more space through allowing light to travel more effortlessly through the spaces deeper in to the room.

Photo

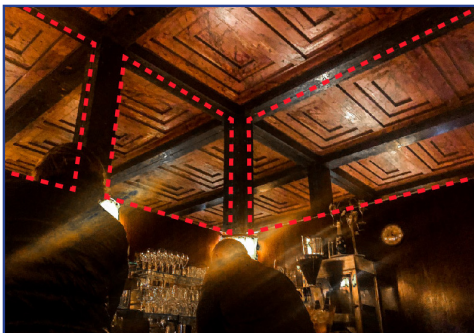


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As you can see in this photo it is very difficult to tell in the Kärntner Bar where the mirrored wall begins, creating a vast sense of space overhead

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Mirrors Outlined



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This outline shows where the mirror ends and the virtual space beyond the mirror begins, when highlighted the space appears to be much smaller than when the mirrors are left to appear as an extended space into the room

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# Materiality and Mirrors

## CHAPTER : 2

The the Kärntner bar (or American Bar) (1908) as well as the Goldman and Salatsch Building's (1910) use of mirrors are both noteworthy, making the rooms and areas they were positioned within feel more spacious, these were in public areas. In both buildings the mirrors were positioned above eye line with mirrors positioned facing each other, allowing for a sense of infinity, as one would look into a mirror, which is reflecting into the other endlessly. Adolf Loos was still experimenting with the raumplan in these two projects, still early in his career both were designed before his essay 'ornament and crime', written in 1908<sup>5</sup> was fully developed. This use of mirror and reflective materials could influence how people perceived the space/raum, when it was impossible to achieve the desired results with the limitations set by the construction and local surroundings. Allowing Loos to create a space/raum without the extension of the physical build, this raum was purely fictional, existing nowhere but in our lack of ability to see a mirrors true surface yet, exactly what Vienna's residents yearned for upon leaving the confines of their apartments.

Besides these projects, many other of Loos' buildings used mirrors and reflective surfaces. Particularly in public areas, where he wanted to project the image of luxury, wealth and space. Materiality was a way for Loos to express these luxuries without the need for over-ornamentation. "Loos never argued for the lack of ornament. He argued for the appropriate ornament. He believed it's better to find the ornament in what exists already, to find ornament in material, for example in the surface of marble, the surface of different woods. If you see the photo of his own apartment, you see the carpets, the curtains, et cetera. One could by no stretch of the imagination see this as a lack of ornament."<sup>6</sup> seeing the ornamentation through the materials may

5. JACKIE CRAVEN › Biography of Adolf Loos, Belle Epoque Architect and Rebel › [thoughtco.com/adolf-loos-architect-of-no-ornamentation-177859](http://thoughtco.com/adolf-loos-architect-of-no-ornamentation-177859) › 02/12/19

6. MICHAEL Z. WISE › <https://www.nytimes.com/2013/12/05/garden/reassessing-an-uproar-in-architecture.html> › 04/12/13

be considered a major factor in how Loos designed. However, the ornamentation would go further, with decorated ceilings in several of his works such as the Villa Müller and the Kärntner Bar. In the villa Müller the ceiling above the dining table is a highly varnished wood, with a rectangular pattern, this draws the eye upwards creating the impression of a heightened space. Loos was using materials to create a larger sense of space. For an architect openly opposed to the over-reliance on ornament, perhaps he believed that this ornament he was implementing into his designs served a purpose surplus to that of pure decoration, an additional sense of space.

While Adolf Loos was clearly interested by materiality and put a lot of time and thought into this side of the design, he stated, "My architecture is not conceived in plans, but in spaces (cubes). I do not design floor plans, facades, sections. I design spaces. For me, there is no ground floor, first floor etc.... For me, there are only contiguous, continual spaces, rooms, anterooms, terraces etc. Stories merge and spaces relate to each other. Every space requires a different height: the dining room is surely higher than the pantry, thus the ceilings are set at different levels. To join these spaces in such a way that the rise and fall are not only unobservable but also practical, in this I see what is for others the great secret, although it is for me a great matter of course."<sup>7</sup> Seeing the way that Loos thinks about designing through spaces leads to the conclusion that materiality, being such a large part of his design had a direct influence from and onto his priority in design, the space and its utility. This would suggest that the materials were being used in conjunction with the spaces in order to create, effect and alter our perception of the spaces. Not merely to decorate the spaces or provide the replacement for ornamentation, which he had deemed so unnecessary from other areas.

Three of Adolf Loos' public designs demonstrate his use of materiality in innovative ways. The Café Museum, (1899) a simple design with high ceilings and a large curving mirror as you walk in, with more small mirrors along the white walls. The Kärntner Bar, (1908) by which time Loos had a much

7. ADOLF LOOS › found on <https://www.constructingarchitect.com/what-is-raumplan/> › 18/10/19

8. EVA BRANSCOME, FRASER, GNEHM › Banister Fletcher, central Europe › 2019 › page 541

larger scope of materials, using polished woods, onyx and mirrors, three reflective materials, increasing the atmosphere of the condensed tiny bar, giving this small project a vastly increased sense of space. "The American Bar by Adolf Loos' is a luxurious environment, intricately fusing precious stone, hardwoods, leather and brass within this densely packed confined room. The almost claustrophobic but also highly sensual experience of the crowded drinking establishment is released through the reflection of space into infinity at clerestory level."<sup>8</sup> Showing that the space in this interior project was largely managed through the use of mirrors and reflection, as it is the only way in which the claustrophobia is 'released'. Finally Loos' first full building, the Goldman and Salatsch Building (1910), a significantly larger than previous projects and over multiple floors, Loos played with changing ceiling height, "here, Loos for the first time explored his idea of the Raumplan as a fluid interior in which larger representational volumes converged with more secluded smaller space and intimate niches, according to their function and hierarchy."<sup>9</sup> alongside this he used different materials. He used polished woods, marbles, mirrors and tiled or carpeted floors.

In the Examples of these buildings, an interesting note is the positioning of mirrors, which are consistently placed so that you do not see your own reflection, but they reflect at an angle meaning you see more 'space'. In this way it is clear that Loos is using Mirrors to trick your mind into believing in imaginary space, and if it does exist it is replicated from other parts of the room. In the American bar (Kärntner Bar) "the ceiling is reflected over and over again, with this optical illusion expanding the claustrophobic intimacy of this almost impossibly small space into an infinite replication of an abstract quadratic grid"<sup>10</sup> creating the sense that the room has partition walls separating a much larger space, the repeating detail of the ceiling with the grid re-enforces this repetition and endorses the notion of the increased space. This is the clearest example of where Adolf Loos used materiality to directly influence the sense of space.

The next pages show the materials used by Adolf Loos in the Karntner Bar and Goldman and Saltsch building.

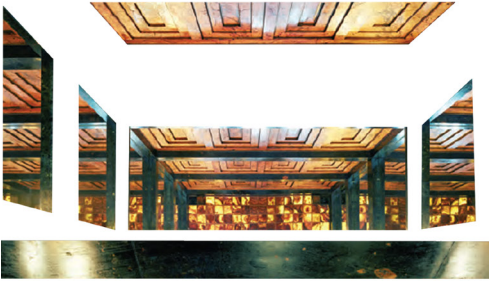
9. EVA BRANSCOME, FRASER, GNEHM › Banister Fletcher, central Europe › 2019 › page 557

10. EVA BRANSCOME, FRASER, GNEHM › Banister Fletcher, central Europe › 2019 › page 555



#### COFFERED MARBLE

This intricate grid like honey coloured marble set above the scene reflects into the distance, past the room. This pattern draws the eye upward, excusing the small borders of the bar



#### MIRROR

Used extensively in the American bar, Reflecting the onyx grid and coffered marble infinitely massively changing the sense of space.



#### ONYX

The rich stone adds to the richness of materials, and creates the sense of space when viewed through the mirrors

#### GREEN LEATHER

Another luxurious expensive material, also reflective when compared to its alternatives



#### POLISHED MAHOGANY

This highly varnished wood, a reflective surface adding space while also bringing a deep and luxurious atmosphere

#### BRASS

The metal lines the bar adding a richness while also reflecting light

#### TILED FLOOR

The tiled floor adds another element of decoration into the highly luxurious room



#### MIRROR

The mirror which expands up the stairs can be seen from the lower floor



#### PLASTER

This ceiling surface is white and white not a reflective material white allows the most light of any colour to bounce off it



#### POLISHED HARDWOOD

This wood, acting almost mirror like, as you can see down the stairway, it reflects the stairs

#### POLISHED HARDWOOD

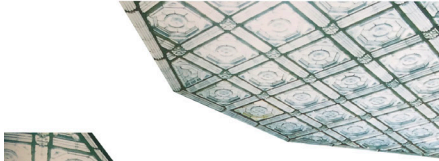
The different type of wood on the stairs is paler in colour but slightly less reflective

#### BRASS

The reflective metal lines the stairway and holds down the carpet

#### CARPET

The soft material, too close to ornamentation for the modernists, however deemed necessary by Loos



#### DECORATED GLASS

Glass allowing light through increasing the sense of space, the decoration on the glass draws the eye upwards adding more space. The grid on the glass adds depth in the mirror



#### MIRROR

These large mirrors have angles and are placed above head height meaning you see the grid from the ceiling and the rest of the space



#### POLISHED HARDWOOD

This highly varnished wood acts as a very reflective surface adding space while also bringing a deep and luxurious atmosphere

#### BRASS

The reflective metal lines the stairway and holds down the carpet



#### CARPET

The soft material, too close to ornamentation for the modernists, however deemed necessary by Loos

# Mirrors and Perception

## CHAPTER : 3

Mirrors were a very popular material of the late architect Adolf Loos, they had a significant place in all of his public buildings, mainly in the Kärtner Bar, the Café Museum, the Anglo-Osterreichische Bank, the Café Capua, Haus Scheu, Wohnung Leopold Goldman, Goldman and Salatsch as well as several spaces in many of his private buildings too.

Mirrors, because of their incredibly flat surfaces allow light to be bounced off them and carry on re-creating spaces, instead of photons being scattered as they would when hitting most other surfaces. The smoother the surface the more reflective. They are used to mimic space, show what otherwise cannot be seen and to create a false vision in several examples such as microscopes, telescopes, periscopes, and kaleidoscopes. Mirrors are perhaps the least architecturally 'honest' of materials, as you never see the mirror surface but the light which is reflected from it. Adolf Loos' use of mirrors varies only slightly between his buildings he creates effectively more perceived space in his rooms through positioning mirrors so that you do not see a direct reflection of yourself, but that you see more of the room. Meaning that you see the physical room in front of you in addition to also seeing and interpreting the room through the mirror, potentially doubling the amount of space you are looking at. This effect is very impressive when used well, as in the Kärtner bar in central Vienna, the tiny bar seems to expand infinitely in the space above your head. Through using mirrors facing each other, and reflecting the ceiling. This very profound experience makes it nearly impossible to consider that an architect such as Adolf Loos, who is consistently so concerned with his use of space, would not have been using this technique intentionally to increase the sense of space. This creates the argument that the raumplan used by Adolf Loos was not a purely physical design, that this idea of thinking through spaces instead of rooms included seeing and thinking through spaces, which are fictional, such as behind a mirror.

The Retti Candle Shop (1966) also in Vienna, designed by Hans Hollein, was perhaps influenced by those designs of Adolf Loos. A space where a notable use of materiality as well as the use of mirrors creating an infinite loop is affecting the amount of space perceived, attempting to make the tiny shop feel more spacious. When you walk into the space (now a jewelers) you are greeted on either side by floor to ceiling mirrors placed directly opposite each other, unlike the majority Loos' mirrors, these flat mirrors show your own reflection in them allowing the ceiling and walls around you in the mirror to be reflect back endlessly, creating the sense you are standing in an infinite space. This played with reflection in a very different way to Loos; this perception into the mirror is more abstract than that of Loos' work such as in the American Bar, where the ceilings, mirrors and the timber and onyx grid work are positioned so that you could be excused for believing the spaces above were far vaster than in reality.

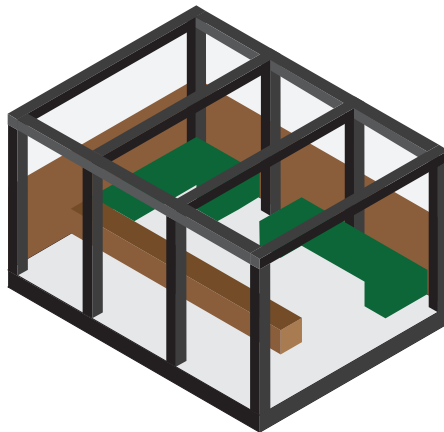
Mirrors also allow light to carry very well; they only diffuse or absorb very small amounts of light meaning that a room with mirrors given the same source of light as a room with rough dark surfaces will be much lighter, even with all other factors being equal, this would also mean that the room with more light feels more spacious. On top of this fact, natural light is also proven to improve people's moods and productivity<sup>11</sup>. Therefore increasing the benefit of mirrors, reflective surfaces and light color schemes. Suggesting further that Adolf Loos was in fact material to directly increase the perceived space and making the spaces more livable and comfortable. Despite Loos' use of materiality being deemed by modernists as to have been superfluous.

Highly varnished, polished or shiny materials also create this reflective effect. Materials that Loos used profusely in his buildings and interiors, these shiny materials retain light in the room and therefore increase the amount of perceived space. Proving the connection of shiny materials and the visual affects created by it, and particularly proving the affect these materials had on people which reflective surfaces may have, Adolf Hitlers head architect, Albert Speer who used an extremely highly varnished floor in the corridor leading to Hitlers office, as a way to throw off visitors and become unsettled and enter the office on their back foot, making them more likely to submit



to what was ordered of them. This use of shininess, to intimidate shows the use of a polished surface as a way to impact people psycally and emotionally.<sup>12</sup> While this shows the influence of shininess, Loos was most likely using the material to increase light and introduce a sense of luxury in the space, instead of creating a sense of unease he creates a sense of ease.

Light in spaces looked at greatly by artist James Turrell, the piece 'seldom seen - skyscene' in 2002 is a minimal room with benches white walls and a large skylight. Upon entering the space the eye is drawn upward due to the invasion of light from above. The room creates a sense of space, making it feel much larger than in actuality, also making the space seem less crowded. Adolf Loos was perhaps using similar tricks nearly 100 years prior, in the Looshaus (Goldman and Salatsch building) using reflective materials to increase the sense of light and drawing your eye up to this light. With a huge light above the stairwell, and mirrors running up the wall in lines drawing the eye upward. Experiencing these two spaces created vastly similar experiences. This skylight like piece is yet another weapon in Loos' arsenal, aimed at increasing people's perception of spaces. Similar effects also were experienced in the Karntner bar, where the coffered marble ceiling drew the eye up and the mirrors reflected around it this effect is shown on the next page.

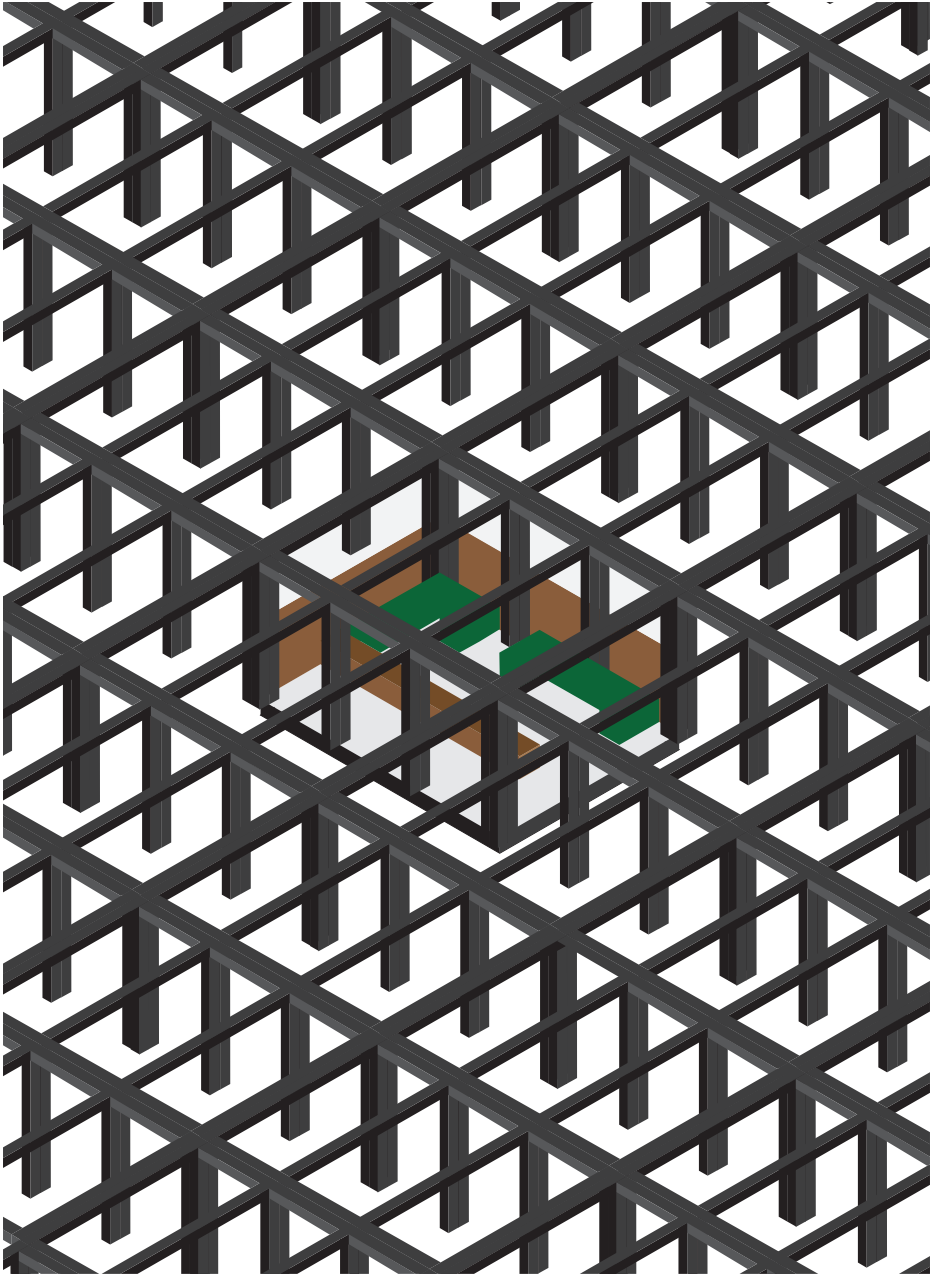


#### ISO of the KARNTNER BAR

Showing the green leather sofas, wooden bar and onyx grid structure framing the space.

11. CARLA DAVIS › <https://sustainability.ncsu.edu/blog/changeyourstate/benefits-of-natural-light/> › 24/03/14

12. IAIN BOYD WHYTE › <http://www.harvarddesignmagazine.org/issues/6/reflections-on-a-polished-floor> › 03/1/98



ISO of how space in the KARNTNER BAR is perceived when looking towards a mirror showing the green leather sofas, wooden bar and onyx grid structure framing the space. The grid appears to continue infinitely above the inhabitants head.

# Perception and Raum

## CHAPTER : 4

Raum, or space in a room can be perceived to be larger than in actuality by drawing the eye upwards, aforementioned in the work of James Turrell (vii) and the Stairwell in the Goldman and Salatsch Buildings. One way in which Loos did this was through his decoration of ceilings. Ceiling decoration, a nearly direct form of ornamentation would have been cut out by Loos if he did not believe that it had a purpose. Re-enforcing this is where Loos used decorated ceilings, they are generally in spaces which he would believe were worthy of higher ceilings, such as public spaces, (American Bar) in kitchens (Villa Muller) and Dining / sitting rooms (10 Bendova Street, Pilsen).

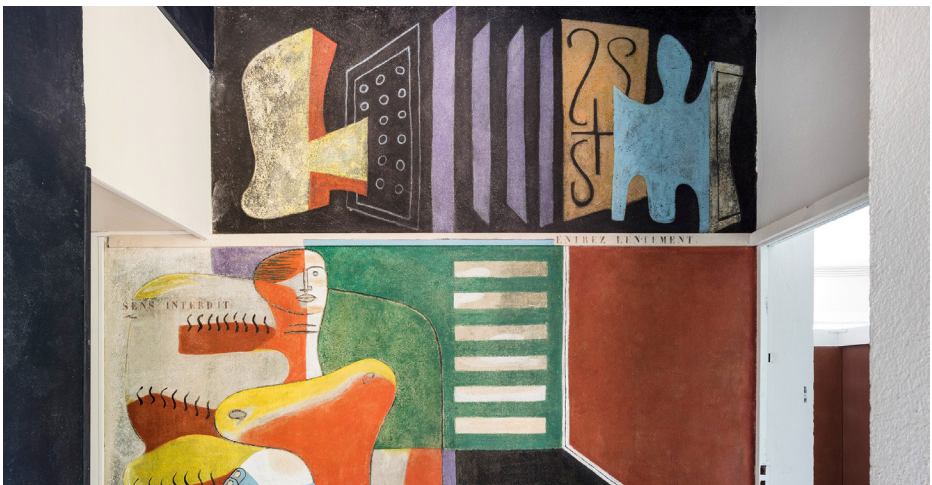
Perceptions of spaces can be a fluid and created in 2D, perception in art is very interesting, the painting 'Las Meninas' by Diego Velazquez perceives space in a very interesting way. His use of light and dark, particularly in the mirror on the back wall, which creates the means to see behind the scenes of the painting all looks at perception and depth. The way which the mirror is represented is very interesting, the painting shown in the mirror is much clearer and lighter than the rest of the back wall, almost equal in light quality to the doorway which opens through to another space. Creating a similar sense of space through these two portals. The way in which Velazquez uses layers on this flat surface to create such depth is very interesting as a way to increase depth and the perceived space even in the complete absence of it. The connection between the space through the door and the space reflected in the mirror "create a push-me-pull you affect. To the right, the open door beckons the viewer to imagine the space beyond, while the mirror to the left, while giving the illusion of recessive space, actually pushes the viewer out of the picture plane, because it is reflecting the very space in which the viewer is situated."<sup>13</sup> Shown below as iii.

Using art to influence space was also achieved through Le Courbousier's murals in Eileen Grey's Villa in the south of France. The murals depict the space, following suggested lines from the rooms, bringing light and dark and an added sense of depth into the rooms. This decoration and use of colour shows some of the massive potential for material, decor and colour to influence our perception of spaces. Shown below in iv

The Joining the wall and ceiling is a very important junction in any building. Some great examples are found in John Soane's museum, London (1837) Adolf Loos' Karntner Bar, Vienna (1910), Manz Bookstore and the Amber Fort, Jaipur (1592)<sup>14</sup>. These four buildings use different tech-



iii Las Menias, showing depth of space using a painted mirror

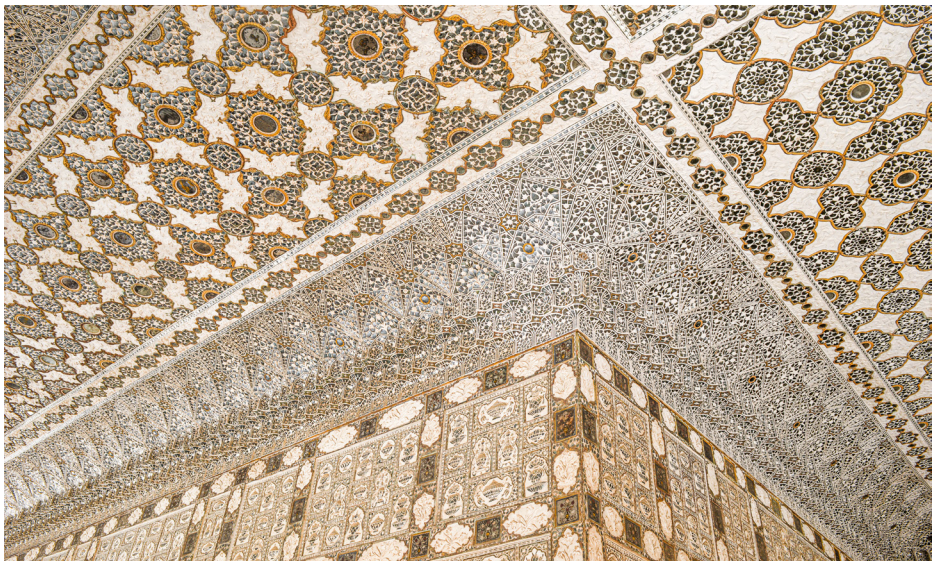


iv Le Courbousier's murals in Eileen Grey's Villa adding space and depth



niques to create the same effect, drawing the eye upward, and creating an additional false sense of space through the unclear joining of the walls to ceilings.

John Soane created a space in his museum where you cannot see this junction, as there is a recession upward, shown on the image (vi). This allows ones mind to assume there could be an infinite amount of space between the ceiling and wall, creating a spike in the amount of perceived space in a room (vi). The Amber fort, built 300 years prior the construction of these other two buildings (v). Plays with this junction through the use of mirror, despite technology at the time not allowing for the large planes used by Adolf Loos the desired resulting effect was likely constant. The junction is curved as to be softer, and is decorated with many mirrors, distracting the viewer of the junction and increasing the amount of light in the space. In a relatively similar way, but through different means Adolf Loos also blurs the junction through his use of mirrors, in both the Kärntner Bar and in the Manz Bookshop, which both use mirrors to reflect the ceiling, above head height meaning that you never see the junction between the wall and mirror clearly but a reflection of it.



v Elaborate junctions using mirrors in Jaipur at the Amber Fort



vi Soane Museum, showing junction increasing the sense of space



vii James Turrell exhibition raising the focus of the room to the ceiling



The staircase in the The Goldman and Salatsch Building by Adolf Loos from the ground floor to the first is very interesting in the ways in which it shares elements from each of the previous studies. Using mirrors to create depth shown in Las Menias, Separating spaces using colour / material as in Eileen Grey's home. Use of blurring the junctions of the ceiling and wall as in the Amber fort and the Soane museum. Finally drawing the focus to the ceiling as with the James Turrell exhibition. Creating a space which has an incredibly increased perception of space.

viii

# Material, Mirrors and Raum

## CONCLUSION

Ways in which people perceive space can be changed. Meaning the raumplan may have been implemented without having physically changing ceiling heights or creating openings through a building. Perhaps the same or greater effects could be produced through the clever use of reflection, shininess, colour, material, junctions of ceilings to walls, paintings playing with perception, ceiling ornamentation and other ways in which interiors can influence our perception of buildings. In the modernist work of Le Courbousier and Mies Van Der Rohe the layout and space was vital as they rejected the extensive use of material that Adolf Loos used. However, in Loos' work the materials were primary to the design, as were several more of the aforementioned techniques. In some of Loos' work, where he did not have as much physical space, he demonstrated clearly he can manipulate the perceived space with clever use of materials. From his early projects such as the Karntner Bar and Café museum (which were based mainly on one level) to his later interior works where he demonstrated he could still make use of changing perceptions of space without having to physically change these spaces. Adolf Loos was creating buildings and spaces which were unique and altered the sense of space through his use of the raumplan, of which the use of materials and particularly mirrors were an integral and under appreciated part.

Adolf Loos' raumplan was always present through his use of materials. These thin interior facades could create huge amounts of space, which would not have been possible if physically built. Loos is remembered for his raumplan, his war on over-ornamentation and his influence on modernism, however his most impressive feat was his ability to implement and alter peoples perception of spaces through his use of material. While his exteriors resemble modernism and his writings can be seen to imply this stripped back objective, his intense knowledge of materiality is what made him a great architect, but also prevented him from becoming a great modernist.

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