THE USE OF LIGHT AND SHADOW IN PAINTING

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ABSTRACT
As the art of perspective drawing has developed, Western realistic paintings have become better at conveying the illusion of space as the artists see it. One of the most important techniques is the use of light and shadow to create the illusion of depth on a flat surface. The three-dimensionality of the objects is diminished if the light is not shown on a picture plane in this depiction of the space. So, I want to know if accurately expressing shadow and shade ensures that the place being described is recognized. This study will focus on the work of Johannes Vermeer, a realist who drew images of ordinary life, and examine how he used geometric shadow and shade. Shadow is a versatile design feature that may be utilized to highlight, soften, or otherwise enhance a subject in architecture and landscape. The shadow may also provide character and vitality to the design. This article uses real-world examples to investigate the unique impact that shadows have on buildings and outdoor spaces.
KEYWORDS: Light, Shadow, Painting, Colour

INTRODUCTION
Choose a sunny day to complete this task. Set an intention at the start of your session (see the Create Cycle in the PDF titled Introduction to Creative by Nature Art). The word "intend" comes from the French verb "entendre," which means "to direct one's attention," and the Latin verb "intentere," which means "to turn one's attention, strain, literally to stretch out, extend." After writing down your goal, let it go. Literally. It's similar to putting a pebble into a quiet body of water and witnessing the ripples spread outward when you set a goal. When you're done, you can return the meaning of your journey to its beginning by placing your pebble in the well. Don't deliberately cling to the initial intent; instead, just keep creating. Write down something you are intrigued about or drawn to today if you have a few minutes to spare. As you stroll outside, open to a plant, animal, or tree whose shadow particularly appeals to you and bring your art supplies (see Creative by Nature Art Eight Day Practice PDF). Before starting, get consent.

The local color of an item makes it much more difficult for a young pupil to grasp how the Light and Shade of the object should be distributed, let alone the right distribution of the Light and Shade of the whole image. Light and shadow, however, may be reduced to a few simple rules that are as accessible as perspective's with just a little bit of thought and observation. Understanding how much of the Light and Shade seen on an object is to be considered as actually belonging to it, without which it would be impossible to distinguish its form, and how much is entirely owing to reflection, received from the surrounding objects, is a challenge for beginners and a factor that can make the subject extremely complicated at times. Is it possible to create a faithful depiction of an item on a flat surface, and if so, does that rely on the correct differentiation of these points? It is not currently planned to address the portion of the topic concerned with the visual arrangement of the Light and Shade, which calls for a higher level of talent and an understanding of what painters refer to as "effect." The following pages will be dedicated to a succinct explanation of the principles of Light and Shade as developed by common day-light, by sunshine, and by candle or artificial light upon basic geometric solids, and of the degree to which this Light and Shade is modified by reflection.

LITERATURE REVIEW
Siyuan Li et.al (2021) Interior design in China has been given a new lease of life because to the country's burgeoning computing industry. The use of light and shadow is becoming more popular in contemporary art. Lighting effects in interior design may be improved by the designer's creative efforts. In practical design, it is essential to take into account the materials' actual physical characteristics. The finest results in light and shadow painting may be attained via appropriate rendering. First, the importance of CAD in the field of interior design is examined. Then, this research examines how computer-aided interior design uses light and shadow to convey a sense of creative

expression. In conclusion, this article creates a plan for the influence of hotel lighting design from the inside.

Agostino De Rosa et.al (2019) Beginning with its murky origins in the Fifteenth Century's research on conical linear perspective, This section begins in the fourteenth century and continues up to the present day, when light projection is employed in contemporary art installations to chart the evolution of the problem of representing light and shadow in visual art. Here, we take a close look at two pieces by two artists whose approaches to the conceptualization of light and shadow in their respective works couldn't be more diametrically opposed. The first is the so-called Brera Madonna by Piero della Francesca, in which the image projected from a luminous radiation is employed with a narrative purpose, supporting the apparently hidden script of the painting and, according to the artist's own speculations about perspective, as a means to clarify the phenomenal world. The second is a part of James Turrell's Dark Spaces project, in which he explores how light's physical properties might be used to create settings in which viewers can "see themselves seeing." His piece of work uses the phenomenological staging of light and dark to create illusions via the interaction of the senses, but there is also a strong symbolic component that is frequently tied to his own speculative ideas. The geometry of light and shadow draws attention to the phenomenal and spiritual aspects of an artwork, deepening the viewer's engagement with the piece.

Maarten Wijntjeset.al (2018) Human annotation tends to be overlooked in favor of automated computational approaches despite the fact that both seem to disclose unique insights in digital art history. We argue and provide examples of how having a 'person in the loop' might help uncover insights that may be missed by machines. We zeroed attention on the perceptual elements of visual art in particular. We were able to both reproduce previous results and disclose new insights into visual norms by using very easy annotation tasks (such as delineating human lengths, indicating highlights, and classifying gaze direction). We determined that Canaletto generally used correct perspective when depicting human beings, that he used viewpoint elevations ranging from around 3 to 9 meters, and that he strongly favored light directions parallel to the projection plane. When taken as a whole, the annotations, analysis, and findings demonstrate how human annotation may enrich and expand the study of technological and digital art history.

Paul Centore (2013) In this post, we'll look at a straightforward, do-it-yourself approach of creating convincing shadows. The technique makes use of the Munsell color space. The color of the item being painted is determined by drawing a straight line on a Munsell hue leaf. The line begins at the neutral 0 (N0) point on the neutral axis and extends to the Munsell value of the object's color (when seen in full light). This line's colors represent the object's coloration in varying depths of shadow. An intuitive method for painters to blend these colors, the Reilly method is offered. Using common household items, a detailed tutorial on creating a shadow painting is shown. The approach provided here is non-technical, yet it is based on public technical material.

THE EXPRESSION OF SHADOW AND SHADE

The scene's dynamism is determined by where the light source is located, as well as the quality, amount, and direction of the light and rays, the serenity of the atmosphere, the level of mystery, and the abundance of the represented area. Chiaroscuro is a term used in the Western art world to describe monochrome paintings (like Grisaille) that depend only on tonal variations in value to convey their meaning, creating the illusion of relief when hung on the wall. "The Art of Advantageously Distributing the Lights and Shades Which Ought to Appear in a Picture, Both for the Repose and Satisfaction of the Eye, and the Effect of the Whole Together," as defined by De Piles in his "Cours de Peinture" (1708). Leonardo da Vinci created a shading diagram of a sphere in the 15th or 16th century. Up until the middle of the 17th century, artists would only show the bright side of an item and the dark side would be shaded, but it was never evident where the shadows would fall. In other words, the unity of the space and the interaction between the items inside it were not explicitly stated as goals. The concept of shadow and shade as mathematically logical objects entered popular consciousness in the 17th century. For instance, Jean-Fran coisNic'eron depicted a shadow falling to the ground, while Jean Debruil depicts how shadows shift in relation to the orientation of the sun's rays. Approximately a century following the development of perspective drawing, the use of shadow and shade expression to build the image plain became commonplace.

Rembrandt is widely regarded as the preeminent practitioner of chiaroscuro, or the artistic treatment of light and shadow. His dramatic image planes were achieved by his depiction of light and shadow cast by lights and candles. However, his depiction of light and dark was unrealistic, leading us to question the reality of the world around us. He did not imagine that he was representing darkness, but rather brightness.
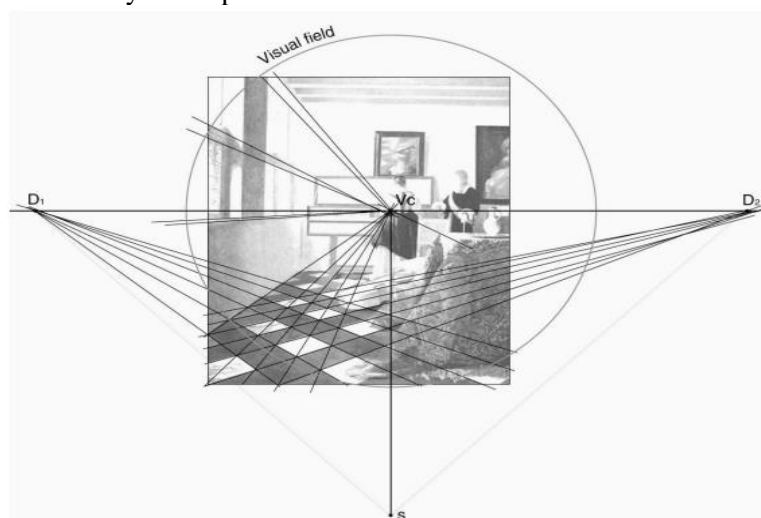
"THE MUSIC LESSON"
The depicted space

Figure 1: Johannes Vermeer, "The Music Lesson (A Lady at the Virginal with a Gentleman)",

The earliest known version of "The Music Lesson" (Figure 1) is attributed to the early 1660s, just as Vermeer was beginning to forge his own unique style.

In the image plane, a man and a woman are seen standing in front of a virginal that has been propped up against a wall. A photograph and a mirror reflect the woman's face on the front wall, while windows line the room's left side. A carpeted table serves as a front focal point, with a pitcher sitting atop the surface. There is a chair and viola da gamba between the lady and the desk. There is a pattern on the floor made by tiles laid at 45 degrees to the walls. The table, windows, and walls all have a similar pattern, which appears to accentuate the room's depth. The setting and furnishings in this image have appeared in many of his previous works.


Figure 2: Analysis of the perspective drawing in "The Music Lesson"

If the artist used a one-point perspective projection method, as it seems above, the depth lines in the painting will all converge at the woman's left elbow (see Fig. 2). Using this information, one may determine the interior's plan and elevation, as shown in Fig. 3, as well as the visual center (Vc), the vanishing point of depth lines, distance points (D1, D2), and perspective (s). Based on the relative sizes of the foreground items, we may infer that the artist positioned themselves at the far corner of the room, facing the wall. All of the items in the scene are clearly visible, and there is little distortion. The depth lines of the wall and the table work together to guide the eye to the focal point of the picture, which are the two persons seated at the table. The meticulous setting creates the illusion that time has stopped, and the audience finds itself enraptured by the virginal's song. P.T.A. Swillens classified the interiors that Vermeer painted into four or five distinct types based on the layout of the tiles and the windows. Using the then-current art form of perspective sketching, Swillens meticulously recreated each room from the viewer's point of view.

 P. Steadman used the information from Swillens to recreate the room's layout. Using the reflection of the artist in the front mirror, he was able to determine where the artist was located.
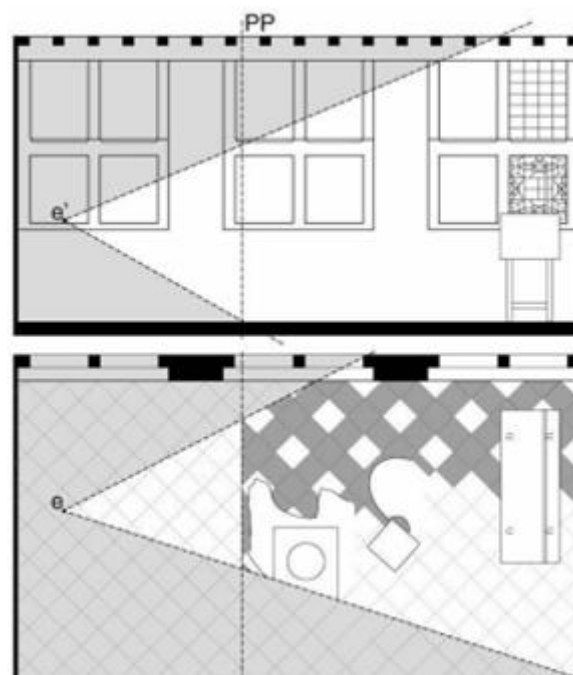
Figure 3: Plan and elevation in the room on "The Music Lesson"
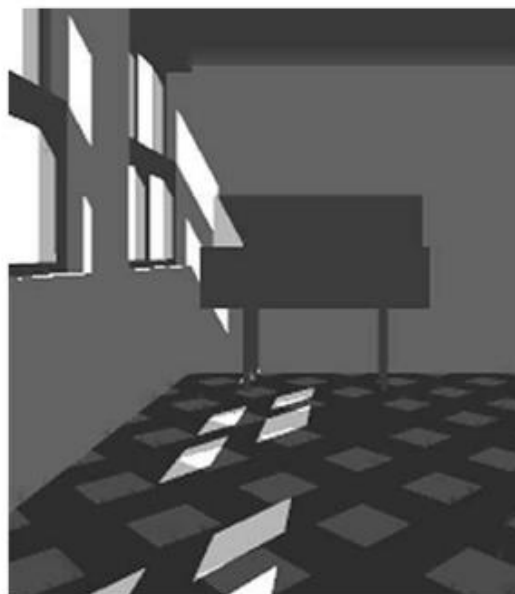
Figure 4: Representation of the shade and shadow in the room on "The Music Lesson" by 3D-CG

wall. He then recommended using a camera obscura to capture an image of the little chamber and snapped a snapshot of the scene. Other academics back up the claim that Vermeer transcribed camera-obscura images rather than using geometric shapes to represent space. However, there is no doubt that he "depicted" the area accurately.

THE USE OF LIGHT AND DARK IN HOLY PLACES AND SCENERY

Eastern and Western emperors alike used religion as a tool of power over their people in antiquity. The philosophy of religion was propagated not only through words but also through the silent language of religious architecture, which combined the use of light to produce visual contrast and prompted people to "abandon the darkness for light" in the hopes that this would help them relax. That's why churches and mosques are such popular destinations for those in search of spiritual solace.

The art of creating mood via the use of time-specific light and shadow

Artists in the West were masters at utilizing light and shadow to bolster the "divine rights of kings" and create a solemn, mysterious mood in their religious structures. The Egyptian temples of Abu Simbel are a good example. It was calculated that on February 22 and October 22, the sun would pass through the 60-meter long yongdao and shine directly over the sculpture of Ramesses II (see figure 5), which is located at the innermost of the temple, while the god of darkness, Ptah, would be in his nocturnal abode, Because of this, people had a higher regard for Ramesses II and refer to him as the "favorite of the sun.".

Use dark-light contrast to increase sense of mystery

People are more likely to be afraid in the dark. The need for light and the fear of the dark are shared by everybody. The gloomy atmosphere of Church of Light is meant to provoke a disturbing reaction from visitors. Only the bright light of the massive crucifix on the wall (figure 6) can calm the crowd. When individuals are troubled by their surroundings, the cross of light may be a beacon of hope in the midst of the darkness. People are often drawn to the cross of light because of the stark contrast it creates.

Therefore, the design of the Church of Light clearly demonstrates Tadao Ando's own style of architecture. To communicate the collision and contrast of darkness and light and elicit an emotional connection from the audience and display unique aesthetic appeal, he used basic architectural languages.

Figure 1 The sun shines over the sculpture of Ramesses II

Figure 2 The huge "cross of light" in Church of Light

CONCLUSION

The perspective drawing in "The Music Lesson" is meticulously executed. The structure and the contrasting dark and light tones all point to the central idea. While the forms have been rendered clearly, the shading and shadowing have been left out. The image is not photorealistic in this regard. Meanwhile, the sharp contours make the scene seem more genuine. Vermeer seems to have set up the framework to depict a slice of regular life. But it seems to me like there's a glass barrier between the artist and the scene he's seeing. Like a theater, this chamber has a strict no-entry policy. Light and shadow's use in the design creates a visual impact that goes beyond what the human eye can normally see, opening it up to a new realm of psychological appreciation. A well-thought-out use of light and shadow may dramatically amplify the intended mood of a building or outdoor area. It's a way of expressing yourself linguistically and a way of thinking that may unite minds and inspire lyrical imagery by stimulating the senses.

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