# LOG:: 08 ABOUT a Line

Wenn ein Punkt Bewegung und Linie wird, so erfordert das Zeit.

—Paul Klee

Where to start? Paul calls. No Free Play. Extrabreit. Video is the pure change of light. The visual starts with a point. The point is on a plane. The point moves in an ordered structure. Two points make a line.

At the beginning of the history of the moving image, there was a technological and scientific interest. This interest in technological advance and invention is about movement and research regarding movement. A lab set up is built and used: a wall, a horse, a camera, and an isolated body in movement. The body is the object of interest, the camera a research instrument. Movement is magic. Movement motivated Melieres.

The first cameras are also the first projectors. Their separation makes incredible distances for the reproduction of movement possible in multiple places far away from each other.

## Scanning

The technical problem of television was the reproduction of the event anywhere simultaneously. The trick of scanning line by line as a principle methodology made it possible. Lines and pixels, points on a target plane, are a technical condition of transport and time to form anywhere a grid. After the invention of television, it took many years to be able to record the analog video image. This was accomplished through creating the scanned raster of lines and inscribing what information was present in each line. This was the strategy of analog video in its two main forms: PAL and NTSC.

While film and cinema are about pictures, photographic images, and lines as compositional elements inside frames, the electronic system uses points as targets to scan and reproduce the live event. Movement and storytelling in cinema are framed and static, while television video and electronic and digital media are highly dynamic. The high speed of construction and transformation makes images visible and sound audible. Two points near each other construct a line. The signal’s scanning methodology goes by the line, line by line, from top to bottom, and the attributes or content of the target points on screen, pixels, and visual information build a line, then building each image.

With digital technology and modern LED screens, scanning became obsolete. A form of inscribing and recording information that was independent of the scanned raster but was grid-like, digital in form and mode, took over. Digital videos structure is pixel-based rather than line-based, and stores complete frames as data. No physical scanning beam (only necessary because of the state of magnetic control of electron beams and glass technology), but compression algorithms. Displayed instantly as complete frames. Different, aesthetically.

## Two Points

From one point the world arises, from two points a life that is a line.[[1]](#footnote-2)

As an essential visual and design element of drawing, the line is both a technical instrument and an artist's means of expression and style. The line connects two points; it separates, guides, organizes, draws, stretches, outlines, and designs or runs in a disorderly, labyrinthine, undulating manner.

The Italian architect and art historian Manlio Brusatin points to the myth of Daedalus. The first artist and architect built the labyrinth of the Minotaur as a symbol of architecture and road building, which in turn could only be outwitted by the *line* of a string: Ariadne's thread.

I want to follow Brusatin in an attempt to look again at the screen as a medium in itself and at the lines and pixels or dots it consists of. Here, I also insist on an aesthetic approach to something that might otherwise appear all too technical, or all too ubiquitous.

## Simplex Linea

Manlio Brusatin writes. Life is a line; thinking is a line, and acting is a line. Everything is a line. The line connects two points. The point is a moment; the line begins and ends in two moments. For Euclid, the line separates itself from the dimension of bodies to be able to control them. Bodies without dimensions are surfaces. Surfaces without extension are lines. The ends of lines that have no length are points. Euclid begins his geometry in reverse.[[2]](#footnote-3)

In classical antiquity, the line expressed clarity and proximity. Under the influence of Platonism, in the age of humanism, there was a strong push for the production of images, which were almost entirely replaced by the religious cultic world of imagery. The line of Platonism is a whole cosmos, traversed and structured by ascending, descending, circular, and spiral lines.

When the *optics* of the Middle Ages developed from Arabic optics, a fundamental problem arose. According to Euclidian geometry, perception presupposes the existence of an observer whose eye emits rays whose trajectories are as precisely directed as arrows. Ye according to optics, committed, as it is, to Platonism, the emanated rays are equal to the properties of the bodies (species) that emanate from the *surfaces or shells* that, as Democritus says, cover noble things. The power of sight is as delicate as a line; like a line, the shorter the path it travels, the more immediate and sharp it is. For Aristotle, too, nature operates along the shortest and best possible route: thus, a straight line. The commentaries of medieval scholastics on Roben Grosseteste, the Bishop of Lincoln, who saw light as something entirely material, do, however, see a parallel between lines and direct rays, as well as between angles and reflected rays (broken lines that change their trajectory) that strike reflective or even opaque surfaces. The geometric line, reinforced by the principle of light, is like an arrow that bounces off and is reflected. This is why vision can no longer be static, determined by the point of observation. That the ray is subject to actions such as reflections becomes the established conception of an optics and theory of vision that extends *geometrically* to Newton and *psychologically* to Berkeley.[[3]](#footnote-4)

Distance, also a line, can only be determined by the greater or lesser deviation of the rays from one another, which is a rather simplistic representation. But this opens up an aspect that was still completely unknown in the ancient world: the possibility of bringing objects as close as possible to the subject, which is almost miraculous, because it: ‘shows us how we can, at our will, make very distant things appear very close, large things that are close by appear tiny, and small things that are far away appear large, so that we can read tiny letters from an incredible distance, as if we were counting grains of sand.’[[4]](#footnote-5)

These not-yet-entirely apparent considerations inevitably bring to mind the *modern* invention of spectacles, which would not appear until the 13th century.

It is difficult to say whether it was Platonism or Aristotelianism, with their respective conceptions of the rays of vision (that they emanate from objects or rather from the human eye), which prepared the compositional and representational aspects that were central to the Italian *prospettiva*, which would later be attributed to Filippo Brunelleschi (in the material sense) and Leon Battista Alberti (in the spiritual sense), and which is expressed, for example, in the paintings of Piero della Francesca.

The two coincide. The Platonist discourse of the Bishop of Brixen, Nicholas of Cusa, develops its symbolic construction, turning away from the distant relations of similarity that occupied astronomy, in a brilliant act of bringing the objects of the world of the sensible closer together (*De docta ignorantia*, Chapter I). The horizon line is now one and the same—whether for the Arab world, which crosses deserts and seas, or for the Italian city, where from a tower top, a point on the horizon is determined where the vanishing lines converge, but also, at the same time, *return* from the horizon and arrange themselves on a targeted baseline closest to the observer.

The results is a visual pyramid or optical cone formed from imaginary rays, which we might better imagine as something emitted by the viewer's eye. This scheme for seeing is closer to Euclid and Aristotle. It thus corresponds to a geometric-physical (and, at the same time, painterly) *optics;* the development in *De pictura* nevertheless remains somewhat ambiguous. Of course, perspective in this sense does nothing other than arrange two visions according to the *concordant oppositorum* taught by Nicholas of Cusa, by exchanging them with one another. The theoretical as well as practical success of the *perspectiva artificialis* and, related to this, its entire symbolic value, is based on the desire for a permanent close-up view, which is the opposite of the distant and momentary vision in the Middle Ages: the view of a city or the brief glimpse of a star or a coat of arms.

For Piero della Francesca, who defines perspective as *things seen from a distance*, the view, the form, and the lines move from the objects seen to the eye. But, ultimately, they are ‘that place between the eye and the object where things are to be represented. [That is,] a place where the eye, based on its visual rays, represents things according to their proportions and can thereby judge their size.’[[5]](#footnote-6)

It is true that by solving the riddle of perspective, artists acquired a new intellectual status and were able to assert themselves socially as colleagues within the literary world. But in reality, perspective is more of an emblem, a cipher, far too complicated and at the same time far too simple, a labyrinth that the artist knows how to traverse only by secret paths and which he often presents as a marvel to the stern gaze of his master or despotic patron. It is also clear that the mastery of central perspective becomes the golden rule, the first true metaphor of an intellectual function of the arts, a genuine and unique revolution of the artists against the manifold skills and secrets of medieval recipe books, against the emblems and color symbolisms of an iconographic code in which, like an arithmetic book, the hierarchies of meaning that applied within the limits of the panel painting (but not outside it) were recorded. Art is not a reflection of social reality but rather its correction.

Beyond a mimetic function, central perspective (*perspectiva artificialsi*) brought the author himself, or what could be considered his intellectual work, to the foreground. Perspective is more of an aid, a talisman of interpretation, a model that guides the production techniques of the various arts, and which the painter can use to develop his new role as interpreter.

Artistic geometry is still developed under the same considerations discussed before perspective, and only today do we seem to anticipate the space-time relationship that uses very *geometric lines* (as mechanical trajectories) to describe the line through a linear equation as the speed of a point. Leonardo compares the point to time and the moment. There is, therefore, an immediate similarity between the line and a *quantity of time,* because just as points mark the beginning and end of a line, moments are the beginning and end of a period. The hand that follows and fixes a line grasps time and gives it form: a line becomes consciousness of a period and, thus, the dimension of an idea projected by time and, through time, into the *beyond* and perhaps eternity. At the end of the 16th century, there is a coat of arms motif (whose imagery is concentrated on a variety of symbols) that conveys precisely this moral message: a row of dots runs parallel to a line, extending over the same length, and underneath it is written: *Eternity is made of moments* (sie ex instantibus aeternitas).[[6]](#footnote-7)

## KANDINSKY KLEE

Forget about lines as physical things; they are more like the path a moving point leaves behind. Imagine a single point, perfectly still. A line is born when this point breaks free, its movement a rebellion against its static state. This movement is dynamic, a leap from stillness to action.

The forces driving this transformation can be anything - diverse and unpredictable. The number and combination of these forces determine the character of the line. Imagine a *language* of lines, one that speaks through their variations in tension and direction. Words can't capture it.

Art, at its most precise, strips away unnecessary details, letting the inner voice of this line-language resonate. Pure forms become vessels for vibrant emotions.

For Wassily Kandinsky, lines craved freedom. His abstract art was all about liberating them from being tied to objects. As a point finds movement, it creates a *design*, a fundamental structure built on movement itself.

Similarly, Paul Klee saw lines not as connections, but as organic growths, like plants sprouting from a point. Every line continuously evokes new feelings. Remember, movement is the ultimate source.

‘There are very different ways in which the movements develop, either like a walker wandering through a park or like a dog without a leash wandering back and forth to all sorts of lamp posts and all sorts of scent marks, and in this drawing you can see exactly these two types of movement, a walker and a dog without a leash.’[[7]](#footnote-8)

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## QUESTIONS OF WALKING AND SEEING

In her book *Wanderlust*, Rebecca Solnit draws a fascinating parallel between walking and the creative process. She compares writing to carving a new path through the landscape of imagination, where reading becomes a guided journey alongside the writer.[[8]](#footnote-9) At first glance, both pathfinding and guided travel seem to rely heavily on sight. Pathmakers and travelers both need to watch their steps and navigate the terrain. However, Solnit's analogy goes deeper.

Writing and reading, like walking, involve more than just the visual. Tim Ingold asks: *What happens when we walk?* He argues that watching our steps isn't simply about processing visual information like a map. We engage with the ground beneath our feet, not a mere image of it. Similarly, when we *look where we are going*, we scan the entire physical world around us, not just pictures or representations.[[9]](#footnote-10)

In Akira Kurosawa’s *Dreams,* a painter steps into the paintings of Van Gogh and walks through his landscape.

Reading and writing involve the exercise of both eye and mind, which must be true of walking. Can we find a way of describing the imaginative activity that goes on as one walks, reads, or writes, without having to suppose that it involves the perusal of images? Perhaps it is the very notion of the image that has to be rethought, away from the idea that images represent, on another plane, the forms of things in the world; instead, take the notion of images as place-holders for these things, which travelers watch out for, and from which they take their direction. Could it be that images do not stand for things but rather help you find them?

Should the drawing or painting be understood as a final image to be inspected and interpreted, as is conventional in visual culture studies, or should we consider it a node in a matrix of trails to be followed by observant eyes?

‘Are drawings or paintings of things in the world, or are they like things in the world, in the sense that we have to find our ways through and among them, inhabiting them as we do the world itself?’[[10]](#footnote-11)

Across cultures and time, in the simplest manner, traditions have fostered surprisingly similar ways of understanding the world. From medieval European monks to Aboriginal Australians, these approaches don't rely solely on spirits (animism) or animal ancestors (totemism). Instead, they use the physical world—landscapes, artwork, and even written text—as a bridge to a deeper reality, a connection with something more profound.

These traditions challenge the modern view that separates imagination and reality. They suggest that the *mental* and *material* are interwoven, like countries without borders. This contrasts with the view of imagination as distinct from the physical world.

Everything we experience, from paintings to nature, walks to written words, offers a path to understanding a deeper reality. These experiences are all valid forms of knowledge, shaped by a deeper source within us, a kind of wellspring of life force.

Medieval monks saw reading and writing as journeys. Mentally traveling through their writing, they drew upon past experiences and ideas. This flow of thought was purposeful, allowing for variations in mood and style.

The 12th-century Benedictine Peter of Celle advised scripture readers to imagine themselves walking through a landscape. By actively engaging all their senses, slowing down and speeding up as needed, the reader becomes a *craftsman using various instruments*, fully immersed in the process of understanding.[[11]](#footnote-12)

In the Middle Ages, people didn't just read religious texts, they lived them. Imagine these texts as vast landscapes you could explore on a pilgrimage. Specific locations became characters and stories from the Bible. By visiting these places, people felt a real connection to the narratives and their figures. This immersive approach wasn't limited to written words. Buildings, too, were designed like intricate texts. Every detail was intended to inspire thought and contemplation. People didn't try to grasp everything at once, but rather moved around and pondered each element. This applied to both reading and viewing art. Images weren't simply visual, nor were words just concepts; both could be experienced through a blend of sight and sound. Ultimately, reading and exploring a landscape weren't so different. Both were journeys of the mind, offering profound encounters with the world.

‘One would *read* the painting as a story, moving around the picture space as the events of the narrative unfold.’[[12]](#footnote-13)

Wassily Kandinsky took this approach even further. He believed music, like the works of Mussorgsky, could directly evoke emotions and inner experiences without depicting specific objects. He saw painting as achieving the same effect with colors and shapes. He compared the artist to a musician: colors were the keys, the eye was the hammer striking them, and the canvas served as a multi-stringed instrument resonating with feeling.

For Kandinsky, abstraction wasn't about creating empty spaces, but removing distractions. He aimed to reveal a deeper meaning by stripping away unnecessary details. This *abstract content* resonated with the soul, similar to spiritual concepts found across cultures. True art, for him, wasn't about copying the physical world, but about revealing these inner truths.

Experiencing art, as Kandinsky did while viewing an exhibition while listening to Mussorgsky's music, becomes a spiritual journey. We relive emotions and connect with the creative force that drives everything.

Imagination isn't about creating images of things, but about the creative force that shapes our world and what we experience in art and nature. Kandinsky suggests that art and the world itself share a fundamental structure.

*There are six essentials of painting, said he—namely, spirit, resonance, thoughts, motif, brush and ink. To this, Ching Hao remarked: Painting is to make beautiful things, and the important point is to obtain their true likeness, is it not? The old man answered, It is not…Painting is to paint, to estimate the shapes of things and really obtain them, to estimate the beauty of things and reach it, to estimate the reality of things and grasp it. One should not take outward beauty for reality; he who does not understand this mystery, will not obtain the truth, even though his pictures may contain likeness. Likeness, responded the old man, can be obtained by shapes without spirit, but when truth is revealed, spirit and substance are both fully expressed.[[13]](#footnote-14)*

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## Thinking like a carpet

‘Once you suspend figurative image making, a world of creativity opens up. Large-scale forms, such as figures and narrative, cramp the creative energy of the lines and colors that compose them.’[[14]](#footnote-15)

In her book *Enfoldment and Infinity*, Laura Marks explores a surprising connection between Islamic art and contemporary media art. What excites Marks is the way Islamic artistic abstraction uses non-representational forms to create a sense of *unnatural* life. Marks argues that these non-figurative images encourage a unique way of seeing that transcends the human perspective.

Imagine looking at a carpet. By entering its intricate patterns from any direction, our own perception becomes a part of creating something new. This idea—that seeing is an act of unfolding—can be found in the work of Ibn al-Haytham, a 10th-century Muslim scientist known as Alhazen in the West. Alhazen, in his book *Treatise on Optics*, proposed a theory of vision that emphasized active perception. He argued that form isn't something we simply see; it's a mental construct built by our brains. This means we need to contemplate what we see to recognize form, using memory, comparison, and imagination. Ultimately, our understanding is limited by our senses and is constantly being shaped by our interaction with the world.

Marks finds a fascinating echo of Alhazen's ideas in the work of French philosopher Henri Bergson. Bergson's concept of the mind as an active interpreter of the world influenced Gilles Deleuze, who argued that perception isn't a mirror reflecting reality, but a process of unfolding the world based on our unique viewpoint.

Normally, we react instinctively to what we see (food, danger, etc.). But Bergson suggests that the more time we spend absorbing the world around us, the more we can perceive. The longer we look, the more we discover (through sight, sound, smell, taste, etc.). This requires us to break free from our automatic reactions and truly contemplate what we see. For example, instead of immediately spearing a charging boar, we might take a moment to observe its details – its fur, its tusks. In some ways, this deep contemplation goes against our basic human instincts for survival, which often demand quick reactions. However, both Alhazen and Bergson propose that true understanding comes from taking the time to contemplate what we experience before acting.

Carpets, at their core, are like woven algorithms. From the loom's grid-like structure to the number of threads per inch, the knot style, and the overall design, each element involves a set of pre-determined instructions. These instructions function much like an algorithm, a set of steps to be followed.

Interestingly, the design itself isn't limited by the carpet's material. Many carpets draw inspiration from other mediums, like paintings. This suggests that the *algorithms* carpets execute can be independent of the material itself. In simpler terms, carpets aren't just about the material; they express a relationship between the material and the idea behind it—the algorithm.

Humans weave intention into algorithms, just like carpet weavers. These creations, far from being cold and emotionless, reflect the choices, thoughts, and even feelings (and sometimes mistakes) of their makers.

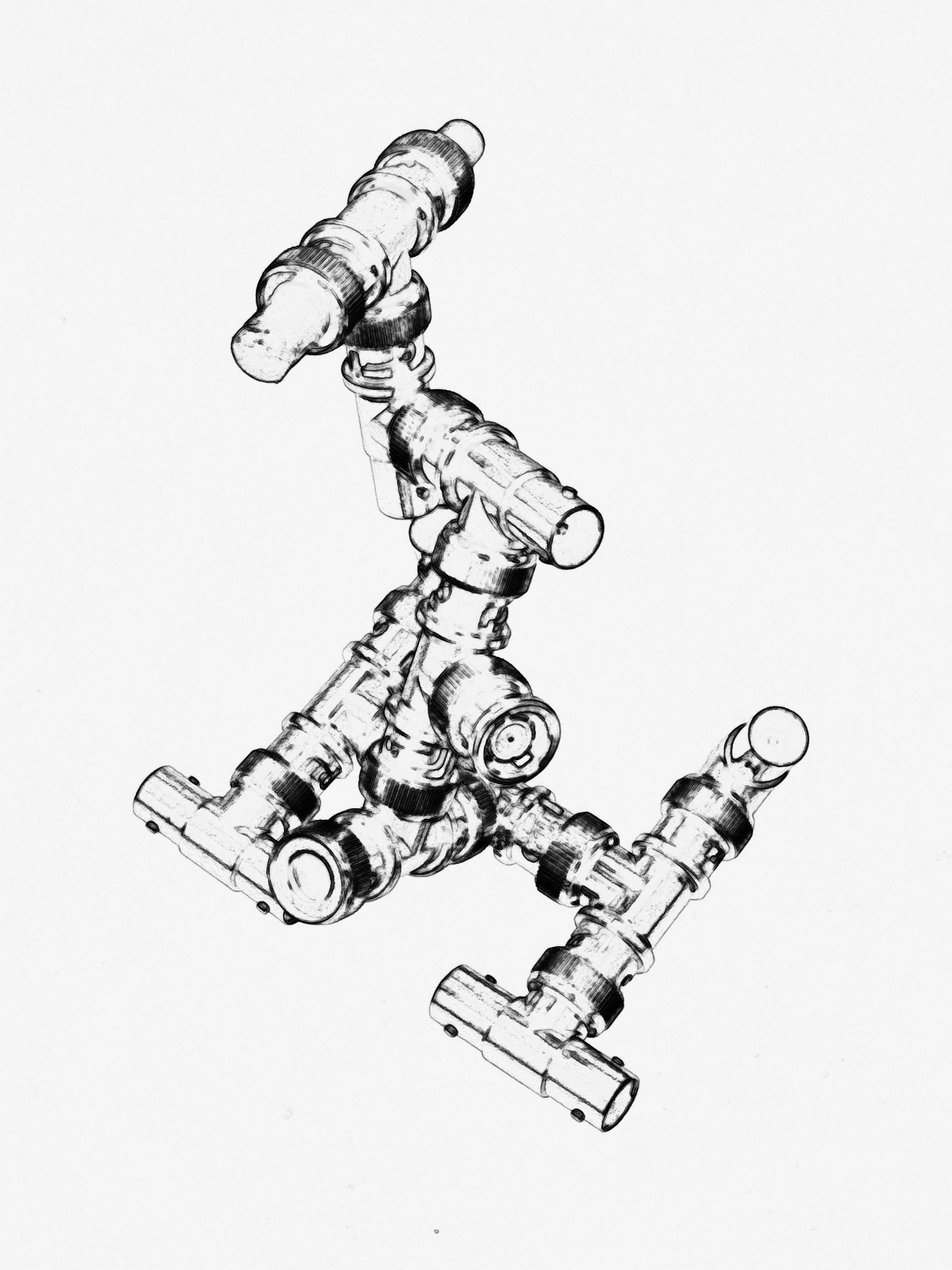
Take, for instance, Ottoman-era Turkish carpets—Ushak carpets, for example. They feature interlocking medallions in contrasting colors, each with intricate, swirling patterns, all set on a similarly complex background. These carpets depict a world within a world, a never-ending reflection.

Carpet experts sometimes believe the center, the deepest layer, symbolizes heaven. Often, the designs become more refined as they approach this *divine* center. In a mystical interpretation, these carpets could be seen as teaching the illusion of reality, yet revealing an underlying order to the universe.

So, carpets act as a representation of the cosmos. But even the most structured, hierarchical ones reveal imperfections where concept meets reality.

Instead of focusing on figures that we compare ourselves to, *thinking like a carpet* encourages us to explore how our bodies experience the world. It's not just about seeing, but also about feeling the design and patterns around us. The lines and shapes can even create a sense of movement that we can connect with through touch and sensation.

*I think we should attribute the power of the Figural to the non-figurative, or not-quite-figurative, patterns that invaded Western painting from the East. Islamic aesthetics were the undoing of European figurative art. The uneasiness of the Figural often results directly from a confrontation of a molar-scale, figurative image with the rhythmic energy of the abstract line. Whether the carpets themselves are Figural probably lines in whether a person comes to them with a figurative mindset in the first place. Someone accustomed to figurative images may encounter a Figural shock; someone who has spent more time surrounded by non-figurative images is less likely to.[[15]](#footnote-16)*

Fig. 9. BREATH

The primal scene for what, in the Judo-Christian tradition, deserves to be called inspiration, is the creation of humans - an event that appears in the Genesis account in two versions: once as the final act of the six-day work of creation, though it passes over the life-breathing scene in silence, and once as the initiatory act for all further creation, but now with an explicit emphasis on creation through breath and with the characteristic distinction of clay modeling in the first case and breathing in the second. Here the reader of Genesis encounters the inspirator, the Lord of Creation, as a figure with a sharp ontological profile: He is the first producer with complete authority. The creature into which He breathes life, for its part, appears on the stage of existence as the first human being, the prototype of a species that can experience inspired ideas. The biblical account of the first breath reproduces the original visit of the spirit to a host medium.[[16]](#footnote-17)

1. Manlio Brusatin, Geschichte der Linien. Aus dem Ital. übers. von Sabine Schulz. Berlin: Diaphanes. 2003: 12. [↑](#footnote-ref-2)
2. Brusatin 2003: 19. [↑](#footnote-ref-3)
3. Brusatin 2003: 38. [↑](#footnote-ref-4)
4. Brusatin 2003: 40. Robert Grosseteste: De lineis. angulis et figuris seu de fractionibus et reflectionibus radiorum, sowie De iride seu de iride et speculo (1230-33) (ital. Übersetzung in: Metafisica della /uce, hrsg. von Pietro Rossi, Mailand 1986; dort S. 126 f. zu Linien und S. 140-1 52 zum Regenbogen). [↑](#footnote-ref-5)
5. Brusatin 2003: 46. [↑](#footnote-ref-6)
6. Brusatin 2003: 84/85. [↑](#footnote-ref-7)
7. Paul Klee, Notebooks Vol1. TheThinkingEye. New York, G. Wittenborn 1961. https://archive.org/details/paulkleethinking0000klee/, accessed 12 March 2025. [↑](#footnote-ref-8)
8. Rebecca Solnit, Wanderlust: A History of Walking, Penguin Books 2001. P.72 [↑](#footnote-ref-9)
9. Tim Ingold, Ways of Mind-Walking: Reading, Writing, Painting, Visual Studies 25 (1): 15–23. 2010. doi:10.1080/14725861003606712. [↑](#footnote-ref-10)
10. Ingold 2010, 16 [↑](#footnote-ref-11)
11. M. Carruthers, The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400-1200, Cambridge University Press1998: 109-110. [↑](#footnote-ref-12)
12. Ingold 2010. [↑](#footnote-ref-13)
13. Sirén 2005, 234-5. Ingold 2010. [↑](#footnote-ref-14)
14. Laura U. Marks, Thinking like a carpet: embodied perception and individuation in algorithmic media, In: Brauerhoch, Annette; Eke, Norbert Otto; Wieser, Renate; Zechner, Anke: Entautomatisierung, Paderborn: Fink 2017, S. 39-58. DOI: 10.25969/mediarep/4032. [↑](#footnote-ref-15)
15. Marks, 2017. [↑](#footnote-ref-16)
16. Peter Sloterdijk, Bubbles: Spheres Volume I: Microspherology, Semiotext(e) 2011: 31. [↑](#footnote-ref-17)