Hilma af Klint
Paintings for the Future
This survey of Hilma af Klint’s work is the first major solo exhibition in the United States devoted to the artist. Featuring more than 165 of af Klint’s artworks, it offers an unprecedented opportunity to experience af Klint’s long-underrecognized artistic achievements.

The exhibition focuses on the artist’s breakthrough years, 1906–20, when she first began to produce radically abstract paintings, creating a body of work that invites a reevaluation of modernism and its development.

This Resource Unit parallels some of the themes in the exhibition and provides techniques for exploring both the visual arts and other areas of the curriculum. Images of the works included in this guide are available on the museum’s website at guggenheim.org/artscurriculum and can be downloaded or projected for classroom use. The images may be used for education purposes only and are not licensed for commercial applications of any kind. Before bringing your class to the Guggenheim, we invite you to visit the museum, read the guide, and decide what aspects of the exhibition are most relevant to your students. For more information and to schedule a class visit, call 212 423 3637.

The exhibition is curated by Tracey Bashkoff, Director of Collections and Senior Curator, with David Horowitz, Curatorial Assistant, and organized with the cooperation of the Hilma af Klint Foundation, Stockholm.

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Hilma af Klint (1862–1944) was born in Stockholm in 1862 into a prominent family of naval officers. In 1879, at the age of seventeen, she began participating in séances and read voraciously on spiritual and occult teachings, from Buddhism to Theosophy, a religious movement that influenced many artists of the time. A year later, in 1880, her sister Hermina died at the age of ten. This spurred af Klint’s interest in religion even further—particularly her investigation of spiritualism, a movement based on the belief that unseen spirits exist and can communicate with the living. Though af Klint was initially interested in communing with the dead, she soon gave up this brand of spiritualism and sought to contact spiritual beings of a higher order.

From 1882 to 1887, she attended the Royal Academy of Fine Arts in Stockholm where she mastered illusionistic techniques. After graduation, the Royal Academy provided her with a shared studio in the heart of Stockholm’s art scene, which she occupied until 1908. During that time, she painted and exhibited naturalistic portraits and landscapes.

In 1896, she formed a spiritualist group with four female friends (including a friend from the Royal Academy, Anna Cassel), called The Five (De Fem). The group held séances through which they sought to make contact with spirits that af Klint referred to as High Masters. The group documented these contacts in notebooks and through automatic drawings guided by the spirits.

In her late thirties, af Klint decided to carry paper and pencil with her at all times. She traveled abroad to Norway, Holland, Belgium, and Germany as well as northern Italy, where she studied and filled her notebooks with drawings of Renaissance and religious art. With Cassel, she also worked as an illustrator at the Institute of Veterinary Medicine in Stockholm. Together they illustrated a book on horse surgery.

In 1906, af Klint believed she was contacted by one of the High Masters and offered a commission for a major project, The Paintings for the Temple, which eventually comprised 193 works in multiple series. Af Klint said that these works, painted over nearly a decade and largely hidden from the public, were the result of her contact with the spiritual guides. Af Klint was simultaneously presenting her naturalistic works in public exhibitions.
In 1908, she shared some of the work from this project with Rudolf Steiner (1861–1925), a Theosophical leader she respected. His reaction was discouraging; he criticized her for taking inspiration from her practice as a medium. That same year, her mother went blind and af Klint paused production on the commission, which by then amounted to 111 works. She did not return to the project until 1912, four years later. At that point, she began to claim more agency and her style changed, reflecting her movement away from channeling spirits. The project concluded in 1915, and, after 1916, she no longer produced work as a medium. Though her painting was still spiritual, af Klint showed an increasing interest in actively exploring the natural sciences as understood through the spiritual movements she followed.

In 1932, she wrote in one of her notebooks that she did not want her work to be seen for twenty years after her death. Af Klint wanted her art to be understood by its audience, and she believed that people in the future would be better prepared to comprehend it. She edited and reorganized her notes and those of The Five and documented her artwork for future generations. Despite all of this documentation, we do not know much about her life. Af Klint’s notes imply that while her work mattered to her a great deal, her biography mattered less. After all, she believed much of her work originated from sources outside herself.

Af Klint died at age 81 after a streetcar accident in Stockholm in 1944. She left behind more than 1,200 works and 26,000 pages of writing.
Amaliel draws a sketch, which H [Hilma] then paints. 

From an early age, Hilma af Klint read widely on religious and spiritual teachings. She was particularly interested in Theosophy, an esoteric religious movement. Cofounded in 1875 by Russian occultist and medium Helena Blavatsky (1831–1891), Theosophy influenced many modern artists including Vasily Kandinsky (1866–1944) and Piet Mondrian (1872–1944). Its occult mysticism had roots in both European philosophies and Eastern religions such as Buddhism. Af Klint followed the Theosophical teachings of Rudolf Steiner (1861–1925), an Austrian philosopher who later broke with the Theosophical Society to found Anthroposophy, which focused more on artistic expression. Af Klint joined Steiner’s Anthroposophical Society in 1920.

Af Klint was also influenced by another religious movement called spiritualism, which became popular in Europe and the United States during the mid- to late nineteenth century. Spiritualists believed in the existence of unseen spirits that could communicate with the living. Af Klint began participating in séances in 1879, at the age of seventeen. The death of her sister Hermina one year later increased her interest in the practice. By the mid-1890s, she met regularly with a group of four other women who called themselves The Five. The Five believed they could communicate with mystic beings named “High Masters.” In trance-like states, the women transcribed messages from these beings, who identified themselves as Amaliel, Ananda, Clemens, Esther, Georg, and Gregor. These automatic writings and drawings allowed af Klint to develop her own visual language and move away from her formal academic training and toward abstraction. She attributed her early revolutionary forays into abstraction to an external spirit and not her own conscious mind. The automatic techniques used by The Five were common among spiritualists during that time. Several decades later, the Surrealists would use techniques of psychic automatism, not to transmit the messages of spirits but to tap into their own subconscious thoughts.

The Five (De Fem), Untitled, ca. 1903. Graphite on paper, 19 15/16 x 16 5/8 inches (50.7 x 42.2 cm). The Hilma af Klint Foundation, Stockholm, HaK1474
**VIEW + DISCUSS**

Show: Untitled, ca. 1903.

▶ Look together at the drawing. What do students notice about it? Discuss the types of lines and shapes. What do students associate with the shapes and lines they see?

▶ Next, ask what students notice about the materials and techniques. This drawing is made with paper and pencil. Ask students what they associate with these materials and how they would describe these techniques.

▶ Tell students that this drawing was created by Hilma af Klint and a group of four other women who called themselves The Five. Through séances, the group believed they communicated with spirits who guided their writings and drawings. Look back at the drawing with this information in mind. What do students think about what they see now?

▶ Af Klint went on to create hundreds of artworks that she said were guided, in varying ways, by spirits. Ask students to think about what it might feel like to have their art-making guided by communication with something unseen. How would the experience compare to the way they usually make artwork?

▶ Ask students to discuss how they come up with ideas for their own artworks. Do they ever come from sources outside of themselves? If so, what sources? Discuss.

**FURTHER EXPLORATIONS**

**AUTOMATIC DRAWING**

- Automatism was common among spiritualists of af Klint’s time. Decades later, the Surrealists also used automatic techniques to make their artwork. Though the Surrealists used automatism to tap into their subconscious thoughts and not to transmit the messages of spirits, the techniques had much in common. For this activity, students will explore a variety of automatic drawing techniques.

  - Eyes closed: Challenge students to close their eyes and make a drawing without looking at the paper.
  - Non-dominant hand: Challenge students to make a drawing with their non-dominant hand.
  - No hands: Challenge students to use another part of their body to move their pencil (e.g., foot or armpit).

- Finally, challenge students to come up with their own method for removing conscious control from their drawing process. Ask them how it felt to explore these techniques. Then, ask them to choose one drawing they created and expand on it.

**AUTOMATIC WRITING**

- Automatism was also used with writing. For this activity, challenge students to try a variety of automatic writing techniques and discuss the process.

  - Found poetry: Challenge students to take an old book or magazine and black out all words except every tenth word. Continue this until they have twenty words left. Use the remaining words to create a poem.
  - Exquisite corpse: Challenge students to write a line of poetry at the top of a piece of paper and then fold the paper to cover their writing. Have them pass the paper to another student so that the next student cannot see the original line before they write their own line. Continue this process several times. At the end, read all the lines in sequence.
  - Chance selection: Have students write words or phrases they have overheard on slips of paper and put these slips into a paper bag. Students should then select slips and arrange these words into a poem.

**COMMUNAL PRACTICE**

- Hilma af Klint collaborated with four other women (The Five) to commune with the spirits and make drawings and texts. Ask students to discuss experiences they have had working in groups on important projects.

- For this activity, assign students to work together in groups of five. Have them create a group drawing using a variety of materials. They will have to establish how they will make this artwork together. Will one person make the drawing while the rest contribute their ideas? Will they take turns, like a relay race? Or will they all work at once? After the group drawings are complete, ask students to display and discuss their product and process. What was it like to work in a group? What was positive and negative about the experience?
During a séance in 1906, Hilma af Klint was asked by Amaliel, one of the High Masters, to take on a project more extensive than the automatic drawings she had been producing with The Five. The other women in the group were not willing to accept this commission and warned af Klint that the intensity of this kind of spiritual engagement could drive her into madness. Af Klint accepted anyway and embarked upon her major cycle, The Paintings for the Temple, which eventually comprised 193 works, in many series, and which she worked on from 1906 to 1915.

Af Klint described this work and its relationship to the spirits in various ways. Of one of the series, painted in 1907, she said: “The pictures were painted directly through me, without any preliminary drawings and with great force. I had no idea what the paintings were supposed to depict; nevertheless, I worked swiftly and surely, without changing a single brushstroke.”

However, in another description from around the same time, the spirits had less direct control: “It was not the case that I was to blindly obey the High Lords of the Mysteries but that I was to imagine that they were always standing by my side.” These descriptions changed more drastically after af Klint paused the project in 1908 to take care of her mother. When she resumed the project in 1912, she no longer described her process as an external spirit acting through her. Instead, af Klint said she was receiving and then interpreting messages—thus giving herself more subjective control over the process.

In 1908, af Klint invited Rudolf Steiner (1861–1925), a leader of the Theosophical movement, to view her work. His comments were discouraging. He also refused to be her teacher, claiming she had already found one in the spirits. While some have suggested that this meeting led af Klint to claim more authorship over her work, such a transition was common among women who gained recognition as mediums. Once female mediums attained a certain level of respect, they began to speak more for themselves instead of only speaking for spirits. In her work after 1912, af Klint seemed to move stylistically away from techniques related to spirit channeling, such as the fluid lines of The Five’s automatic drawings. Her use of Christian iconography and geometric forms increased. And, by 1917, af Klint stopped producing art through a spirit altogether.

FROM LEFT Hilma af Klint. Group X, Nos. 1–3, Altarpiece (Altarbild), 1915. Oil and metal leaf on canvas, No. 1, 93 3/4 x 70 1/16 inches (237.5 x 179.5 cm); No. 2, 93 3/4 x 70 1/16 inches (238 x 179 cm); No. 3, 93 3/4 x 70 1/16 inches (237.5 x 178.5 cm). The Hilma af Klint Foundation, Stockholm, HaK 187–89.
Ask students what they associate with the word “altarpiece.”

Show: Group X, No. 1, Altarpiece, 1915
Group X, No. 2, Altarpiece, 1915
Group X, No. 3, Altarpiece, 1915

Encourage students to sketch the elements of these paintings that stand out to them. What do students notice in terms of color, shape, and materials? What do students associate with these shapes, colors, and materials (i.e., oil paint and metal leaf on canvas)?

These three paintings were among the last of 193 works that Hilma af Klint created as part of The Paintings for the Temple, a project that she described as her “great commission” from the spiritual realm. She titled these last three Altarpieces. Ask students to compare their observations of the paintings to what they think of when they hear this term.

In creating The Paintings for the Temple, af Klint worked as a medium for the spirits. Ask students to imagine what it might have been like to create paintings this way. Discuss the challenges and benefits of working in this way.

After taking a four-year break from the project, af Klint claimed more control over what she painted. These final pieces all date from that period. The imagery became more geometric and more connected to Christian and Theosophical iconography, perhaps inspired by her study of Christian religious art in Italy. Ask students to think about Christian imagery they have seen. How do her Altarpieces compare?

When Hilma af Klint journeyed to Italy, she brought notebooks to draw and write about what she saw. She was particularly struck by religious architecture and art, such as Leonardo da Vinci’s Last Supper. For this activity, assign each student a key piece of religious art to research. This could include Christian art, such as Jan and Hubert van Eyck’s Adoration of the Mystic Lamb (also known as the Ghent Altarpiece of 1432), or art from other religions, such as the Leshan Giant Buddha in China (713–803 CE). Ask students to write about their chosen artwork’s materials and techniques and to explore the symbolism and beliefs behind the work. Have them present to small groups and compare the works. Then compare to af Klint’s Altarpieces.

Hilma af Klint recorded her process and thinking in notebooks throughout her adult life. However, there are many things we still don’t know about how she was inspired to make her monumental Paintings for the Temple. For this activity, encourage students to write a piece of historical fiction that dramatizes the story of af Klint receiving a commission from one of the High Masters. None of the other women in The Five would accept, for fear of the intensity of the work, but af Klint did and then spent nearly a decade, off and on, working on the project. Students should choose a format (such as a short story or screenplay scene) and a point of view (first or third person) for their piece of historical fiction. Share the resulting written pieces. What do students still wonder about what actually happened?

Hilma af Klint made her Altarpieces with a combination of oil paint and metal leaf, materials that are frequently found in traditional religious art. For this activity, students will experiment with metal leaf. First, look together at examples of artworks that have been made with gold leaf or other metal leaf. Then, ask students what kind of imagery they would like to make using metal leaf and why. They should draw the images with pencil, then brush over the drawn images with a thin layer of metal leaf adhesive. (For more guidance on how to work with the material, several helpful YouTube tutorials are available online.) Finally, they can each place a sheet of metal leaf (real gold leaf is expensive but cheaper alternatives are available) onto the adhesive and, with a dry brush, gently press the leaf to the adhesive. After it has dried, they can use the dry brush to gently push away the leaf that has not adhered.

Ask students what it was like to work with metal leaf, as it can be difficult to achieve intended results. Ask them how the metallic layer affects their imagery.
A graduate of the Royal Academy of Fine Arts in Stockholm, Hilma af Klint was highly trained in classical drawing and painting techniques. By the age of twenty, she was an expert at using perspective, shadows, and composition. Soon after her graduation in 1887, the Royal Academy granted af Klint and two other artists a shared studio in the heart of Stockholm’s art scene. There, she painted portraits, landscapes, and botanical drawings and established herself as a respected naturalistic painter.

Her skill at precise drawing led to her employment at Stockholm’s Institute of Veterinary Medicine, where she produced illustrations for a book on horse surgery that was published in 1901. She and Anna Cassel, a friend from the academy and a member of The Five, worked together on detailed drawings of equine skin, tissues, and cells.

While most of af Klint’s publicly displayed work aimed to precisely capture the visible world, some of it went beyond straight figuration and the techniques she had learned at the academy. Her landscapes dating from the last decade of the nineteenth century, for instance, show her experimenting with brushstrokes that were looser and more gestural.

During af Klint’s era, male artists, dealers, and critics did not take female artists seriously. Swedish art schools believed women were only able to copy, not innovate. As a result, women in many fields turned to spiritualism as a way to overcome restrictive gender conventions; it was easier to attribute radical ideas to spirits than to the female mind.

While af Klint’s series *The Swan* (1915) demonstrates her facility with figurative painting, it was not made as part of her publicly shown, naturalistic output. It belongs instead to her *Paintings for the Temple*, which derived from her communication with the spirits. The series moves quickly from swan imagery to highly abstracted geometry. Its first painting clearly shows two swans—one black and one white—against backgrounds of the opposite color. These swans are more simply rendered than in her public work. The sixth and seventh pieces in the series show four swans of different colors, more abstracted this time. As the series continues, complete abstraction takes over.
Challenge the class to create a Venn diagram to compare the two paintings. Then, ask them to discuss the words that describe what the paintings have in common as well as the words that describe their differences.

Tell them that these paintings are the first and ninth paintings in the Swan series (1915). Ask students to describe the transformation from one to the other. Encourage them to use art vocabulary such as figurative, representational, naturalistic, realistic, geometric, and abstract.

Ask students what they think will come next in the series. Have them describe the colors, shapes, and composition they would expect to see and why.

Af Klint was highly trained in how to represent animals and people. This depiction of swans is less detailed than the works she made for the public and was created as part of her spiritual practice. Ask students to describe the signs and symbols of these paintings—from the swans in No. 1 to the cubes in No. 9. What do they associate with them?

Af Klint’s training at the academy taught her techniques for how to copy a work of art, but not how to innovate. During her era, women often turned to spiritualism as a way to break free of restrictions society imposed on them. By saying their work came through spirits, they were able to experiment. Challenge students to think about how women’s lives have changed in the past century. In what ways are women still restricted today?

NATURALISM TO ABSTRACTION
- Hilma af Klint’s series The Swan (1915) moves from a representational rendering of a pair of swans to increasingly abstracted, geometric imagery. For this activity, students will experiment with moving from the representational to the abstract by making a series of three drawings or paintings. Begin the activity by setting up different natural objects (e.g., fruits or flowers) for students to observe and asking them to represent objects in a drawing or painting. Encourage them to use techniques they have learned to create three-dimensionality (e.g., shading and perspective). Then, for the second painting or drawing, challenge them to “abstract” the subject of their first piece. Ask them to brainstorm ways this could be done, such as eliminating details, simplifying forms, or flattening the depth of field. For the last piece, ask them to make a final painting or drawing that pushes abstraction even further. This version should be purely nonrepresentational. Display each student’s series and ask the class to comment on the transitions from one work to the next. What methods did students use to abstract their subjects?

SURVEY ABOUT FIGURATION VS. ABSTRACTION
- When af Klint first began making her abstract paintings, the concept of a painting that didn’t look like anything recognizable was brand-new. Despite being a major thread in art history for the last century, abstraction is still controversial today. For this activity, students will survey people about their opinions on abstraction versus figuration. Students should devise at least three questions to assess respondents’ perspectives on the topic, such as: Would you rather view art that is completely abstract (showing nothing from real life) or art that represents something from the real world? They should then survey at least ten people and present their answers in the form of a graph. Ask students to discuss the results. What conclusions can they draw from them?

RADICAL FEMALE ARTISTS
- Spiritualism was a religious movement based on the belief that unseen spirits exist and communicate with the living. During af Klint’s time, working as a medium allowed women to free themselves from society’s gender constrictions and access an authoritative voice at a time when women’s voices were marginalized. By claiming that spirits were speaking through her, af Klint was able to do something radical without the approval of Stockholm’s male-dominated art world. For this activity, challenge each student to research a female artist who has broken rules of society and made radical art. Artists could include: Hilla Rebay, Georgia O’Keeffe, Frida Kahlo, Louise Bourgeois, Jaune Quick-to-See Smith, the Guerrilla Girls, or Kara Walker. Encourage students to not only tell the artist’s life story but also explore the ways in which the artist challenged norms and expectations. What struggles did she face? What or who supported her? What or who gave her courage?
Don’t expect that the signals and symbols that you developed with much effort will be understood by the brothers that you meet, but work hard for the future.⁶

Hilma af Klint presented her abstracted paintings at a museum or gallery during her lifetime, it is almost guaranteed they would have been criticized heavily. That af Klint made them at all is a testament to her successful navigation of the sexist world in which she lived. She chose to retreat from the male-dominated art world, find support in an esoteric religion that embraced female leadership and was founded by a woman (Helena Blatavsky), and present her work as having come to her through spirits (and thus escape criticisms of radical ideas coming from a female mind).

Af Klint is often compared to the artist Vasily Kandinsky (1866–1944), an early progenitor of abstract painting. Like Kandinsky, af Klint wanted her work to communicate a spiritual dimension. Unlike Kandinsky, she believed she operated as a medium for spirits and did not position her work specifically as a way of reimagining art. Like other artists of the time who were interested in similar spiritual movements, af Klint used art to understand existence and make the invisible visible.

Her visual strategies for abstracted paintings had their basis in everything from direct observations of the natural world to automatic drawing techniques to scientific ideas to Swedish folk art. Af Klint’s naturalistic and academic training was one key to her process; she often seemed to be diagramming the world. In one of her notebooks, from 1919–20, for instance, she invented her own symbolic and abstracted taxonomy of flowers—each circle containing colors corresponding to the flower’s petals. At other times, af Klint used symbols such as the spiral and the hypercube to represent scientific concepts like evolution and the fourth dimension.

Her major project, The Paintings for the Temple, was a collection of series devoted to spiritual themes. The first series for this project was reminiscent of the abstracted automatic drawings she and The Five had made in their séances. But by mid-1907, af Klint began a group of works as impressive in scale as paintings she had seen on her journey to Italy. It was called The Ten Largest and its imagery evolved into a series of abstracted compositions of circles, spirals, words, botanical organic shapes, and even a grid, all in radiant colors. Together, the paintings chart the human life span—from childhood and youth through adulthood and old age. Working in her art studio, af Klint completed the series in just over sixty days with only one female assistant (not one of The Five), who likely helped mix paint and glue together the enormous pieces of paper that make up each work.
**VIEW + DISCUSS**

Show: Group IV, The Ten Largest, No. 2, Childhood, 1907  
Group IV, The Ten Largest, No. 9, Old Age, 1907

Tell students that these are two of the paintings from Hilma af Klint’s series *The Ten Largest* (1907) and that the series depicts the stages of life: childhood, youth, adulthood, and old age. Tell them that one of these paintings represents childhood and the other represents old age, but don’t tell them which is which. Which do they think depicts childhood and which depicts old age? Have them explain their choices.

Reveal the titles. Then ask students why they think af Klint made the choices she made in terms of color, shape, and composition.

Ask students what kind of imagery from the real world they see in these paintings. Af Klint studied the natural world intensely and could render flowers and plants in great detail. Ask them how she has transformed this imagery from naturalistic and detailed depictions.

Ask students to imagine what the other life stages in this series might look like. How might youth look? How about adulthood? Explain.

These paintings were painted on paper with tempera paint and then mounted onto canvas. They are over ten feet tall and seven feet wide. They are also some of the earliest abstract paintings ever made. Af Klint kept them hidden from the art world, likely due to how radical they were and because she expected they would be misunderstood. Ask students what they might do if they had ideas that were radical today. Would they keep them secret like af Klint? Would they show them to the world? Discuss.

**FURTHER EXPLORATIONS**

**LIFE STAGES**

- Before looking at af Klint’s paintings in this section, ask students to jot down what they associate with life stages such as childhood, youth, adulthood, and old age. For each life stage, they can make a list of associations, moods, or images. Then, give them colored pencils and ask them to represent one life stage using only shapes, lines, and colors. Have them share their results. What kinds of colors, shapes, and lines were used to depict each life stage? Finally, share the two paintings in this section with students. Ask them to compare af Klint’s choices when depicting childhood and old age with their own. What do they think she associated with each stage?

**DISPLAYING ABSTRACT ART**

- Af Klint knew that her abstract work was unlikely to be displayed in galleries or museums in her lifetime. She envisioned founding her own spiritual center in the form of a temple with three circular levels built around a central tower that could be traversed on a spiral-shaped path. She would display her paintings here with *The Ten Largest* installed on the second floor along with a library. Her plan was never realized. However, in New York City in 1959, a remarkably similar building opened. The Solomon R. Guggenheim Museum was commissioned by Hilla Rebay (1890–1967), its first director, as a “temple of spirit.” Its design was inspired in part by the paintings Guggenheim collected, especially those by Vasily Kandinsky. Encourage students to view images of the Guggenheim online and compare them to Kandinsky’s paintings.

- Next, encourage students to think about the ideal environment for the display of abstract artwork. They should consider how they want visitors to feel as they move through the space—in terms of all their senses. They should think about lighting, sound, smells, but also how they will protect the artwork from the elements. With thin cardboard and paper, encourage students to build a model of the space they envision and share the results with the class.

**MAKING A SERIES**

- Ask students what they associate with the term “series.” They may think about book series, television series, or the World Series. Talk about how the parts of a series connect as a whole. Have students think about how af Klint connected the paintings within her *Ten Largest* series. Next, ask students to create a series (in genres such as poems, drawings, prints, or essays) of three or more connected pieces. Brainstorm how they could link the individual pieces. For poems, for instance, they could connect them through repeating motifs or language, or an overarching theme. Share the series in small groups and ask students what techniques were used to make them into series rather than disparate works.
At this moment I have knowledge of, in the living reality, that I am an atom in the universe that has access to infinite possibilities of development. These possibilities I want, gradually, to reveal.

Hilma af Klint lived during an era in which scientific developments were quickly changing lives and society. Charles Darwin’s (1809–1882) theory of evolution (1859), and the discovery of electromagnetic waves (1886), X-rays (1895), subatomic particles (1897), and radioactive decay (1898) came at a rapid clip. Collectively, they upended views of the universe. In mathematics, the theoretical possibility of a fourth dimension did the same. The effects of these discoveries could be seen across society from the invention of wireless communication to modernist poetry and art. Af Klint was familiar with these developments and incorporated many related ideas into her work. She devoted entire series to the concepts of atoms and evolution—both major topics of discussion at the turn of the century.

During af Klint’s era, science and spiritual thought were intertwined in many ways. Mainstream scientists conducted experiments to test spiritualist ideas. Spiritual thinkers, in turn, incorporated science into their practices, in part to legitimize their ideas. For many mystical or occult movements, scientific discoveries raised important questions about their beliefs, such as: If telephones could allow voices to speak over long distances, why couldn’t the living speak to the dead? Af Klint’s works about scientific concepts were likely filtered through the lenses of the spiritual movements she felt affinities toward. For instance, her understanding of evolution as depicted in her Evolution series (1908) likely did not come directly from Darwin’s On the Origin of Species (1859). More likely, it was filtered through Rudolf Steiner and the Theosophists who saw evolution as a spiritual process through which the soul develops and approaches the divine.

Also related to Theosophical thought is af Klint’s Atom Series (1917). Theosophists believed the atom could be observed through clairvoyance. For af Klint, atoms had personal significance and a connection to her interest in the natural world. She thought of them as a gateway to the cosmos. Around 1917–19, she conducted her own highly imaginative exploration of the atomic structures of plants and flowers. Rendered in watercolor on paper, these studies depict atomic forms as geometric. At this point in her life, af Klint was no longer working as a medium. These were her own subjective and spiritual investigations into her interests in the natural world.

Hilma af Klint, No. 15, 1917. From The Atom Series (Serie Atomen), 1917. Watercolor on paper, 10 ¾ x 9 ¾ inches (27 x 25 cm). The Hilma af Klint Foundation, Stockholm, HaK 367
VIEW + DISCUSS

Show: No. 15, 1917, The Atom Series, 1917

► Ask students what they notice about this painting from Hilma af Klint’s Atom Series (1917). Have them describe the shapes, colors, and composition of the painting.

► This painting is part of a series in which af Klint investigated atomic structures. During this era, new discoveries about atoms were rapidly accumulating. From the 1897 discovery that atoms contained negatively charged electrons (and thus were not the smallest unit of matter) to the 1911 discovery of a positive nucleus, af Klint and others in her time were bombarded by new information about the world that could not be seen with the naked eye. Look again at the painting. What do students think about the painting now that they know more about what was happening at the time when af Klint made it?

► During this period, ideas related to science were not just transmitted by scientists but also by spiritual and religious thinkers who filtered scientific concepts through their own beliefs and practices. One religious movement that af Klint was associated with believed they could see atoms through clairvoyance. Af Klint’s atomic study was inspired both by what scientists were seeing but also by her own subjective vision. Ask students to compare this painting to scientific images of atoms. What is similar and different?

► The turn of the century was a time when excitement about the invisible becoming visible took hold of the culture. Are there elements of the world that students wish could be made visible? Ask them to explain their ideas.

FURTHER EXPLORATIONS

MAKING THE INVISIBLE VISIBLE

► Hilma af Klint’s era was filled with scientific discoveries that seemed to challenge religious beliefs—many of which made invisible aspects of the universe visible. For instance, ask students to imagine what it must have been like to see the first X-ray of a human body. Since certain religious movements believed that only clairvoyants could see through human bodies, this discovery raised spiritual questions.

► In today’s world, there are still aspects of the universe that remain invisible. Ask students to brainstorm a list of elements in the “invisible world” as a class (e.g., what Mercury looks like up close). (If students pick aspects of the world that are invisible to the naked eye but have been made visible by scientists, this is also OK.) Then, challenge students to pick one of the invisible elements on the list and imagine what it might look like. They should render it “visible” in a watercolor painting. Share the paintings as a class. Which elements did students pick and what choices did they make to bring them to life?

INNOVATORS IN THEIR TIME

► Af Klint knew that her paintings would not be accepted in her own lifetime and requested that they be kept hidden until twenty years after her death. Some of our greatest innovators saw their ideas rejected in their lifetime, including Galileo, Charles Darwin, Leonardo da Vinci, Marie Curie, and Margaret Sanger. Challenge students to research one innovator and report back on these questions: What about their invention or discovery challenged norms? What consequences did their work have for society? What did they do in the face of this rejection?

SCIENCE AND SYMBOLS

► Af Klint explored scientific concepts in abstract form. She used the spiral to refer to or even represent evolution, as well as the atom. She used the cube to explore theories of the fourth dimension. For this activity, encourage students to select a scientific concept of particular interest to them. The concept could be from biology, chemistry, physics, or any other science. They should do some research on this concept—including how poets, painters, or other artists have explored this concept in the past. They should then think about how they could represent this concept visually as a drawing or painting. They might begin with a detailed, representative depiction, but encourage students to also create an abstracted, even geometric, version. After they’ve made three or four versions, ask students to choose their favorite depiction of the concept and share it on a “gallery wall.” What can their classmates gather about the scientific concept from looking at each depiction? What is left to the imagination?
BOOKS


BOOKS FOR KIDS


VIDEOS

Serpentine Galleries video on Hilma af Klint: https://www.youtube.com/watch?v=24hSFQz2WRs

Video on Hilma af Klint: https://www.youtube.com/watch?v=yOEJHvVp_ns

WEBSITES


Hilma af Klint Foundation: https://www.hilmaafklint.se/hilma-af-klint-foundation/


NOTES


(from Merriam-Webster unless otherwise noted)

**ABSTRACT**
Having only intrinsic form with little or no attempt at pictorial representation or narrative content

**ANTHROPOSOPHY**
A twentieth-century religious system growing out of Theosophy and centering on human development

**ATOM**
The smallest particle of an element that can exist either alone or in combination

**AUTOMATIC DRAWING OR WRITING**
Drawing or writing made through free association of images and words, collaboration, or games; drawing or writing made without maker's conscious control

**AUTOMATISM**
An automatic action, especially any action performed without the doer’s intention or awareness

**CLAIRVOYANCE**
Ability to perceive matters beyond the range of ordinary perception

**COMMISSION**
An order granting the power to perform various acts or duties; the rite or duty to be performed

**ESOTERIC**
Requiring or exhibiting knowledge that is restricted to a small group

**FIGURATION**
Representation of figures or objects in naturalistic way (not from Merriam-Webster)

**ICONOGRAPHY**
The traditional or conventional images or symbols associated with a subject and especially a religious or legendary subject

**ILLUSIONISTIC**
Producing a perception that something exists

**MEDIUM**
An individual held to be a channel of communication between the earthly world and a world of spirits

**MYSTICISM**
The belief that direct knowledge of God, spiritual truth, or ultimate reality can be attained through subjective experience (such as intuition or insight)

**NATURALISTIC**
Of, characterized by, or according with realism in art

**OCCULT**
Matters regarded as involving the action or influence of supernatural or supernormal powers or some secret knowledge of them

**PERSPECTIVE**
The technique or process of representing on a plane or curved surface the spatial relation of objects as they might appear to the eye; specifically, representation in a drawing or painting of parallel lines as converging in order to give the illusion of depth and distance

**REPRESENTATIONAL**
Showing an artistic likeness or image

**SÉANCE**
A spiritualist meeting to receive spirit communications

**SERIES**
A number of things or events of the same class coming one after another in spatial or temporal succession

**SPIRITUALISM**
A belief that unseen spirits communicate with the living, usually through a medium

**SURREALISM**
A twentieth-century art form in which an artist or writer combines unrelated images or events in a very strange and dreamlike way

**TAXONOMY**
Classification; especially orderly classification of plants and animals according to their presumed natural relationships

**THEOSOPHY**
The teachings of a movement originating in the United States in 1875 and following chiefly Buddhist and Brahmanic theories especially of pantheistic evolution and reincarnation