THE MARNAS DIGITAL ARCHIVE:
EXPLORING PRACTICE, THEORY, AND PLACE IN SPACE AND TIME

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Garden design is a temporal art. Composed of materials that grow and decay, subject to changing needs and fashion, gardens cannot be frozen in time. How then, can they be preserved? How can they be designed to accommodate change? These conundrums were a preoccupation of Scandinavian landscape architect and designer/theorist Sven-Ingvar Andersson (1927-2007), which he explored in writing and built work throughout his career, particularly at Marnas, his own summer place. Andersson described Marnas as an open experiment steeped in tradition, a celebration of transience, changing as the plants grew, as he aged. He documented his experiments there from the 1950s until his death in 2007 through thousands of photographs. This unusually rich documentation is the wellspring of the Marnas project, a digital archive that includes hundreds of photographs and a series of multimedia videos embedded in an interactive website (www.marnasgarden.com), which was designed as an immersive, three- and four-dimensional experience of the place and the interplay that exists there among history, theory, practice, form, and function. It is now possible to journey through the garden in space and time: to walk down leafy tunnels, through diverse spaces; to travel across time in successive views of the same space from morning through evening, from winter through spring, summer, and fall, across decades. The goal was to create a visit to Marnas as it existed during Andersson's lifetime, over the course of more than fifty years, conveying the experience of theory and practice embodied in the garden. This project exemplifies what the digital humanities, a field at the intersection of digital technology and humanistic disciplines, has to offer landscape architecture and landscape history.

Sven-Ingvar Andersson and Marnas: Theory and Practice in Place

Sven-Ingvar Andersson, SIA, one of Scandinavia's most important landscape architects, was both an author and a practitioner. From 1963 to 1994, he was professor of landscape and garden art in the School of Architecture at the Royal Danish Academy of Fine Arts in

Copenhagen. Among his best known professional works are the restoration of Sophienholm (1967), a historic landscape garden in Denmark, and the design for Karlsplatz (1972) in Vienna, the landscape of Tête Défense (1984-86) in Paris, and the Museumplein (1993-) in Amsterdam. His writings include books on garden history and articles on preservation, design theory, landscape architecture, gardens, and plants. Andersson's writings are in dialogue with his built works. Nowhere was that dialogue more intimate than at Marnas, his own garden and summer house in southern Sweden.

In 1953, SIA's parents gave him a wedding gift: an old three-room farmhouse and small plot of land adjacent to their own farm, near the Swedish university town of Lund. From then on, it became SIA's and his family's summer place. He called it Marnas, after the old farmer's wife who had lived there until her death in 1951. In 1954, he graduated with degrees from the agricultural college at Alnarp in horticulture and landscape architecture and from Lund University in art history, where he focused on garden history and also studied botany and genetics. He worked in other parts of Sweden until 1964, when he moved to Copenhagen, after his appointment as professor at the Royal Danish Academy of Fine Arts. On weekends and vacations, he replaced the overgrown meadow at Marnas with lawn, incorporated parts of the barn's ruins (a remnant wall, the cobble floor) into a new patio, and restored the exterior of the house. In the late 1960s, he built a simple one-story building with a guest room, outhouse, and shed. The new structure, perpendicular to the old house, created a long wall between the old garden and a new one to the north.

In 1965, SIA expanded the original property across the driveway onto an adjacent field, where he laid out a grid of seven garden "rooms," each enclosed by its own hawthorn hedge with the gaps between forming passages. Each room had a different function: a kitchen garden, a flower garden, a garden for his daughter, Beata, a compost area, a room for grilling and one for sunbathing. In the largest garden room, he planted fourteen small, egg-shaped hawthorns. These "eggs" would eventually grow into 12-foot-high topiary "hens." In 1964, he had written about predecessors to these hens, a brood of several privet shrubs in the garden of his house at Hälsingborg, which had "suddenly gotten the desire to become long-necked birds." "We helped them by pruning and clipping," he wrote, "but they aren't yet ready for flight."[1] Several years later, in 1967, SIA published "A Letter from My Henyard," a witty manifesto in which he

criticizes designers and planners for conceiving "finished" works with fixed details. Instead, he advocated the design of a framework within which details would be able to evolve in response to changing circumstances, needs, and desires.[2]

The framework of garden rooms at Marnas accommodated much change over the years: the room for sunbathing became a shady haven; the flower garden, a room full of boxwood; Beata's garden, a dark den full of ivy. At the end of "A Letter from My Henyard," SIA imagined himself as an old man at Marnas. Too weak to clamber up ladders and wield clippers, he sits in a garden that has transformed into a grove of tall hawthorns. Indeed, by the time of his death in 2007, the central portion of the gridded garden had evolved from clipped hedges into a freely growing grove, as he had envisioned forty years earlier, and the hens, which had sprouted plumy tails and combs, had become "cocks."[3] Over the course of four decades, he documented these transformations in photographs and reflected on what he learned from this process in publications about landscape and urban design and Marnas.

Marnas: A Garden Laboratory

SIA was both a modernist and an advocate for preservation. In 1958 he published a plea for the preservation of old gardens. Many others would follow, including "Principper for Bevaring" (Principles of Preservation, 1993), where he compared three approaches: reconstruction, renovation, and free renewal.[4] SIA preserved the old house at Marnas much as it was a century ago, with no indoor plumbing or central heating. He reconstructed the exterior half-timbered walls, but introduced a large new window in the kitchen. In the garden, he combined historic garden motifs and contemporary forms, experimenting with practices required by renovation and free renewal. In renovation, one proceeds "with an eye toward conserving the garden's form and spirit by…preserving the spatial structure." "What you are conserving with free renewal is not the form. Neither is it the spirit, as when you renovate. What you are conserving is the dignity, the artistic quality."[5] He defines renovation and free renewal as "artistic projects," in contrast to reconstruction, where "the aim is historical accuracy."[6] The former require not only a deep knowledge and aesthetic affinity for the forms and materials of historic gardens, but also the experience of working with them, especially the cultivation of plants.

For forty years, Marnas was not only a laboratory for landscape renovation and free renewal (particularly in the grid of garden rooms where SIA adapted traditional motifs from historic gardens of France and Italy), but also for new garden forms, more closely allied with modern art. In the old orchard near the house, he experimented with Modernism's free forms, garden versions of a painting or sculpture by artists like Hans Arp (1886-1966) in clipped privet rather than paint or stone. The over-arching experiment, however, was an exploration of the design of change over time and the roles of circumstance, serendipity, and improvisation. At the end of a 1966 article, where he argued for the preservation of the old and the pursuit of the new, SIA juxtaposed two commemorative postage stamps ("Danish Preservation" and "Niels Bohr's Atomic Theory").[7] These two images could stand for Marnas.

In 1990, when I first met Sven-Ingvar Andersson, visited Marnas, and read "A Letter from My Henyard, (1967), I recognized the kinship between his research and my own. In 1987, I had launched the West Philadelphia Landscape Project (WPLP), where I was exploring ideas about design and change, framework and improvisation across scales of community gardens and urban neighborhoods in inner-city Philadelphia.[8] At first glance, Marnas and WPLP seem so disparate: Marnas is a small garden of "high" design; WPLP includes community gardens and plans for a large watershed. But the central questions of Marnas and WPLP are the same: how to create dynamic designs and plans that will guide change over time, accommodate unanticipated developments, and invite improvisation by those who inhabit the place? Both are longitudinal research projects (four decades in the case of Marnas, three in WPLP), and both are participatory action research projects where the designer/planner tests ideas through practice, reflects on the process and result, then formulates further action, in an iterative, open-ended process. The participants in the case of WPLP are people, in Marnas they include plants (SIA regarded plants as actors and responded to their spontaneous appearance, growth and decay). Both Marnas and WPLP proceed from an understanding of history and treat the past as ever-present. From 1990 to SIA's death in 2007, I visited Marnas fifteen times, often staying for several days, studying it though my camera's lens, discussing ideas with SIA and hearing from him the history of Marnas, his ideas and practices and how they were embodied in the garden.

After SIA's death in 2007, his daughter Beata and her son inherited Marnas, and change has been inevitable. Marnas still resembles the place it once was during its designer's lifetime,

but, with new guiding minds and hands, it is different from what it once was or what it would be with an elderly SIA still in charge. And, of course, the inclination of his heirs to honor him by way of preservation is a new element. Marnas was a dynamic laboratory, shaped by SIA's ideas and experiments, his experience, knowledge, sensibility, and aesthetic judgement. Someone else might replicate his lines of investigation, but it would gradually become a new place. So Marnas is no longer entirely SIA's garden, and today a first time visitor has no way to know what has changed. But this need not be. SIA's photographs permit the reconstruction of what the place looked like through time.

Marnas: The Photographic Record

A few plans of Marnas exist, but they are schematic, not to scale, and not entirely accurate, each made to accompany a publication, the first in 1967, another in 1976, and the last in 2008.[9] At Marnas, SIA did not proceed from a detailed plan. He envisioned the goal, designed a structure to hold the vision, and then improvised within that framework. "I have a definite idea of how my henyard will end," he wrote in 1967, "but that which lies between *now* and *then* is an open plan…. A lot can happen before the henyard becomes a hawthorn grove."[10]

We know what happened, thanks to the photographs. SIA made photographic sequences of passage through the garden and diverse views from the same locations in different seasons and across the years. He documented new additions (a gazebo built from discarded, seventeenth-century windows, a sculpture made from found objects, a pyramid of red sandstone, two black ceramic cubes) and his decisions (to permit a few leaders to grow up from the hawthorn hedges and become trees, to cut off the side branches of willows, leaving only the uppermost to grow freely). During the early 1980s, when he was writing a chapter on Karen Blixen's garden, SIA experimented with elaborate bouquets of flowers at Marnas, which he photographed.[11] "To make a bouquet is to assemble a perennial bed in miniature," he would write a quarter century later.[12]

I had seen SIA's photographs from the 1960s, 70s, and 80s in the collection of the Royal Danish Academy of Fine Arts. More than 300 large format transparencies (2.25 inches square), encased in glass with labels and dates, starting in 1965, portray the newly planted hedges and garden rooms, as well as the older orchard garden. To view these images in chronological order

is to be propelled forward through time: to see the hawthorn "eggs" hatch into birds and then gradually grow long necks; to watch the hedge walls grow higher, the functions of the garden "rooms" change. I was determined to obtain high-resolution digital scans in order to study how the garden had evolved prior to my first visit in 1990. MIT Libraries agreed to scan these transparencies, along with a selection of photographs from 1980-2007 in the possession of SIA's daughter, and to make them available in their online collection of architectural images.[13] Once the photographs arrived at MIT, I began the task of curation. The large collection from the 1980s-2000s consisted mostly of 35mm transparencies, prints, and negatives, which SIA had inserted into plastic holders and organized into binders by time period. Initially, the goal was to select a few hundred photographs that would be useful to me and other scholars, but, after sifting through thousands of images, I realized that the material was far richer than I had imagined. There was the potential to go beyond a static collection and try something new.

"Marnas": A Journey through Space, Time, and Ideas

Might it be possible, I wondered, by linking hundreds of images, to chart paths through the garden, a virtual re-creation of Marnas? Working with the garden plan of 2008 and from memory, I selected images to create those paths and filled the gaps with my own photographs from 1990-2012. To convey the intangible -- the garden's magical qualities and the ideas behind the forms -- I composed a series of short multimedia videos from many still photographs, which explored the interplay among theory, practice, form, and function, providing tours of ideas in place. The videos could "show" ideas because SIA had used photography as a medium of research, as had I. Our photographs freeze a moment, but they also capture thoughts. We had photographed picturesque views and recorded change, but we also probed deeper. The photographs focus on significant details, features that convey SIA's practices, ideas, and aspirations.[14]

The Marnas website (www.marnasgarden.com) invites the visitor to embark on a series of journeys. It transports the visitor, not only through space and time, but also aspires to evoke the magical quality of Marnas and bring alive the ideas that shaped it. Like Marnas, it has both a clear formal structure and one that is freely growing, with no one beginning, and no single end. The homepage unfolds via a vertical scroll through a series of gateways. One gateway invites

you to take a guided tour of the garden, others, to explore on your own, meet Sven-Ingvar Andersson, or travcl in time. The goal was to stimulate exploration and interaction, the viewer an active participant, not a passive observer.

"Take a Tour": The Multimedia Videos

Take a tour through the garden with Sven-Ingvar Andersson as guide. Hear his stories. Watch the garden change through seasons and years. Follow the ideas that drive the form. You can choose among seventeen short episodes or view the full-length tour (20 minutes), which is a composite of the separate tours. First, you meet Seven-Ingvar Andersson, hear his words ("My garden is a green den with a little house, the remains of a small farmstead, where, in summer, I live a simple life") against a background of birdsong. You see in succession: SIA standing, enveloped by green foliage; the old half-timbered house and cobbled courtyard; SIA in the kitchen garden, planting yellow yarrow (sound of digging); SIA by an espaliered pear tree, threading a tiny, newly-formed pear through the mouth of a bottle and securing it with twine; later, the mature pear in a bottle of brandy; a small round table in the garden with the remains of lunch, SIA emerging from the house in the background. Then SIA continues with his introduction: "The first time I saw the place, which Marna, an old farmer's wife, left after her death in 1951, it was a wildflower meadow, the kind that grows up on abandoned land. Gradually, the meadow became a lawn enclosed by the garden's old trees." And you see: the old house, as it was in the 1950s, the courtyard overgrown; Marna in a kerchief, standing alongside the road, against distant fields; the shadow of an apple tree cast on clipped grass; the trunk of an old pear tree and fallen pears on grass and cobbles.

Thus the long tour begins. In the first fifty-one seconds, you have seen twelve images, some for only two to three seconds, the longest, six. And thus it ends, eighteen minutes later: "…the inevitability of transformation sets garden art apart from all other art forms. My garden develops, culminates, tires, and deteriorates in step with me. The garden also shows life's natural vitality -- and the sure way to the peace of death -- which makes way for new life." Four series of photographs appear in succession: purple allium and red tulips enclosed by curving borders of boxwood fade to the same view in autumn; a circle of purple allium fade, replaced by a circle of white flowers; a view through hedges to a small topiary hen fades to the same view many years

later, the hen now twelve meters tall; a succession of five views moves forward in time and backward in space, down a long leafy passage. Then the final words: "It will take fifty years more for my garden of hawthorn to reach the planned goal. By then, I will no longer be here." An image of SIA, seen from behind, seated in the same passage but facing the opposite direction, fades out to a video of the same place as words, superimposed, fade in: Sven-Ingvar Andersson 1927-2007.

This ground-level view, looking down the garden's main passage, with grasses and leaves moving softly, opens and closes the 20-minute film. To capture a magical quality, I had placed the camera on the ground, a "Thumbelina" perspective, as in Hans Christian Andersen's fairy tale, where plants are larger than life. At the beginning of the film, this shot signals that Marnas is no ordinary garden. At the end, when the still image of SIA fades out into the video, the moving leaves have an emotional impact that a still photograph would not. SIA is gone, but his spirit remains. Life is eternal. The haunting notes of Edward Elgar's piano music intensify the mood.

Multimedia affords the opportunity to bring image, word, and sound together in ways that animate the text and bring to life SIA's dialogues between ideas and place. Words convey ideas, images show how those ideas are embodied in the features and spatial experiences he created at Marnas. Sounds lend immediacy and intimacy. Multimedia is ideal for animating photographs to enhance a sense of passage through space and time. The seventeen short videos, some less than a minute in duration, the longest, just over two minutes, offer diverse journeys through space, time, and ideas. The pace is varied, with most images on the screen for just a few seconds, to hold the attention of Internet users.

In "Hawthorns" (01:27), that species appears as clipped hedges, topiary hens, and freely growing grove. "Hawthorns permit great variation. But not beyond those limits which lie in being a hawthorn." "Always proceed with a respect for their existence as living organisms," SIA advises, and they "can adapt to whatever circumstances are introduced." And don't forget that "humans, like hawthorns, are very adaptable, but still bound to their genetic structure. In our genetically fixed pattern, there is need for stability in our physical surroundings, as well as the need for freedom, diversity, and individual development. The task, then, is to find the balance." A succession of photographs shows how he did that.

SIA reflects on sources of inspiration. He tells how "The entrance to my house is completely hidden, so you need a clue for how to find it." He was inspired by the villas of Palladio in Vicenza to mark the entrance with four willow trees, their trunks like columns, to form "a loggia." a distant view of the Villa Rotondo and the loggia's columns follows an image of the four newly planted trees ("The Willows," 01:20). "Eventually, the willows' large branches threatened the roof," so he "cut off the side branches." The idea to prune the willows like that was inspired by Meindert Hobbema's painting, "The Avenue at Middelharnis" (1689). Where did the idea for the hawthorn hens come from? SIA says that he had long been fascinated by Max Walter Svanberg's erotic art. "Birds with long necks. Majestic animals in a slow gliding movement. I imagined them wandering around in my garden. Looking out over the hedges." one sees drawings by Svanberg morph into the long-necked hawthorn hens ("The Hens," 01:40). SIA also draws parallels between design and literature: "I use poetry's methods. Like the juxtaposition of the small and the large. Daisies and pyramids" ("The Pyramid," 01:03). "My garden is not a mystery novel," he says, "But there is a similarity in the way I organize experience. There are well-placed obstacles, detours and delays, which make you more alert" ("Mysteries," 01:38).

When "ash saplings shot up and threatened to eliminate the view," SIA "cut off their tops. The shoots became trunks that pushed each other outward," forming the ideal foundation for a treehouse ("The Treehouse," 00:50). When snow drifted and pushed over a hedge, he adapted it. "It became a living hedge, with alternately sharp and soft waves, the arbitrary distance between them determined by the snowstorm. A mistake opened up a path to renewal." ("A Path to Renewal," 01:03). When burning hedge clippings, "Fire burned away the grass, and a circular form arose on its own. With the help of string and pen, I ennobled the bare surface to a precise circle" ("Fire," 00:40), then he dampened the ashes and shaped them into a cone, like a cone of sand in a Japanese temple garden. For SIA, inspiration was often a response to circumstance.

"How much of life is determined by obscure subconscious intentions? What forces beyond the artist's own affect artistic creation?" SIA had set up a sculpture of made of branches "to mark the garden's longest sightline. The portal draws one forward." "It must mean something," people said. "Those irregular branches look like bleached bones. Only then did I understand what I had done" ("The Portal of Death," 01:25). One of Edward Elgar's piano pieces

"explained" for SIA another part of the garden, a small circular pool with a dark bottom ("The Black Eye," 00:50). Multiple images of the pool flow into one other, ending at a video of the moving surface, as you hear Elgar's "In Smyrna" for piano and SIA's reflection on how he knows the Black Eye is only 5centimeters deep, but can imagine it as "a bottomless well. A depth where secret thoughts and conflicting feelings are entwined like serpents, which rise and fall under the sunlit surface." As SIA observed of Elgar's composition, "Although the music was gay and glittering, it had a magical depth." Like the Black Eye. Like Marnas as a whole. Some meanings are intended from the beginning, others emerge over time.

The scripts for the videos are entirely in SIA's own words, drawn primarily from his book, *Brev från Min Trädgård* (Letters from My Garden, 2008), a collection of short "letters" to family, friends, colleagues, and mentors, living and dead, which was inspired by *Letters from My Windmill* by Alfonse Daudet.[15] I selected and translated passages where SIA reflects on Marnas, its precedents, origins, elements, composition, plants, and meanings. I also looked for passages that reveal his personality (deliberate and intuitive, controlled and improvisational, whimsical and playful) and his love of literature, art, and music. I composed these excerpts into seventeen parts, which originally were intended to be viewed separately, encountered in the self-guided tour as the visitor wanders around the virtual garden. Ultimately, I realized that the short videos could be sequenced to create a story arc, beginning with the dream of a green den and ending in transformation.

Script in hand, it was then a matter of selecting and sequencing photographs, video, and sound to support and extend narrative and tone, establish rhythm, portray meaning, and evoke feeling. The viewer should feel like SIA is showing them around his garden. "Show don't tell" is a principle of multimedia storytelling. Images give substance to words in the Marnas videos. Sometimes they punctuate the words, adding emphasis; sometimes they fill long pauses. In "Portraits in Time," SIA says, "My garden is a portrait of a person, a signal of the time, a mystical adventure, a gauntlet in time and space with a multitude of philosophical ideas, biographical notes, flashbacks and references in a constantly interrupted narrative." The pace is slow, giving the viewer twenty-five seconds to absorb eight images, which convey each of these aspects of Marnas. We used music sparingly in the videos, preferring to add sounds, like those of digging, clipping, and wind, which were implied or alluded to by the images or text. I found

recordings of birdsong for six of the species that live in the garden.[16] Marnas is a paradise for birds, whom SIA addressed as "winged friends."

"Explore the Garden": The Self-guided Tour

      The self-guided tour begins at the entrance to the driveway, where four willow trees form a gateway. Through trunks of trees, you can see Sven-Ingvar Andersson standing near his old, half-timbered house. Apart from the photograph, which fills most of the screen, four features draw your attention. Each affords a choice. Touch (or click on) the symbol at the upper left, and it expands into a navigation bar, which leads to other parts of the website. Touch the glowing rectangle in the center of the screen and see a short video, "The Willows," which tells the story behind the threshold where you stand. Touch the symbol at the upper right to call up a plan of the garden, which notes your position. Small squares on the plan mark different locations; touch one to move there directly. The compass on the lower right tells you that the year is 1998. Its arrow points to the way ahead; touch the arrow to step forward. The view is now up the grassy driveway to the west. The year is 1992. A glowing square at the center of the screen alerts you that the same spot can be seen at another time. Touch it and see that in 1979 the tall willows that lined the driveway in 1992 are saplings; the hedge at the garden's western boundary does not yet exist. The compass now offers three arrows, each pointing in a different direction: turn to the left, step back, or step forward. If you choose to step forward, you are in 1995, and the compass offers a choice of six directions: you can look left (south) alongside the house, turn southwest toward the entrance to the southern part of the garden, go straight ahead up the driveway, turn northwest toward the henyard, or turn right (north) into a leafy passage.

      As you wander around the garden, sometimes the compass offers many ways ahead, at others, only one. You progress, slipping in time, backward and forward across years. From time to time, you encounter a glowing rectangle or square, which provides either the same view at an earlier time or different season or a video story about the ideas behind the place where you find yourself. The slippage in time, experienced in the interactive tour, mirrors the experience that I have at Marnas, and which SIA most certainly had. When I look down a passage or into a garden room, I see not only what is there before me in the present, but also remembered glimpses of past appearance. If you get lost, call up the plan in the upper right to see where you stand. Your

perspective varies. You may look straight ahead in one image, then down at the ground, in the next. Occasionally, you encounter SIA: planting, weeding, standing in the henyard, sitting in the gazebo, in his house. In self-guided tours, soundtracks become repetitive and distracting, so there is no sound.

Creating the tour posed challenges in image selection and sequencing, coding, and design. The first step was to select and sort SIA's photographs by section of the garden: house, guesthouse, patio, orchard and gazebo to the south; driveway in the center; henyard, flower garden, sun court, Beata's garden, fire place, kitchen garden, compost, and seven north-south and east-west passages to the north. The next step was to take each section, one by one, to sequence photographs to create paths through it, and, finally, to connect these many pathways into a continuous network. There were gaps. Most were filled by my own photographs from 1990 through the 2000s. A few others remain, where the visitor encounters a blurred image and the announcement: "You have entered a gap in space and time." The whole process was complex and required many iterations.

While composing the tour, we also worked on a prototype for the code and design. For example, you should be able to "walk" through the garden at your own pace, which means that many images need to load quickly, in all possible directions from your current location, preparation for whatever next move you select. The design of the compass went through many versions. As you move forward, to the left or the right, it rotates so that the direction you are facing is always at the top.

"Meet SIA" and "Travel in Time"

After touring Marnas, the visitor may be curious to learn more about its designer/gardener, Sven-Ingvar Andersson. "Meet SIA" is a gateway to his work, with links to selected writings, drawings, and professional projects. Andersson wrote hundreds of articles and monographs, which are difficult to find outside Scandinavia. With more essays and drawings, the website could become a digital archive of SIA's work. For the scholar or student who wants to study the garden's development systematically, another section of the website, "Travel in Time," groups photographs in chronological order from the 1950s to the 2000s. "Meet SIA" and "Travel in Time" are organized like a typical archive. They provide access to the work, but do not bring

it alive. However, there is potential to animate both in the future.

The Marnas Digital Archive, Landscape Architecture, and the Digital Humanities

The Marnas project employed multiple methods, both traditional and less conventional, from the scholarly and curatorial to photography and the practice of website and video design as media of inquiry. As a scholar, I published a comprehensive, annotated bibliography of SIA's publications (nearly all in Swedish and Danish), wrote an essay on his ideas ("Texts, Landscapes, Life"), and translated his manifesto, "A Letter from My Henyard," into English.[17] As a curator, I studied the thousands of photographs SIA took of Marnas and selected more than 600 images for this project. As a photographer, I documented changes in the garden, from my first visit in 1990 through the most recent in 2017 and sought to capture the ineffable, seeking appropriate light and significant details that carried metaphorical meanings, alluding to larger ideas.[18] As a landscape architect, I deciphered how SIA transformed ideas into the reality of three- and four-dimension space and recorded my field observations. My own photographs and fieldwork, along with contemporaneous journals, made it possible for me to determine the locations of SIA's photographs and to create the virtual paths through the garden. Previously, I had intended to write a book about Marnas that would portray SIA's ideas and their expression in his garden laboratory, but the book became instead multimedia videos and a multi-layered website.

This project extends in significant ways my exploration of photography, multimedia, and website design as media of inquiry. In 1995, I was an early adopter of the Web as a creative medium for publishing and teaching. The website for my book, *The Eye Is a Door: Landscape, Photography, and the Art of Discovery* (www.theeyeisadoor.com), experimented in 2012 with interactive "journeys." In designing the Marnas website as a three-dimensional and four-dimensional spatial experience, innovative websites like "Highrise: The Towers in the World; World in the Towers" were an inspiration.[19]

The Marnas project exemplifies several aspects of the digital humanities, a field at the intersection of digital technology and humanistic disciplines. The interactive experience of a landscape across time would be impossible without digital technology. Digital cameras, video editing software, and open-access online archives of images, music, and sounds facilitate

production. The website itself is a digital archive, which draws from Dome, the MIT Libraries' open-access digital collections of images.[20] MIT Libraries collections in Architecture, Urban Planning, and Visual Arts are also part of a larger online archive, SAHARA (Society of Architectural Historians Architectural Resource Archive), "a collection of over 100,000 images of architecture and landscapes contributed by…architects, scholars, photographers…and others who share an interest in the built environment.…for all who teach, study, interpret, photograph, design, and preserve the built environment worldwide."[21]

"To be fully felt and known landscapes must be experienced in situ; words, drawings, paintings, or photographs cannot replace the experience of the place itself, though they may enhance and intensify it."[22] I wrote that in 1998, but that was before the technology for visual reality video was invented, when the capacity of the Internet to stream high resolution photographs, videos, and audio recordings did not exist. It is no longer possible to visit the 20,000-year-old cave paintings at Lascaux, they are too fragile, but one now can move through the cave virtually and still feel wonder. The interactive video tour on the Lascaux website is no replacement for direct experience, but is far better than looking at an assortment of individual still images.[23] The Marnas self-guided tour is no substitute for being in the place, but it permits a peek into gardens that once were, an experience afforded only through digital media. It is difficult now to imagine how fundamentally the invention of photography changed the experience and understanding of space and time. It suddenly became possible to see what until then could not be seen, to compare places and things distant in space and time, to stop time.[24] Today, multimedia and the Web have extended photography's power to enable new experience and understanding of landscape.

"Landscapes are a vast library of literature….The library ranges from wild and vernacular landscape, tales shaped by everyday phenomena, to classic landscapes of artful expression, like the relationship of ordinary spoken language to great works of literature."[25] We now have the tools to visit that library, virtually. The great potential that multimedia and the Web afford for the portrayal of place in space and time, and as an interplay between ideas and form, has barely been tapped.

Acknowledgments

Figures

Figure 1. Plan of Marnas, Sven-Ingar Andersson, 2008.

Figure 2. Marnas Home Page with Gateways, 2017.

Figure 3. Self-Guided Tour Screenshot, 2017.

Notes

[1] Sven-Ingvar Andersson, "En Trädgård efter Fem År," *Hem i Sverige* (1965/1), 27.

[2] Sven-Ingvar Andersson, "Brev fra Min Hønsegård," *Arkitekten* (1967). "Letter from My Henyard," translated by Anne Whiston Spirn, http://web.mit.edu/spirn/www/newfront/henyard/henyard.htm

[3] Sven-Ingvar Andersson, personal communication, May 29, 2006.

[4] "Våra gamla trädgårdar och den nya tiden: bevara, förnya, förändra," *Lustgården* (1958-1959), 5-18. "Pastisch och antikvarisk restaurering," *Havekunst* (1961), 33. "Principper for bevaring," *Landskab* (1993/5-6), 112-121. "Uraniborgs renässansträdgård: restaureringsprojektets förutsättningar och hypoteser," *Stencil* (1993/7), 13-20.

[5] Sven-Ingvar Andersson, "Principper for bevaring," *Landskab* (1993/5-6), 112-121. Translated and published in *Sven-Ingvar Andersson*, edited by Steen Høyer (Arkitektens Forlag, 2002), 123.

[6] Ibid., 122.

[7] Sven-Ingvar Andersson, Söndagslanskap och måndagsstäder, *Havekunst* (1966/7), 128.

[8] I had published "The Poetics of City and Nature: Toward a New Aesthetic of Urban Design," *Landscape Journal* (1988) and was writing *The West Philadelphia Landscape Plan: A Framework for Action*, Graduate School of Fine Arts, University of Pennsylvania, 1991. Marnas would later play a central role in one chapter of my book, *The Language of Landscape* (New Haven: Yale University Press, 1998).

[9] Andersson, "Letter"; Sven-Ingvar Andersson, "Häckar och Höns: Min Torparträdgård," *Landskap* 57 (1976), 180-184; Sven-Ingvar Andersson, *Brev från Min Trädgård* (Malmö: Arena, 2008).

[10] Andersson, "Letter."

[11] Steen Eiler Rasmussen, Frans Lasson, Lisbeth Hertel, and Sven-Ingvar Andersson, *Karen Blixen's Flowers: Nature and Art in Rungstedlund* (Copenhagen: Christian Eilers, 1992), published originally in 1983. Blixen made bouquets with flowers from her garden, and Rasmussen photographed them. Many of these photographs of her bouquets, which resemble those of Andersson, are published in the book.

[12] Andersson, *Brev från Min Trädgård*, 21.

[13] https://dome.mit.edu/handle/1721.3/185535. Accessed December 16, 2017. The MIT archive consists of 736

photographs, of which 113 are my own and 623 from the collections of Beata Engels Andersson and the Royal Danish Academy of Fine Arts. In 2017, Beata found additional images, an album of black-and-white photographs from the 1950s and early 1960s, which are not yet part of the archive at MIT.

[14] This approach is described in Anne Whiston Spirn, *The Eye Is a Door: Landscape, Photography, and the Art of Discovery* (Nahant, MA: Wolf Tree Press, 2014), published as an original e-book.

[15] Ibid.

[16] John Stearns Moody worked with me on multimedia development and was responsible for all aspects of production. Online sources of free music and sounds were an extraordinary resource. For example, xeno-canto, a website for sharing bird sounds from around the world, made it possible to locate sounds of specific bird species recorded within a 100 kilometers of Marnas.

[17] Anne Whiston Spirn, "Texts, Landscapes, and Life" and ""Bibliography," in *Sven-Ingvar Andersson*, edited by Steen Høyer (Copenhagen: Arkitektens Forlag, 1994).

[18] Spirn, *Eye Is a Door*.

[19] "Highrise," http://highrise.nfb.ca. Google's "Night Walk in Marseilles" is another excellent example, which I discovered after producing the Marnas self tour: https://nightwalk.withgoogle.com/en/home. Accessed December 29, 2017.

[20] https://dome.mit.edu/, accessed December 10, 2017.

[21] http://www.sah.org/publications-and-research/sahara, accessed December 10, 2017.

[22] Spirn, *Language of Landscape*, 21

[23] http://archeologie.culture.fr/lascaux/en/, accessed December 10, 2017.

[24] Spirn, "Photography and the Art of Visual Thinking," in *Eye Is a Door*.

[25] Spirn, *Language of Landscape*, 21.