

Buildings as Tools that Function and Playthings that Express:
Schinkel's Tectonic Design(s) for Mausoleum of the Queen Luise

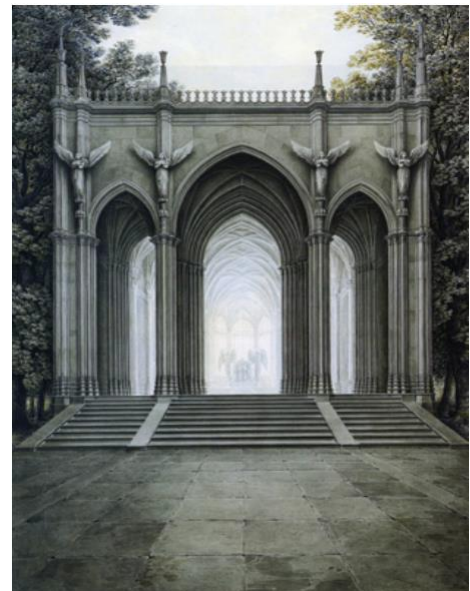
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In 1810, Karl Friedrich Schinkel sketched a Gothic variation on Frederick William III's Classical design for his late wife's tomb [Figures 1, photograph and 2, Schinkel's sketch]. Over the next two years, Schinkel worked with Heinrich Gentz to please Prussia's king and revitalize its subjects after the death of Queen Luise and defeat by Napoleon four years prior. Although his idea for the interior was never materialized, he did inspire Gentz's design.¹ The two versions were both intended to commemorate the beloved Queen, console the mourning public, and create the feeling of eternal life. However, while their message was the same, their means of communication differed.

Every observer can have a unique experience from observing the same form. But is it equally easy for different forms to have the same atmospheric effect, or communicate the same intent across multiple individuals? The question suggests



(Figure 1) Classical design of tomb, built



(Figure 2) Gothic vision of tomb, idea

that meaning is not intrinsic in forms, but rather independent of them - it is attached or added as another layer of the building's whole. In his essay "Karl Friedrich Schinkel, The Last Great Architect," Rand Carter posed this same question while observing Schinkel's National Monument for the Liberation Wars. He suggested that context was the key to distinguishing the expression and meaning of one monument from the next.² This paper attempts to answer the same question for the

¹ Jörg C. Kirschenmann and Eberhard Syring, K. F. Schinkel 1781-1841: An Architect in the Service of Beauty (Germany: Taschen, 2003), 19.

² Rand Carter, "Karl Friedrich Schinkel, The Last Great Architect," in Collection of Architectural Designs including those designs which have been executed and objects whose execution was intended by Karl Friedrich Schinkel (Chicago: Exedra Books Incorporated, 1981).

Mausoleum of the Queen Luise, arguing that it is a building's structural expression which conveys the building's meaning.

As Vitruvius stated in his *De Architectura* more than 21 centuries ago, buildings are essentially places of function, intended for use by the people. They must exhibit two more qualities alongside Utility: Strength and Beauty.³ Utility becomes intrinsic in the forms used (for example, forms must be round to roll), while beauty remains an idea separate from it (by the same example, some round things are more pleasing to the observer than others).⁴ Similarly, in architecture, most rooms aren't round because a square room gives the room more function in terms of pleasant allocation of furniture. Eighteen centuries later, Friedrich Gilly would add to Vitruvius' knowledge, stating that utility and beauty are compatible, and that no matter the historical precedent for a design, the product must always embody something new.⁵ In Schinkel's terms, architecture meant exactly the mixing of the useful and the beautiful, where the beautiful is an expression of a building's intent beyond its simple use. While most architects, historians, and critics agree - that buildings must have both a use as well as a "look" about them - many disagree on whether the two act independently of each other, and fewer still agree on what the distinguishing factor is.⁶ For Schinkel's Mausoleum of the Queen Luise, it was tectonics.

Among those that have written about Schinkel's attempts at expression, Michael Snodin, stated that Schinkel wished to combine utility and beauty in buildings but still clung to the idea that "functional" elements in architecture served specifically for structural stability and the "formal" was solely for visual delight. These formal "embellishments" are there only to express directly the idea or purpose of the building.⁷ He would argue that we must keep our personal lives separate from our

³ Published as Ten Books on Architecture and believed to be written around 15 BC

⁴ An analogy made by Louis Kahn that speaks to the idea that architecture is different from the rest of the arts because it must be functional; interview from which it was taken found in Carlos Brillembourg, Louis Kahn, *BOMB*, December 9, 2014, <http://bombmagazine.org/article/1548/louis-kahn>.

⁵ Gordon A. Craig. "The Master Builder." review of Karl Friedrich Schinkel: A Universal Man by M. Snodin, in The New York review of books vol. 39, issue 11 (1992): 38.

⁶ Peter Collins in his "Architecture" in Encyclopædia Britannica agrees in that architecture must satisfy both utilitarian and aesthetic needs, but he believes the two are inseparable

⁷ From Snodin's Karl Friedrich Schinkel, 38.

work lives. Bergdoll turns to Schinkel's fascination with the dramatic atmosphere in theaters to argue that Schinkel was looking to extend the notion of the beautiful into the functional, or the idea that we must bring play *into* our daily work. He emphasizes the predominant presence of nature in Schinkel's set designs and panoramas, and stands by his notion that "architecture is the continuation by man of the constructive activity of nature."⁸ John, Zukowsky likewise turns to Schinkel's talents as a painter to argue that he blurred the distinction between architectural rendering and pictorial drawing, trading technical interest and legibility for suggestive atmosphere and emotion.⁹ He would twist the work-play analogy to function-beauty to say that play takes preference over work. Many old writers contemplated the characteristics of man in order to describe the workings of a human and the world he lived in, ascribing "Homo Faber" and "Homo Ludens" as Latin precedents for "man the worker," and "man the player."

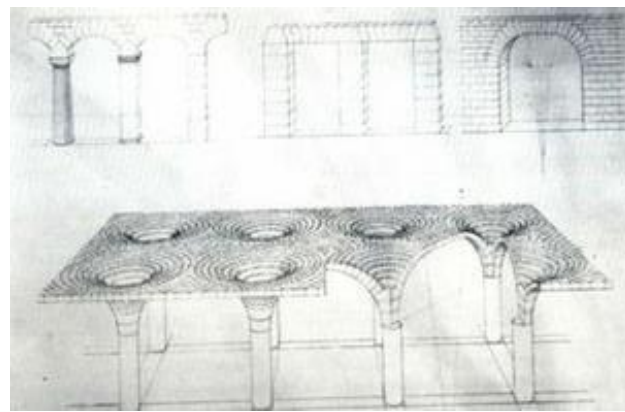
In analyzing the Classical and Gothic solutions for the Queen's tomb of two distinctly different historical "styles," a

different theory is proposed – one that not only sees utility and beauty as inseparable, but argues they are the same element.

Schinkel's expression



(Figure 3) Ample of sketches, notes (Figure 4) Section-perspective shows detail, care



of tectonics, more specifically the exposure, immediacy, and visibility of structure and form (perhaps analogous to Strength) conveyed the intent for his buildings. His sketches were accompanied with words and annotations that would reveal their intentions, and his drawings presented an atmosphere

⁸ Mentioned in both Barry Bergdoll, [Karl Friedrich Schinkel: An Architecture for Prussia](#) (New York: Rizzoli International Publications, Inc., 1994), 45 and Mitchell Schwarzer, [German Architectural Theory and the Search for Modern Identity](#) (Cambridge: Cambridge University Press, 1995), 107.

⁹ John Zukowsky, [Karl Friedrich Schinkel 1781-1841: The Drama of Architecture](#) (Berlin: Ernst Wasmuth Verlag, 1994), 22.

about them that went beyond accurate structural representation and minimalistic, utilitarian use. [Figures 3 and 4]. The playful messages inherent in the emphasized architectural elements are what make Schinkel's work unique and interesting.

Architectural expression is conveyed through content, or the specific message a building communicates to the outside world about its function and technique. Tectonics is the designing of a structure that, irrespective of any style, communicates to the public the reason for its existence.¹⁰ Schinkel's work explored what technique can express, through both construction methods and materials used. The Prussian architect, furniture designer, and stage designer studied structure but also played with and broke the old rules of construction, to give a building its form and convey its purpose, its content. In Schinkel's work, tectonics expressed the two-fold requirement of a building that gives it memorability or meaning: first, tectonics communicated the building's functional purpose, or what the people there were doing, and second, how the people there were feeling, or its aesthetic purpose. I am suggesting that Schinkel was both a man at work and a man at play in the way he used tectonics to embrace the idea of free play and integrated it with the bare utilitarianism. As the modern critic explained much later about Schinkel, the balance between function and beauty reflected man's existence and purpose in life: to work and to play, to have tools as well as toys, to use and to decorate.¹¹ Schinkel's quote "Ersterfreuen, dann belehren," or "First delight, then instruct," perhaps best described this axiom.¹²

Karl Friedrich Schinkel (13 March 1781 – 9 October 1841) was a Neo-Classical and Neo-Gothic architect and city planner, a self-critical painter, and a provocative furniture and set designer



(Figure 5) Industrial city, lack of aesthetics

most influential in making capital Berlin an archetype of Prussia's national pride and architectural excellence. His numerous travels across Europe starting in the early 1800s

¹⁰ Peter Collins, "Architecture," *Encyclopædia Britannica Online*, accessed November 30 2014, <http://www.britannica.com/EBchecked/topic/32876/architecture/31845/Expression-of-technique>.

¹¹ Adolf Behne, *Modern Functional Building* by R.H. Bletter (1996): 1-2.

¹² Quoted from Schinkel's report "On the Purpose of the Berlin Gallery" written with Gustav Friedrich Waagen in 1828, at a time when Schinkel's Altes Museum was being built

greatly influenced his theory that function alone does not suffice for a building to be successful. He was enamored with Paris' pomp and theatrical displays that would influence his life's work in the stage design.¹³ Disliking the lack of aesthetics in factory production that he saw in England [Figure 5], he persisted that "not even the most utilitarian of buildings should be bereft of beauty."¹⁴ The metaphysical separation of these formal and functional parts of a building claimed that while a form of art required to bring delight, architecture serves a higher purpose than solely that of aesthetics. Fulfillment of function is seen as the primary goal separate from the creation of visually pleasing forms. When they combine, they express



(Figure 6) Karl Schinkel

the architect's intentions. Components of expression can be separated into content and form, where content "communicates specific meanings that interpret to society the functions and techniques of buildings."¹⁵ In many ways, the design of the visual brings much more interest than design for the practical: that is where Schinkel's [Figure 6] playful side came to reconcile with order to bring a



(Figure 7) King William III



(Figure 8) Queen Luise

multitude of meanings to the mausoleum intended for the grieving nation. He wished to build architecture where the structural elements were part of the aesthetics, visible, readable, and carrying meaning. In Snodin's book, Craig argues that it was especially

Schinkel's search for "liberation of material constraints" that allowed for an exposed view of the building's construction and yielded such "expressive" buildings as his Mausoleum of the Queen Luise for King William III in Charlottenburg Park, Berlin¹⁶ [Figures 7 and 8]. In both versions, the

¹³ Importance of travel for Schinkel also mentioned in Zukowsky, Karl Friedrich Schinkel, 37.

¹⁴ Behne, Modern Functional Building, 31.

¹⁵ Peter Collins, Encyclopædia Britannica Online.

¹⁶ Craig, Karl Friedrich Schinkel by Snodin, 38.

same meaning can be read from two different tectonic expressions. His Gothic sketch for the tomb begs for a cheerful and hopeful view of death and alludes to nature's renewal. The built Classical translation comes to a similar conclusion with ideas of eternal life through memorials for the dead and national pride. Frederick William III was a proponent of the classical style and therefore requested a Doric temple to be built in memory of his wife. Formerly known as Luise of Mecklenburg-Strelitz, Queen Luise enjoyed her popular and venerated public persona more than any other woman in Prussia's history would: her negotiations with Napoleon after their defeat would make her a more successful leader and beloved memory than even the King.¹⁷

Karl Schinkel's involvement in the drafting process for her tomb led him to a Gothic design solution of his own. Ultimately, the more economic, nationalistic scheme tailored to the client, King William III was chosen for the grand tomb. Early in his career, the Prussian architect thought that Gothic architecture, when striving to overcome material limitations and discover new building techniques, deserved a higher degree of respect than Greek Classicism. He later claimed that Gothic needed to be improved through some Classical standards, viewing the former only as a variation on the timeless classical ideal.¹⁸ Schinkel believed not all buildings were of equal stature and the presence, location, and form of an expressive, symbolic element was essential in determining the type of building. Schinkel was steering clear of any extremes in these stages, as much their characteristics as their theories, and therefore wished to balance, or rather reconcile, the useful with the beautiful - the real with the ideal - to arrive at appropriate expression.¹⁹ Schinkel's emphasis on this balance contradicts Stefan Morawski's notion that expression is the making of any extreme form.²⁰ Under Morawski's terms, order and harmony subdue expression.²¹ Schinkel's lifetime works on form and their meaning may not fall into the extreme category as compared to contemporary

¹⁷ Giles MacDonogh, Prussia: the Perversion of an Idea (Great Britain: Sinclair-Stevenson Ltd, 1995), ch.5.

¹⁸ Karl Friedrich Schinkel, K.F. Schinkel, Collected Architectural Designs (Great Britain: St. Martins Pr, 1983), 90.

¹⁹ Rand Carter, review of Karl Friedrich Schinkel: Bauwerke und Baugedanken by E. Forssman, in Journal of the Society of Architectural Historians, 42:4 (1983): 401-3.

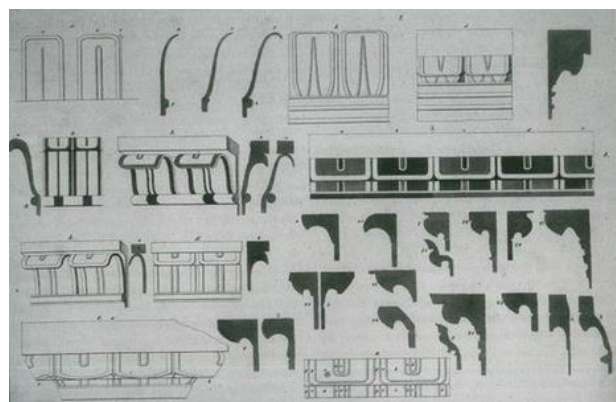
²⁰ Stefan Morawski, "Expression" in Journal of Aesthetic Education, vol. 8 no. 2 (1974): 37-56.

²¹ The idea that harmony is said to go against "expressionism," which is achievable only with a loss of control over the artwork is also mentioned in Behne, Modern Functional Building, 31.

practice, but they stand out because they challenged previous misconceptions, or traditions, about construction.

Although the architect's sketch for the mausoleum is a conglomerate of both Gothic as well as Classical principles, the sketches relatively Gothic as compared to the built object, which is more Classical. Wishing to express patriotism and rebirth of Prussia, he chose the predominantly Gothic side. On the larger issue of "style," Schinkel himself wondered whether we should want to invent our own style of the current period rather than build in the style of another. In the Queen's tomb, he took the existing ruggedness found in nature that was suitable for the nationalistic Gothic sensibility, and revised it into an innovative, abstracted, and simplified piece of architecture more appropriate to the modern time he lived in. He was looking for a new German style in which societal tradition (order and work) and artistic invention (chaos and play) were seen of equal importance. Ultimately, his building's structural integrity is shown through reduced and cubic forms that express Prussian purity and order.

Soon after Schinkel's death, Karl Bötticher published three book volumes on tectonics, called *Tektonik der Hellenen*. Both Schinkel and Bötticher were much influenced by Friedrich Wilhelm Joseph Schelling, a German philosopher and contemporary to Schinkel, who contended that "architecture transcends the mere pragmatism of building by virtue of assuming symbolic significance."²² Schinkel created structural forms that embody a message from the analogy between the architectural tectonic form and nature's organic form [Figure 9 is a representative image from Bötticher's book showing the organic forms in column capitals]. The completely unnatural, on the



(Figure 9) Organic and playful forms

²² Alan Read, *Architecturally Speaking: Practices of Art, Architecture and the Everyday* (London: Routledge, 2000), 182.

other hand, cannot communicate a meaning as deep as nature because only the natural can be elevated to some higher degree of meaning, of reverence. Structural form acts as a transparent grid over which a hierarchical articulation of discrete parts is imposed to create significance.²³

Schinkel's unrealized plan for Mausoleum of the Queen Luise [Figure 2] was an ethereal cathedral precisely of such high meaning: raised on inviting steps, stretched into a hall with pointed



vaults and ample exquisite yet ordered decoration, it gave the tomb an airy, almost vulnerable atmosphere. Lightness and brightness from within make it a heavenly mausoleum uncharacteristic of tombs. The memorial was intended to lift the public's spirits after national defeat and give them a cheerful Christian view of death. The building serves as a frame for altering one's experience of the familiar setting.²⁴

The walkway to the mausoleum is enclosed by a colonnade of thick trees that evoke darkness and dreadfulness. The visitors are

(Figure 2) Gothic vision of tomb, idea

them lead to a shallow flight of steps to the threshold as a continuation of the earth, where they step into, what Schinkel envisioned as: "its darkness, where they behold the recumbent effigy of the queen, surrounded by heavenly figures, resplendent in the clear light of the morning."²⁵ The exterior facade shines from the inside, and three columns are marked by three angels hovering above the holy

²³ Harry Francis Mallgrave, Modern Architectural Theory: A Historical Survey, 1673-1968 (Cambridge: Cambridge University Press, 2005), 106-108.

²⁴ Bergdoll, Karl Friedrich Schinkel, 45.

²⁵ Zukowsky, Karl Friedrich Schinkel, 22.

building. The angels, then, mark the structural exterior columns holding up the vaulted arches on the interior, likewise emphasized with flowery motifs. The hall opens up with the bases and capitals of the pillars echo of organic, playful forms and the patterning of vaulted arches receding into the light evoke images of the German forests, hinting at the cycle of life, death, and renewal. The mausoleum served as a continuation of nature and its lifecycle.²⁶

Instead of the altar at the forefront, there lies the queen herself, portrayed as a martyr of eternal life [Figure 10]. Schinkel described his intentions for a delicate and comforting structure: “The light falls from the windows from three niches that surround the resting place from three sides; red twilight



(Figure 10) Gothic interior

shades gently pass through glass panes of rose-red colour, spreading over the entire architecture that is fashioned in white marble.”²⁷ This fragility yet gracefulness can be seen in Figure 11, a hand-drafted



(Figure 11) Fragility and etherealness

pencil drawing of the tomb’s interior corridor. The playful use of light in the Queen’s resting place stems from his eventual lifetime commitment to stage design and theater. The Mausoleum of the Queen Luise demands the same sense of a stage - a self-awareness of the living - as a theater set design

does in a play. Schinkel blurred the distinction between architectural rendering and pictorial drawing,

²⁶ Bergdoll, Karl Friedrich Schinkel, 45.

²⁷ Bergdoll, Karl Friedrich Schinkel, 45.

trading technical interest and legibility for suggestive atmosphere and emotion.²⁸ When Schinkel was



(Figure 12)



(Figure 13) Picturesque set designs



(Figure 14)

still a university student he became fascinated by the work of Gilly and

eventually began working for and studying under his father, David Gilly. But because Prussia's recent military defeats resulted in a lack of building commissions and money, Schinkel found work in other fields, including painting sceneries for theaters.²⁹ Figures 12-14 show Schinkel's sketch of a church hidden behind a majestic tree, a scenery again prevalently covered in nature as well as embedded buildings in the background, and lastly a stage design backdrop for Mozart's opera "The Magic Flute." It was in theater that he found his inspiration and what James Sheehan, a historian of modern Germany, calls "valuable training for someone whose buildings always seem designed to provide a setting within which the public drama of civic life could be enacted."³⁰

Interestingly, and somewhat ironically, Schinkel was first commissioned by William III to furnish the royal couple's bed chamber (after holding an exhibition of his dramatic panoramas learned from Paris, after which the Queen wished to meet him personally).³¹ Here again, Schinkel's



(Figure 15)



(Figure 16) Classical interiors

design expresses the sleeping Queen as an airy goddess [Figures 15 and 16]. A canopy "sleigh bed" embedded within classical flower and ribbon motifs on the

sides, walls indulging in draped white fabric that appeared breezy and heaven-like, and two tables

²⁸ Zukowsky, Karl Friedrich Schinkel, 22.

²⁹ Mentioned in James J Sheehan, "Aesthetic Theory and Architectural Practice: Schinkel's Museum in Berlin" in From the Berlin Museum to the Berlin Wall: Essays on the Cultural and Political History of Modern Germany, ed. D. Wetzel. (Westport, CT: Praeger Publishers, 1996), 16 as well as in Kirschenmann, K. F. Schinkel.

³⁰ Sheehan, From the Berlin Museum, 16.

³¹ Zukowsky, Karl Friedrich Schinkel, 39.

likewise reminiscing antique ornamentation and alluding to Christianity and altars. A decade later, he designed the Queen's tomb after her early death and provided a stately cathedral where she could live and sleep eternally. Figures 17 and 18 provide a clear resemblance between the Queen's sleeping chamber on the left and her eternal tomb on the right.



(Figure 17) Queen's sleeping quarters



(Figure 18) Queen's tomb

The actual built Mausoleum of the Queen Luise, although designed by Heinrich Gentz, took many ideas from Schinkel. Compared to the design by Prussia's architect, the final design for the tomb appeared much less open and friendly, guided more by classical rules than artistic intentions. As such, the final building appears more as a monument to be observed and honored as opposed to a public place for audiences to gather and mourn. The base of the sarcophagus of the sleeping queen, created by Christian Daniel Rauch, took Schinkel's idea of sleeping as eternal life, as well as his



(Figure 19) Queen's sarcophagus

design for a candelabra that allegorically spoke of religious resurrection [Figure 19]. The mausoleum went under construction in 1840s to add a crossway with an apse that would contain the sarcophagus of Frederick William III.

Another and final change took place in 1890 after Emperor William I and his wife were

buried in the tomb as well. Construction of Luise's tomb was originally finished by 1812, but a copy of the portico with a stairway and the Doric columns and pediment was made just sixteen years later.

The original portico was transferred to the Peacock Island, where it was to serve as another memorial to Queen Luise.

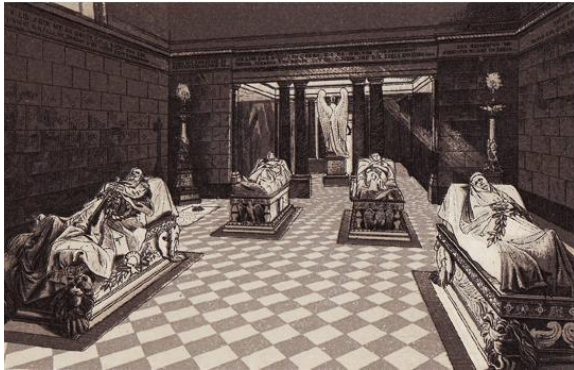
Schinkel layered his architecture with meaning that appealed more to the senses than reason, and his argument for a visible, transparent, and discernible structure able of communicating its purpose was very clear. But utility and construction remain dry and rigid without two equally important elements: the historic and the poetic. To blend these elements successfully requires feeling in addition to reason. Reason accomplishes the “Trivialbegriff des Gegenstandes,” or, the trivial concept of a thing; only emotion fulfills “artistischen poetischen Zwecken,” or, the artistic, poetic ends.³² It is in this poetry that Schinkel finds in tectonics. His expression of the tomb’s intent is evident in his artistic and imaginative play of forms. These forms also perform structurally, and the combination of the utility and the beauty give a building its distinctive character to be remembered by and interpreted from. The loosening of community, order, rules in form-making is what makes Schinkel unique among his contemporaries. The encouragement to produce for the continuously evolving times gave Karl Friedrich Schinkel the drive to play with how function is expressed as well as read. Sylvan Barnet, an American literary critic, in his *A Short Guide to Writing About Art* mentions that “All architecture is designed to help us to live - even a tomb is designed to help the living to cope with death, perhaps by assuring them that the deceased lives in memory.”³³ That was precisely Schinkel’s intent with the uplifting, public, luminous mausoleum. While the working man in Schinkel fulfills the elementary needs for a building to be useful, the playing man in him eloquently communicates meaning through them. Ultimately, Schinkel put a responsibility on himself, as well as an example for his followers, to find something primal and make it novel and meaningful: “To turn something useful, practical, functional into something beautiful - that is architecture’s duty.”³⁴ And as if his architecture wasn’t layered with meaning enough, Schinkel’s

³² Carter, Karl Friedrich Schinkel: Bauwerke und Baugedanken by E. Forssman, 401-3.

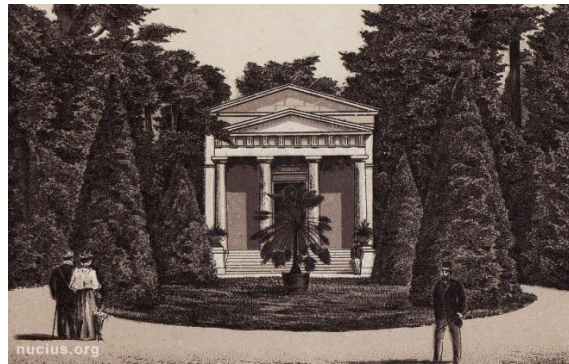
³³ Sylvan Barnet, A Short Guide to Writing About Art 9th ed. (New Jersey: Pearson Higher Ed, 2014), 88.

³⁴ Quote appears on the inside cover page of K. F. Schinkel 1781-1841: An Architect in the Service of Beauty.

Mausoleum for the Queen Luise was commissioned the same year 1810 that he started experimenting with lithography, a method of printing once used for quick and cheap publishing of theatrical works where oil and water repel and attract ink, creating a sort of figure ground stamp.³⁵ It is no wonder that he associated set design with architecture, as seen in Figures 20 and 21, two lithography prints of the interior and exterior finished mausoleum. To again compare work to functionality and play to beauty, Schinkel made architecture that no longer separated the man who lived to work and the man who lived to play - he found life's purpose in a world where play and work are the same thing.



(Figure 20) Lithography print of mausoleum's interior



(Figure 21) Lithography print of mausoleum's context

³⁵ Zukowsky, Karl Friedrich Schinkel, 22.

Bibliography

- Barnet, Sylvan. [A Short Guide to Writing About Art](#) 9th ed. New Jersey: Pearson Higher Ed, 2014.
Barnet outlines and provides guidelines for a successful analysis of an art piece, from painting to architecture. He puts forth important questions to consider when trying to analyze an art piece's meaning, or intent (for example, its site, scale, approach, form, material, etc).
- Behne, Adolf. [The Modern Functional Building](#). Santa Monica: Getty Research Center for the History of Art and the Humanities, 1996.
Behne just barely touches on the subject of play and work, mentioning that even play requires community, order, and rules. Such harmony is said to go against "expressionism," which is achievable only with a loss of control over the artwork.
- Bergdoll, Barry. [Karl Friedrich Schinkel: An Architecture for Prussia](#). New York: Rizzoli International Publications, Inc., 1994.
Bergdoll touches on two important points. The first shows Schinkel's fascination with nature, and his own mindset that architecture is a continuation of the constructive nature. The second emphasizes his interest in dramatic, some would say romantic, set design as it pushed him to design architecture that would provide a new experience to an old expectation.
- Brillembourg, Carlos. Louis Kahn, *BOMB*, December 9, 2014, <http://bombmagazine.org/article/1548/louis-kahn>.
- Carter, Rand. "Karl Friedrich Schinkel, The Last Great Architect," in [Collection of Architectural Designs including those designs which have been executed and objects whose execution was intended by Karl Friedrich Schinkel](#). Chicago: Exedra Books Incorporated, 1981.
Carter looked at Schinkel's National Monument for the Liberation Wars to pose an interesting question: Can different forms have the same meaning or message?
- Carter, Rand. review of [Karl Friedrich Schinkel: Bauwerke und Baugedanken](#) by E. Forssman, in [Journal of the Society of Architectural Historians](#), 42:4 (1983): 401-3.
Carter explains "Charakteristische" as the distinctive, expressive elements that give a building its character to be remembered by - they contribute to its intelligibility and legibility that makes it easy to read. He argues that Schinkel wished to reconcile the "Trivialbegriff des Gegenstandes" or "trivial concept of a thing," with "artistischen poetischen Zwecken," or "artistic poetic ends." Carter also mentions the hierarchy of the Ionic, Doric, and Corinthian orders to show how they perform both structurally as well as aesthetically.
- Collins, Peter. "Architecture," in [Encyclopædia Britannica Online](#). Accessed November 30 2014, <http://www.britannica.com/EBchecked/topic/32876/architecture/31845/Expression-of-technique>.
Collins addresses Architecture as a large field of designing buildings that convey both quality and meaning. He defines important terms like content, form, expression, etc.
- Craig, Gordon A. "The Master Builder," [The New York review of books](#) 39:11 (1992): 38.
Craig talks about Gilly's influence on Schinkel: economy and simplicity are of greatest importance, utility and beauty are compatible, and no matter the historical precedents studied for a design, the new product must always embody something new. He argues that Schinkel brought on a "liberation of material constraints."
- Frampton, Kenneth. [Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture](#). Cambridge: MIT Press, 1995.
Frampton talks about symbolism in architecture from the tectonic perspective in the 20th and 21st centuries.
- Hübsch, Heinrich. [In What Style Should We Build?: The German Debate on Architectural Style](#). trans. by W. Herrmann. Santa Monica: Getty Center for the History of Art and the Humanities, 1992.
Heinrich addressed the question to the new generation of Germans, provoking an interesting debate among his contemporaries. He relates to both Johann Heinrich Wolff and Carl Gottlieb Wilhelm Bötticher, and describes the principles of Hellenic ways of building with their regard to contemporary construction.
- Kirschenmann, Jörg C. and Eberhard Syring. [K. F. Schinkel 1781-1841: An Architect in the Service of Beauty](#). Germany: Taschen, 2003.
Kirschenmann introduces the life and work of Schinkel, provides a chronological order of his works with clients' informations, site constrictions, and final design outcomes. The book also features many photographs, plans and elevations, and sketches.
- MacDonogh, Giles. [Prussia: the Perversion of an Idea](#). Great Britain: Sinclair-Stevenson Ltd, 1995.
MacDonogh describes in detail the cultural, economic, social, as well as historical circumstances of Prussia's existence. Provides useful connections between the monarchs, art patrons, and

artists such as Schinkel.

- Mallgrave, Harry Francis. Modern Architectural Theory: A Historical Survey, 1673-1968. Cambridge: Cambridge University Press, 2005.
Mallgrave deems that style is based on objective principles that stem from the need to provide solidity as well as commodity, or, function as well as beauty.
- Mallgrave, Harry Francis. "The Animate Brain: Schinkel, Bötticher, and Semper" in The Architect's Brain: Neuroscience, Creativity, and Architecture. United Kingdom: Wiley-Blackwell, 2010.
Mallgrave groups Schinkel, Semper, and Bötticher as the "animate" brains; he analyzes Schinkel's Altes Museum in Berlin and argues that Schinkel was influenced by Schopenhauer's radical idea of the new problem of architecture; and he describes Bötticher's idea of tectonic as the "total form of an architectural body."
- Morawski, Stefan. "Expression" in Journal of Aesthetic Education, vol. 8 no. 2 (1974): 37-56.
Morawski categorizes expression into six categories, depending on where meaning comes from: empathy, properties inherent in the materials used, expression rising from the totality of a work, interpretation, expression in an extreme form, and finally, expression relating to the larger cultural context within which the artist works.
- Pollio, Marcus Vitruvius. The Ten Books on Architecture. trans. M. H. Morgan. Boston: Adamant Media Corporation, 2005.
Vitruvius was perhaps the first architect to outline an architectural treatise in an age where the profession was just starting its roots. In it, he proposes that architecture is a three-fold art required of satisfying "utility," "strength," and "beauty."
- Read, Alan. Architecturally Speaking: Practices of Art, Architecture and the Everyday. London: Routledge, 2000.
Read states that Schinkel's greatest accomplishment was his use of symbolic significance that transcended the mere pragmatism, utilitarianism, of building.
- Schinkel, Karl Friedrich. K.F. Schinkel, Collected Architectural Designs. Great Britain: St. Martins Pr, 1983.
This book is a collection of Schinkel's works, accompanied with passages, photographs, and sketches.
- Schwarzer, Mitchell. German Architectural Theory and the Search for Modern Identity. Cambridge: Cambridge University Press, 1995.
Schwarzer yearns for a continuity characteristic of the age. He quotes Schinkel in saying that "architecture is the continuation by man of the constructive activity of nature."
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