

August Endell's Construction of Feeling

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ABSTRACT

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The German architect August Endell (1871-1925) is best known for his idiosyncratic buildings and interiors. As the first monographic study on his work in English, this dissertation uncovers the little-known design philosophy behind his works, and elucidates the intellectual origins and career of his important theory of experiential form. Endell was a polymath versed in scientific philosophy, empirical psychology, musicology and architecture. A man of extraordinary intellectual range, he saw his architectural practice as a laboratory for conducting experiments in psychology. In particular, his buildings explored architectural forms patterned on the workings of the human brain, as understood in late nineteenth century Germany.

Previous studies of Endell generally have tried to situate him within one of the major German schools of thought in psychology, alternatively as a proponent of abstraction or empathy. Through detailed analyses of his built works and written texts, this dissertation argues that Endell was in fact attempting a reconciliation between abstraction and empathy, through what I have interpreted as experiential forms, namely forms drawn from collective memories, feelings, and ethical relations. Endell was an activist for architectural design driven by a "science" of consciousness, and he was convinced that built experiential forms could serve an important unifying social function, counteracting processes of social disaggregation he believed was taking place in pre-World War I Germany. Endell was discredited and ignored for much of the twentieth century, perhaps because his claims about the influence of architecture in the functioning of the human brain

and sensorium, in the absence of scientific proof, seemed condemned to remain hypothetical. To re-examine his work today, when neuroscience is giving us an entirely new picture of the brain, is to recover an important chapter in the pre-history of attempts to adequate our built environment to our human condition.

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I hope and believe that a time will come when we will have a continuously developing autonomous formation, but we are still far from this goal. Where the path leads no one knows exactly.

—August Endell, "Künstler und Fabrikant" (1909)¹

INTRODUCTION

This dissertation explores the designing principles of the German architect August Endell (1871-1925), a marginalized figure in the history of modern architecture, known primarily for a single façade of his debut work at the Photoatelier Elvira (1897-1899) in Munich. The dissertation introduces Endell's works as experiments in the design of a competing vision within modernism—an overlooked "designed" theory of experiential form that explores the complex relationship between the architecture of conscious processes and the sustainability of progress in a modern society. Today, in a time of growing interest in the architecture of the brain and in embodied architecture, Endell is noteworthy for his complex thinking on the relation of a built form and the observer over a century ago in a different threshold movement in cognitive psychology.

This was a time of various efforts in culture to define new syntheses marked by the increased attention to the work and thought of Johann Wolfgang von Goethe in the 1890s in Germany. The late 1890s witnessed the emergence of Jugendstil in Munich, at whose foundation Endell was present, a movement that took nature as the foremost source of visions of a style appropriate for modern life. Inspired by the Swiss artist Hermann Obrist (1862-1927), whose

¹ August Endell, "Künstler und Fabrikant," *Die Zukunft* 18, no. 64 (October 30, 1909): 153-57; based on a lecture delivered at the Vereinigung Deutscher Möbelindustrieller [Association of German Furniture Manufacturers]. "Ich hoffe und glaube, dass eine Zeit kommen wird, wo wir eine stetig sich entwickelnde selbstständige Formbildung haben werden; aber wir sind noch weit von diesem Ziel. Wohin der Weg führt, weiss niemand genau."

embroideries emulated movement in nature, Endell established his reputation as an architect during this intense but short-lived phase at the turn of the century. Striving to realize the individual visions with which they hoped to announce a new style, Endell and other proponents of Jugendstil focused on every-day objects in the effort to bring art to life on all of its levels.

I argue that Endell experimented in a synthesis concerned with harmonizing form's physical and perceptual processes, and that at the core of his experiments was the question of (in-)visibility of ethical relations in contemporary society. Endell's experiments need to be seen as efforts at social, cultural and, simultaneously, epistemological reform at the turn of the 20th century, a moment when all these phenomena were perceived to be in crisis in Germany, because of the effects of rapid modernization, rationalization, standardization, and mass-production on society, culture and thinking.

I argue that Endell aimed to sustain a modern society of progress by graphically theorizing design that would make visible form as a whole, as well as the parts of which it consists. By introducing feeling as built and designed form's central ingredient, Endell imagined the construction and perception of such a form would be possible. That is, constructing perceptual and physical layers of form in interrelation through mirroring processes of its parts (and whole) would generate a form based in empathic relations. In this way, Endell aimed to shape an observer aware of moral responsibility to others as his or her potential for social change—an action potential. With his works, I propose, Endell aimed to challenge the embrace of mechanical rhythm and the calcification of contemporary forms that impeded visibility of relations. He thereby critiqued the focus on reason in contemporary architecture to the exclusion of feeling.

Following Endell's tracks towards what I define as a multi-layered experiential form, I describe Endell's works as "laboratories" of elastic, ever-changeable, multidimensional forms. Furthermore, I show that Endell's explorations in synthesis were concerned with interrelations based in reconciliation of opposing concepts, primarily: feeling and reason, consciousness and the unconscious, illusion and experience, memory and history, empathy and abstraction, and form and space. Supported by a discussion of Endell's formative stage, as well as by analyses of a selection of his works executed between 1897 and 1916, I demonstrate that Endell aimed to model "laboratories" of social change with a concept of a functional form that resonated with the dimension of human consciousness.

The complexity that, in my view, pervades Endell's works and thought is a feature about which few people familiar with him would be likely to disagree. However, this complexity has ever complicated the reception of Endell's works. While there have been attempts at positioning Endell in histories of modern architecture, the conflicts evident in such attempts echo the unease with which Endell was received during his life. These conflicts are an indication of Endell's transitional position amid the complex roots of his work and thought, just as they are a clue to the varieties of thought over the course of the twentieth century for which aspects of Endell's contributions might be considered relevant. This might be a clue as to why a monographic study in English is still lacking today.

The most frequent interpretation throughout the twentieth century introduced Endell as a Jugendstil proponent who became a modern architect by substituting for his curvilinear design a rectilinear idiom consonant with the works of the modern movement. Whereas throughout the first half of the twentieth century, ornament in architecture was considered unnecessary, and Endell's ornament was dismissed, later in the century attention turned to Endell's ideas about

ornament and its uses. When interest in ornament and architectural surface, and in their respective capacities to express meaning, began to grow, Endell became almost synonymous with the image of his large-scale exterior ornament at Elvira. Yet, a study of Endell's designing principles was still lacking. It was only in the aftermath of the growing interest in empathy and embodied experience in the 1990s that Endell re-emerged in English-language scholarship in three new dissertations between 2007-2008.²

The story of the reception of Endell's work is one of paradoxes. By promoting Endell's work in ways that confirmed their own ways of seeing, various past commentators often interpreted Endell as a proponent of precisely those ways of seeing that Endell himself challenged and sought to transform. One insightful perspective came from Endell's contemporary. The critic and editor of the journal *Kunst und Künstler* (Art and Artists), Karl Scheffler, described Endell's work as "the mathematics of feeling."³ This observation was perhaps the most fitting of all. Yet even such a connoisseur of Endell's works as Scheffler made a distinction between Endell's early (pre-1905) curvilinear idiom and his later geometric works, praising the abstracted geometric features of the later period. While Scheffler thus helped in establishing Endell's reputation as a modern architect, at the same time he laid the groundwork for future interpretations of Endell's work as characterized by discontinuum and a stylistic rupture. This led to a paradox: in the course of rendering Endell visible, this critic inadvertently obscured the conceptual origins of Endell's work.

² Recently, a collection of essays on Endell in German became available after I had formulated and written my dissertation. See Nicola Bröcker, Gisela Moeller, and Christiane Salge, eds., *August Endell 1871-1925. Architekt und Formkünstler* (Petersberg: Imhof, 2012).

³ Scheffler was an admirer of Endell and credited him in a few instances in his texts. Karl Scheffler, *Die Architektur der Grossstadt* (Berlin: Bruno Cassirer Verlag, 1913), 188.

Another of Endell's contemporaries called him a sectarian (*Sonderbündler*).⁴ While this nickname aptly implied Endell's non-conformity with regard to the mainstream in architecture, at the same time it carried a misleading overtone of disaffection from an established belief. Endell himself contributed to such perceptions. He tartly critiqued others' work, with the exception of the German architect Alfred Messel, known mainly for his Wertheim department store (1896-1905) in Berlin, whom Endell praised with the title "emancipator and redeemer" owing to Messel's understanding of the central importance of proportions.⁵

There were contemporary critics who recognized the richness and potential of Endell's work. Nevertheless, they were far too few for Endell to gain wider attention. Beside Scheffler, another critic who took note of Endell was the German architect and advocate of modern architecture, Walter Curt Behrendt, who held Endell's architecture to be among "the most interesting works of modern architecture in Berlin"⁶ and who saw Endell as "an original talent."⁷ Despite this glowing recognition from a powerful critic, Endell's work remained largely unexamined.

⁴ Ernst Schur, "August Endell," *Die Kunst* 24 (1911): 375.

⁵ August Endell, "Zu Alfred Messels Gedächtnis," *Kunst und Künstler* 7, no. 8 (April 1909): 331-32. Reprinted in August Endell, *Vom Sehen: Texte 1896-1925 über Architektur, Formkunst und "Die Schönheit der grossen Stadt,"* ed. Helge David, *Birkhäuser Architektur Bibliothek*, ed. Martina Düttmann (Basel; Berlin; Boston: Birkhäuser Verlag, 1995), 67-71. "Messel war der erste...der die zentrale Wichtigkeit der Proportionen begriff und dem es gelang, den Alten dieses Geheimnis abzulernen....Er ist uns Befreier und Erlöser geworden." *Ibid.*, 69, 71.

⁶ Walther Curt Behrendt, "Vom neuen Stil," *Neudeutsche Bauzeitung* (1908). Extensively excerpted in "Zeitgenössische Anerkennung der Gestaltungen August Endells von Walter Curt Behrendt," in *Geschichte – Sanierung – Denkmalpflege. 90. Jahre Hackesche Höfe. Ausstellung vom 5.11. bis 14.11.1996*, 6.

⁷ "Und wie war es möglich, dass ein Künstler wie Endell (der hier mit einigen Räumen und der Ausstattung des Spaisewagens ausgezeichnet ist, aber doch nur unzulänglich vertreten ist) bei der Vergebung der wichtigsten Aufgaben auf dieser Ausstellung übergangen werden könnte? Darin möge der Werkbund künftig einen Teil seiner Aufgaben erblicken, gerade solchen ursprünglichen Talenten den Rücken zu stärken und sie bei allen wichtigen Anlässen ins Treffen zu schicken." Walther Curt Behrendt, "Die Deutsche Werkbundaussstellung in Köln," *Kunst und Künstler* 12 (1913): 626.

The famous scholar of the roots of the modern movement in architecture in Germany, Nikolaus Pevsner, in 1936 was the first to interpret Endell's work as concerned with abstraction. Pevsner emphasized Endell's importance for the modern movement in *Pioneers of Modern Design: From William Morris to Walter Gropius* in a discussion of its roots in the pioneering efforts within Art Nouveau and the Arts and Crafts Movement. Pevsner first noted that no account of Art Nouveau was complete without Endell.⁸ Next, he acknowledged Endell as an early proponent of abstraction, placing an emphasis on the similarities between some of Endell's drawings of façades in "Formenschönheit und Dekorative Kunst" (1898) and "certain German post-WWI houses," overall noting in Endell's drawings "an interesting attempt at an interpretation of architecture as an abstract art."⁹

The first dissertation on Endell, Klaus Reichel's "Vom Jugendstil zur Sachlichkeit: August Endell (1871-1925)" (From Jugendstil to Objectivity) from 1974, explored the roots of Endell's "preparation for 'new building'" post-Jugendstil phase in Endell's concerns with aesthetics during his Jugendstil phase.¹⁰ As his title suggests, Reichel approached Endell by way of stylistic categories, giving him credit for two highpoints in his career and paying special attention to the transitional aspects of the work. Interpreting the supposed phase of objectivity in a way that privileged those later works, not as simply functional but as attempts "to create aesthetically valid values," Reichel suggested that Endell eventually left behind his earlier

⁸ Nikolaus Pevsner, *Pioneers of Modern Movement: from William Morris to Walter Gropius* (New Haven and London: Yale University Press, 2005), 89-90.

⁹ Ibid., 152. Pevsner published Endell's image of "Studies in Basic Building Proportions" (1898) from the article in question, "Formenschönheit und Dekorative Kunst" (1898), which is reprinted in David, ed., *Vom Sehen*, 147-61.

¹⁰ Klaus Reichel, "Vom Jugendstil zur Sachlichkeit" (Ph.D. diss., Ruhr-University Bochum, 1974), 173. "Vorbereitung zum 'neuen Bauen.'"

preoccupations.¹¹ In this context, Reichel claimed that Endell originated abstraction by means of "abstracting sensation through distancing from objects by way of pure forms and colors."¹²

Each of the recent dissertations to which I have referred dedicates a single chapter to Endell, discussing aspects of his work and thought together with works and ideas of other contemporary artists, theorists, urban planners, or critics. This implies that Endell's work and thought can be subsumed within a more pervasive cultural phenomenon at that time. In "Kinaesthetic Impulses: Aesthetic Experience, Bodily Knowledge, and Pedagogical Practices in Germany, 1871-1918" (2007), Zeynep Çelik Alexander places Endell's project of "a science of design," a practice that would be both liberating and manipulative of the masses, within a discussion of how related cultural discourses participated in cultural reform and liberalism in ways that contributed to sustaining conservative politics in Wilhelmine Germany.¹³ Alexander has argued that, rather than engaging in empathy in his work, Endell worked in the opposite direction, designing instead "a pathognomy of kinaesthetic experience" that involved the imprinting of the object onto the viewer by stimulating a kinesthetic response in his or her body. Alexander has proposed that Endell contributed in this way to rendering the viewer mutable and subject to influence. She has claimed that Endell's project was about establishing a science of emotion that would bridge between human and natural sciences.

¹¹ Reichel, 35. "...ging es Endell aber nicht hauptsächlich um einen blossen Funktionalismus, sondern darum, ästhetisch gültige Werte zu schaffen, Werte, die er mit dem Begriff der 'Schönheit' zusammenfasste."

¹² Ibid., 172. "Endell ging noch darüber hinaus, indem er sich mit seinen 'reinen' Formen und Farben bald soweit vom Gegenständlichen entfernte, dass schliesslich nur noch ein abstrakter Sinneseindruck übrig blieb, womit er zu einem der Vorläufer der abstrakten Kunst wurde."

¹³ Zeynep Çelik Alexander, "Kinaesthetic Impulses: Aesthetic Experience, Bodily Knowledge, and Pedagogical Practices in Germany, 1871-1918" (Ph.D. diss., Massachusetts Institute of Technology, 2007). The chapter on Endell is titled "August Endell's Science of Emotive Effect," 141-82. Alexander's subsequent article focuses on issues related to her argument. Idem, "Metrics of Experience: August Endell's Phenomenology of Architecture," *Grey Room* 1, no. 40 (2010): 50-83.

In "Embodied Abstraction: Biomorphing Fantasy and Empathy Aesthetics in the Work of Obrist, Endell and Their Followers" (2008), Stacy Hand has interpreted Endell's work in relation to biocentrism in Jugendstil.¹⁴ She has stressed a concern in Endell's work with abstraction based in nature, a concern that called for a kinesthetic and temporal dimension of aesthetic experience. By contrast to Alexander, Hand has made empathy central to Endell's work. According to this argument, Endell's proto-abstraction involved explorations in either mimesis or pure geometry, a claim followed by an interpretation of Endell's ornament on the street façade of the Photoatelier Elvira in terms of an ideograph, in the sense of impressing mental energy into a form in a way that Hand compared to a fossil. As a result, Hand has rejected claims that Endell's concept of art goes beyond the object, and implicitly, she rejects the understanding of visual abstraction as a matter of pure opticality.

Finally, in "The Formless Groszstadt [sic] and Its Potent Negativity: Berlin, 1910 Through the Eyes of Endell, Scheffler, and Hegemann" (2008), Alexander Eisenschmidt has interpreted Endell's concept of perception in an urban context, analyzing Endell's 1908 essay "Die Schönheit der Grossen Stadt" (The Beauty of the Big City) as part of a parallel discourse to the architectural discourse in the 1900s in Germany.¹⁵ Eisenschmidt draws attention to Endell's advocacy of the formless and the marginal in experience within the urban context (in Berlin) for their capacity to provide a space for new discovery of the city.¹⁶ He has interpreted Endell's

¹⁴ Stacy Hand, "Embodied Abstraction: Biomorphing Fantasy and Empathy Aesthetics in the Work of Obrist, Endell and Their Followers" (Ph.D. diss., University of Chicago, 2008). Hand's chapter on Endell bears the title, "Fossils and Photographs: August Endell and the Dematerialization of the Organic Form into Gestalt," 120-79.

¹⁵ Alexander Eisenschmidt, "The Formless Groszstadt and Its Potent Negativity: Berlin, 1910 Through the Eyes of Endell, Scheffler, and Hegemann" (Ph.D. diss., University of Pennsylvania, 2008). The chapter on Endell is titled, "The Beautiful Metropolis: *Groszstadt* Seeing and Discovering in August Endell (1908)," 49-126. August Endell, *Die Schönheit der grossen Stadt* (Stuttgart: Strecker & Schröder, 1908).

¹⁶ Eisenschmidt, "Formless Groszstadt," 49.

essay as an alternative (and optimistic) reading of the modern city, addressing "the formless" as a condition provoking a re-thinking of the modern city through an act of seeing as a searching for the here and now from within the city, the modern city that Endell "considered to be problematic."¹⁷ Eisenschmidt in this way recalls a moment in the history of modernism in which notions of the formless emerged that are also the subject of current concern in the discourse on the city. Endell's role in such a parallel discourse to new disciplines, such as city planning, is not unlike the role that Eisenschmidt has attributed to certain contemporary architects and critics.¹⁸

In contrast to these dissertations, I have chosen a monographic format that is suited to providing the possibility to examine selected works of Endell and their roots to the fullest extent. I have focused on detailed analyses of various of his endeavors that permit the tracing of the evolution of his concept of experiential form, conveyed through ornament, pedagogy, interior, exterior, and landscape design. Given the relative lack of archival records, an abbreviated account in the form of a chapter or an article might appear to make the most sense. However, with my argument based in a discussion of Endell's formative years as well as in close analyses of his work, I aim to avoid any kind of generalizations with respect to the elucidation of Endell's designing principles. Moreover, in this way, I stress Endell's works over his texts. I aim to demonstrate that it was Endell's "designed" theory (or practical theory, as he referred to it) that served his pedagogy—both built and taught—in ways that were meant to foster ways of social, cultural, and epistemological change.

Aspects of my interpretation resonate with the arguments of the authors mentioned above. However, I depart from them by trying to show that these particular strains of thought belong to

¹⁷ Ibid., 294, esp.

¹⁸ Eisenschmidt cites architects such as Rem Koolhaas, Toyo Ito, and Sauerbruch & Hutton, landscape practices such as Yves Brunier and Adriaan Geuze, and critics such as Ignasi de Solà-Morales Rubió. Ibid., 1-7.

Endell's vision of modern form in a way that is far more complex than has so far been recognized. Overall, my dissertation endorses the thesis of Barry Bergdoll's *European Architecture 1750-1890*, a work that characterizes the nineteenth century concern with architecture as one "of continual experimentation on the very nature of architecture, its capacity to represent and communicate, even its capacity to affect and mold behavior."¹⁹ The dissertation extends the relevancy of these insights into the subsequent period (1891-1916). At the same time, it continues exploring the concept of the techniques of the observer that Jonathan Crary articulated with regard to the centrality of visual culture in the nineteenth century.²⁰

With my dissertation, I aspire to make a contribution to the discussion of spectatorship in contemporary art and architectural writings. My discussion of Endell's theory of the modern observer is informed by Crary's investigations into attention as an issue of modern perception, however, further inflected by Juliet Koss's explorations of empathy, in which the origins of modern spectatorship are fuelled by the idea of social utopia.²¹ I argue that Endell explored the technique of "accommodation"²² (a technique of free subjectivity as well as of potentially controlling the subject) in a way that would help generate a design of harmonious form, and society, based in empathic relations. Moreover, I make the case that Endell took the phenomenon of elasticity in vision, underlying the ceaselessly curving and flattening crystalline lens, as the

¹⁹ Barry Bergdoll, *European Architecture 1750-1890*, Oxford History of Art (Oxford and New York: Oxford University Press, 2000), 3.

²⁰ See Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, October Books, eds. Joan Copjec, Rosalind Krauss, and Annette Michelson (Cambridge, MA: MIT Press, 1992); and idem, *Suspensions of Perception: Attention, Spectacle, and Modern Culture*, October Books (Cambridge, MA: MIT Press, 2000).

²¹ Juliet Koss, *Modernism After Wagner* (Minneapolis: University of Minnesota Press, 2010).

²² In his writings, there is an instance in which Endell addressed "accommodation of the eye" as "in a sense leaping forwards and backwards." August Endell, "Eindruckskunst," *Neue Gesellschaft* 23 (September 6, 1905): 275-76, repr. in David, ed., *Vom Sehen*, 132-37. "Akkomodation des Auges....Wir springen gewissermassen vorwärts und rückwärts." Ibid., 134-35.

foundation of an elastic recursively structured built form that would evoke an empathic feeling in the observer which, in turn, in relation to others through a principle of mirroring, would help constitute an ethical, harmonious society.

Specifically, I address the notion of kinesthetics on the level of the musculature responsible for the mechanism of accommodation in vision, and, furthermore, on the level of the designed interrelated rhythms of consciousness (Endell's sort of proto-neuroscience), thereby sharing in Alexander's explorations of an aesthetics centered on bodily pleasure through the immediate effect on musculature. I depart from Alexander, however, in the way I interpret Endell's works as attempts at "theorizing" continua of body and mind in which empathic relations become a vehicle for social change—in keeping with Endell's design of an ideal of social utopia. Besides pointing out the origins of Endell's design in physiology, I also discuss its interrelated origins in perceptual psychology, philosophy, art, ethics, and physics.

With Hand, I share an interest in Endell's embodied abstraction. In my dissertation, however, I show that this feature was one of many interrelated aspects of Endell's theory of modern design meant as an all-unifying theory. Finally, I share with Eisenschmidt an emphasis on void, discontinuity, and irregularity as generative of knowledge in Endell's view of experience. I have not included sustained attention to Endell's exploration of the modern urban environment in my dissertation; neither have I worked primarily with texts.²³ Moreover, in the context of his design of experiential forms that are responses to mechanical rhythms, I endeavor to provide backing for my assertion that Endell felt contemporary society was, by contrast, problematically inflexible, immobile.

²³ In Chapter Four, concerned with projects of landscaped cemeteries, I touch on the topic to some extent, however.

Beside these recent dissertations, several important accounts have emerged in architectural history in the past decade that have opened new possibilities for the interpretation of Jugendstil, especially, and Endell, implicitly. Paul Greenhalgh's *Art Nouveau, 1890-1914* offers an account of this period in art and architectural history that emphasizes the diversity and complexity of ideas emerging within this movement, which was "not a stable phenomenon, but...constantly in intellectual and aesthetic flux."²⁴ This is evident in Greenhalgh's view of Art Nouveau's modernity having been "a result of tensions between options forced upon designer and consumer by the situation each found themselves in [*sic*]: tensions between the individual and society, the past and the future, morality and amorality, technology and the body, the rational and the mystical, the natural and the artificial."²⁵

Another refreshing view of Jugendstil that has rejected umbrella-like diagnoses of the decorative and floral is evident in Stanford Anderson's *Peter Behrens and a New Architecture for the Twentieth Century*.²⁶ In his discussion of the formative period of this modern architect, Anderson has illuminated the differences among various protagonists of Jugendstil. Finally, in *Competing Visions: Aesthetic Invention and Social Imagination in Central European Architecture, 1867-1918*, Akos Moravazsky presented an account of the origins of central European modernism in the "competing visions" of individual architects. He has discussed these visions as containing both continuities and discontinuities within the discourses on modernism in architecture.

²⁴ Paul Greenhalgh, "A Strange Death...", in *Art Nouveau*, ed. Greenhalgh, 429-36, here 429.

²⁵ *Ibid.*, 430.

²⁶ Stanford Anderson, *Peter Behrens and a New Architecture for the Twentieth Century* (Cambridge, MA: MIT Press, 2002).

I contribute to uncovering the complex origins of modernism stemming from the time of Jugendstil, a movement whose great significance Greenhalgh emphasized when he wrote: "in a larger sense, the artists of Art Nouveau finished almost nothing...for those of us alive in the complex vortex of a world entering a new era, we say that they started almost anything."²⁷ My analysis of Endell aims at illuminating how it is that he has appealed to both modernist and post-modernist sensibilities, and how aspects of his thought continue to be relevant to our times. Beyond these historiographical facets of my dissertation, I contribute to the line of investigation suggested by Anderson with his claim that Endell had a concept of form in art that "solicits a response through a physiological (neural) mechanism."²⁸ My contribution lies in illuminating Endell's investigations towards a design of morphogenesis of consciousness. At the same time, I embrace Moravazsky's concept of competing visions, introducing Endell's work as a sustained effort towards an alternative kind of synthesis—a critique within modernism.

Another strain of interpretation began to appear in architectural history in the wake of the growing interest in empathy in the 1990s. The seminal anthology of German texts that shaped the discourse on form, space and empathy in nineteenth century Germany is Harry Francis Mallgrave and Eleftherios Ikonomou's *Empathy, Form, and Space: Problems in German Aesthetics, 1873-1893* (1994).²⁹ In this regard, it is also important to include the recent collection of essays edited by Robin Curtis and Gertrud Koch, *Einführung. Zu Geschichte und Gegenwart*

²⁷ Greenhalgh, "Strange Death," 436.

²⁸ Anderson, *Behrens*, 5.

²⁹ In their introduction, the editors provide a comprehensive overview of the history of the emergence of the theme of empathy, form and space in nineteenth century German aesthetics. Harry Francis Mallgrave and Eleftherios Ikonomou, introduction to *Empathy, Form, and Space: Problems in German Aesthetics, 1873-1893*, trans. Mallgrave and Ikonomou, *Texts & Documents: A Series of the Getty Center Publication Programs*, eds. Julia Bloomfield, Kurt W. Forster, and Thomas F. Reese (Santa Monica: Getty Center for the History of Arts and the Humanities, 1994), 1-85.

eines ästhetischen Konzepts (Empathy: History and Contemporary Relevance of an Aesthetic Concept).³⁰ This collection presents essays (among others concerning architecture as well) discussing various sources of empathy in philosophy, physiology, and psychology.³¹

Finally, a recent collection of essays titled *Biocentrism and Modernism*, edited by Oliver Botar and Isabel Wünsche, introduced a new approach to the study of modernism by identifying biocentrism as a constituent element. This new approach numbers among the efforts to investigate the origins of modernism with regard to art and architecture. Overall, the account seeks to problematize "our relationship to what we have since the Enlightenment termed the 'natural.'"³² In our time of ecological crisis and explorations of bio-design, this approach is interesting for investigating a strain of ecological thinking in modernism. My interpretation of the roots of Endell's concept of design as a vehicle of social change, in an ordering principle that underlies both nature and culture, shares in this kind of ecological thinking.

In what follows, I discuss the context(s) within which to place Endell's work and thought, and I clarify some of the concepts regarding Endell's notion of conscious experience that I derived from the analyses of Endell's works especially. Overall, I situate Endell's work and thought within the environment of (cross-)disciplinarity—within both science and philosophy. Specifically, I show that his investigations resonated with perceptual psychology, physiology, physics, mathematics, philosophy, and biology, and that they were concerned with social and ethical questions. I argue that Endell's works reveal their interrelated origins in exercises in

³⁰ Robin Curtis and Gertrud Koch, eds., *Einführung: Zu Geschichte und Gegenwart eines ästhetischen Konzepts* (Munich: Wilhelm Fink Verlag, 2009).

³¹ Juliet Koss, for example, discusses empathy's sources in German philosophical aesthetics. Other authors discuss its sources in physiology, thereby expanding on the thesis of Jonathan Crary, or, to cite a further example, they broaden the understanding of Theodor Lipps' theory of empathy as rooted in physiology.

³² Oliver Botar and Isabel Wünsche, *Biocentrism and Modernism* (Burlington, VT: Ashgate, 2011).

perceptual grouping that Endell studied with his professor Theodor Lipps (1851-1914); in the principle of accommodation in vision of Hermann Helmholtz (1821-1894); and in Eduard Hartmann's (1842-1906) concept of the unconscious in German Idealist philosophy. At the same time, I suggest that Endell's works echo ideas of the philosopher-scientist Goethe, the English social critic John Ruskin (1819-1900), and the German social economist Lujo Brentano (1834-1941). Together, all these "origins" make evident that Endell was concerned with social and ethical questions in relation to concerns with perception and creation.

Early on in his studies, Endell was concerned with the possibilities of a harmonious society and a "science" of consciousness, indications of his ability to visualize complex abstract thought resonant with ways of thinking generated through the phenomenon of (cross-) disciplinarity in the 1890s. During his diverse studies between the years 1891 and 1896, especially his study of experimental philosophy at the Ludwig-Maximilians-University in Munich, Endell experienced and participated in initiatives in academia directed at diminishing the growing gap between emerging disciplines. This was a time of growing interest in scientific philosophy in Germany (and Central Europe), and in the holistically motivated science that Endell experienced first hand.³³ At the very moment when Endell "formulated" the thesis of his dissertation in philosophy titled "Feeling Contrast," he turned to architecture. Endell was "unable to put [his discovery] into words." Choosing architecture and design as the media to express his theory of feeling, Endell indicated the necessity in contemporary society of an experiential form that was functional at the same time. Endell's works are continuations of his early theoretical abstractions: they are efforts towards the visibility of his discovery of contrasting feeling(s).

³³ Anne Harrington has contributed to our understanding of what she calls "enchanted science." Idem, *Reenchanted Science: Holism in German Culture from Wilhelm II to Hitler* (Princeton: Princeton University Press, 1999).

One specific example of a laboratory of mobility of thought in Munich academia that shaped Endell's thought was the Akademischer Verein für Psychologie (Academic Association for Psychology) founded in 1895. Endell was its first director. This association has so far not been brought to the attention of the community of architectural historians in regard to Endell, and it is very little known in general. The content of the cross-disciplinary discussions that took place there, but also the possibility of implementing such ideas beyond academia's borders, is reflected in Endell's designed "laboratories" of mobile/elastic forms later on. I take the view that Endell's experience of a newly emergent site of modernity shaped his notion of design and architecture as both physical and perceptual continua—forms that would foster and sustain a modern society of progress.

In his construction of experience as an act of creation, Endell continued the effort to describe an experience as an act in the work of the Austrian philosopher Franz Brentano (1838-1917), the author of *Psychology from an Empirical Standpoint* (1874). Brentano argued for a psychological description of sensory experience that made it available as an act and thereby set forth the concept of duration in perception. The origins of experiment as an explanatory method in empirical philosophy can be traced to the methods of descriptive psychology in Brentano's work. At the same time, however, Endell made visible the origins of the psychology of sensory experience in the physiology of accommodation. Implicitly, he stressed experiment as a method of experiential form.

Brentano's students planted the seeds of an experimental-oriented philosophy at some of the major universities in Central Europe, including Munich. Among his foremost disciples were Carl Stumpf (1848-1936), a philosopher concerned with issues in perception of music; the philosopher and later German chancellor Georg von Hertling (1843-1919); and the philosopher

Christian von Ehrenfels (1859-1932), who coined the term *Gestalt* in psychology. I show how Endell's built and designed works paralleled (among others) these pioneering efforts in "scientific" philosophy. Lipps, another professor of philosophy in Munich and the author of a theory of *Einfühlung* (empathy), was Endell's professor as well as his dissertation advisor. Lipps' exercises in perceptual psychology—especially in perceptual grouping and optical illusion—undergirded concerns in Endell's works. Moreover, from Lipps, he took over an almost activist attitude when it came to advocating research and mobility of thought.

In contrast to Lipps, who focused on the psychological aspect of feeling in perception, Endell attempted a designed science of consciousness that stressed the centrality of physiology as the foundation of empathy. Endell's "science" would, by comparison, be concerned with ways of reconciliation between feeling and reason—body and mind. Together with physiology of accommodation, Endell's designing method that echoed Lipps' exercises in perceptual groupings would allow for visibility of varying scales of form interchangeably, aiming to make empathic relations visible as shared by form and observer. In his built works, Endell showed that he worked with physiology and physics, demonstrating that science was at the foundation of his notion of experiential form. His works were geared to become continua in which the eye (and brain) and the world coexisted—both physical and perceptual continua, modeling a possibility of visibility of both its parts and themselves as wholes.

The main proponent of physiology in Germany was the scientist and philosopher Helmholtz. Endell's attempts at harmonizing perceptual and physical processes call to mind Helmholtz's thought in several regards: they exhibit a concern with visibility of phenomena reaching to those subjects Helmholtz himself had engaged in, such as physiology of vision, physics, philosophy, and the origins of music. Endell's works make evident that he took the

Helmholtzian mechanism of accommodation in vision, together with a concept of a balanced (spatio-temporal) form, as foundations in his structuring of conscious experience.

Moreover, Endell made his works visible simultaneously as experiments in an intersensory experience with his graphic explorations of harmony in music. Like his contemporaries, the scientific philosophers of vision Ehrenfels and Stumpf, Endell too continued (in variation) Helmholtz's investigations in perception of music. In contrast to these scientific philosophers, however, Endell graphically emphasized this origin of his experimenting in physiology. In this way of positing a continuum of physiology and psychology, Endell's works strove to reveal feeling as the central ingredient of an intersensory experience as essentially an act of creation performed by both body and mind. Endell's early thoughts on the relationship between "an inner" and "an outer experience" also drew upon the train of thought based in psycho-physics in Germany, of which the seminal work is Gustav Fechner's *Elemente der Psychophysik* (Elements of Psychophysics) (1860). The rise of the modern science of psychology associated with its "father," the psychologist Wilhelm Wundt, and his laboratory (the first psychological laboratory, 1879 in Leipzig), grew out of this thought. Endell's designed "laboratories" built upon these efforts.³⁴

The origins of Endell's endeavor can also be traced to German idealist philosophy—the concept of the unconscious as the underlying layer of conscious experience. In fact, Endell lamented that he could not study with Hartmann,³⁵ the first philosopher in Germany who

³⁴ Lipps, Wundt's former student, kept the focus on the "scientific" explanation of feeling and departed from previous idealistic positions. His psychological aesthetics was a departure from philosophical aesthetics. The seeds of a theory of empathy lay, however, in numerous writings on aesthetic theory in the nineteenth century that emphasized the perceptual act. Among these are the empirical perspectives of Johann Friedrich Herbart, Hermann Helmholtz, Gustav Fechner, and Hermann Lotze, which culminated in the work of Wilhelm Wundt, on the one hand, and the writings regarding symbolic nature of form by Robert Vischer (*Ueber das optische Gefühl*, 1872), as well as Conrad Fiedler's treatment of visibility (*Sichtbarkeit*), on the other.

³⁵ This was a philosopher who did not hold a post in academia, however.

theorized the unconscious in his *Philosophie des Unbewussten* (Philosophy of the Unconscious) (1884). These origins in German idealist philosophy are evident in the utopian dimension of Endell's designed theory of experiential form. Endell's scientifically oriented investigations in harmonious form were concerned with processes of visibility of the unconscious as intrinsic to conscious experience.

The ways in which Endell struggled to come to terms with Kant are discussed in the dissertation. This, together with the idealist dimension in Endell's early thoughts concerned with the problem of the (in-) visibility of ethical relations in society, indicates Endell's understanding of contemporary seeing as illusory. The question of construction of experiential form by means of processes of reconciling between illusion and conscious experience was at the core of Endell's experiments in lessons in creative seeing. Endell's works sought to illuminate the origins of modern society's crises in illusory seeing and, implicitly, in the labyrinthine structure and nature of contemporary vision, which impeded (future) vision. With his works, Endell explored illusion as the common origin of both culture and nature. The only way out of this insoluble problem would then lie in reversing people's way of seeing, thus making possible a (future) vision, which is to say, (harmonious) functional form based in processes of both coordination and subordination of its elements. Moreover, when Endell turned to architecture at the very end of the 1890s, many of his contemporaries were bent on a quest for a new architectural style devoid of historical reference. Endell, however, was concerned with visibility of a feeling rooted in the interrelations of seeing and memory, as well as memory and history: with a construction of modern symbols of creation.

With his built and designed symbols of creation, Endell participated in a discourse on spatial form. He instructed in the origins of form's interrelated physical and perceptual layers—

creation—consisting in processes of reconciliation between form and space. Before Endell constructed his first spatial forms in 1897, the German art historian August Schmarsow had introduced the concept of architecture as spatial creation in the 1893 lecture "Das Wesen der architektonischen Schöpfung" (The Essence of Architectural Creation). He took the body to be fundamental for the emergence of space, thereby arguing for an aesthetic from within. For him, both mathematics and intuition were at the origin of perception of built form as space. Endell explored space as based in a specifically constructed elastic kind of movement between body and built form, in whose construction science and art (mathematics and intuition, too) played a role.³⁶ Like Schmarsow, Endell explored the additional dimension in experience—time. Unlike Schmarsow, however, he experimented with a concept of time (and matter and space relative to that) structured recursively.

It can thus be inferred that Endell experimented with modulation of form based in feeling based in processes of recursivity and self-similarity in ways resonant with then contemporary investigations in continua in science. Similar to investigations in physics, in mathematics around the turn of the century scientists explored notions of continua that would define form as both finite and infinite. One example is Koch's curve (1904)³⁷—a mathematical formula—that shows form consisting of ceaseless iterations and re-iterations of a module. From analyses of Endell's works, it can be argued that Endell's *aesthetic geometry*—the core concept in his teachings—consisted in the attempt to reverse geometric form into curved space in

³⁶ The philosopher Eduard Hartmann asserted in his essay "Gehört die Baukunst zu den Freien Künsten?" [Does Architecture Belong To the Liberal Arts?] that architecture belongs to the tectonic arts and to other craft industries since there is no scientific justification for thinking otherwise. In pursuing a formula of harmonious form, it might be considered that Endell was responding to the issue that Hartmann had raised, namely with Endell's search for a (scientific) justification of functional form's ability to facilitate feeling. For Schmarsow's curt views on what set himself apart from Hartmann, see August Schmarsow, "The Essence of Architectural Creation," in Mallgrave and Ikonomou, eds., *Empathy*, 282.

³⁷ Niels Fabian Helge von Koch was a Swedish mathematician (1870-1924).

experience. Such experiments would involve harmonizing form's physical processes by reconciling Euclidian and non-Euclidian geometry with perceptual processes based in reconciliation of abstraction and empathy—a continuum of form and feeling. Whereas abstraction and empathy were defined as opposing ways of aesthetic experience only in 1907 in Germany, in Wilhelm Worringer's "Abstraktion und Einfühlung: ein Beitrag zur Stilpsychologie" (Abstraction and Empathy: Essays in the Psychology of Style),³⁸ I suggest that Endell evoked abstraction and empathy as opposites (graphically manifested in the "aesthetic geometry" in his work at the Hackesche Höfe, 1905-06) as interrelated and reconcilable origins of experiential form.

The notion of scale was fundamental to Endell's experiments in "mathematics of feeling": he needed to show that processes of recursivity and self-similarity were present in both culture and nature. Among the works by Endell that I discuss, one thing that stands out is how Endell made visible the processes of medieval architecture and of form-making in nature as reconcilable principles of form-making. In both cases, the relatedness of forms and their parts is expressed through form's branching, both literally and metaphorically, as the principle of form's structure and nature.

With his works based in interrelated rhythms of varying spatial and temporal scales, I argue that Endell strove to activate the unconscious. He thereby modeled how experience is shaped by both nature and culture: experience that was "continuous" with the world as its modulations, with a form whose structure relates to nature and whose nature relates to culture. Just as in the case of a scientific experiment, Endell used scales, media, and even senses

³⁸ Wilhelm Worringer, *Abstraktion und Einfühlung: Ein Beitrag zur Stilpsychologie* (Ph.D. diss., University of Bern, 1907).

interchangeably in the attempt to construct forms in which time, space, and matter operated relatively, yet within a pattern of interrelated rhythms.

The form of a leaf is demonstrative of a scale within which curved lines seem straight. This "Urform" kept coming up (in variations) in Endell's works. With it, Endell strove to demonstrate the origins of his experiential forms in contemporary science and art, while at the same time revealing its origins in the work and thought of Goethe. Endell paid homage to Goethe's principle of morphology through a pattern of branching—an embodiment of the kind of processes of recursivity and self-similarity that he showed to be, simultaneously, underpinnings of culture. Endell thus made natural philosophy visible as the origin of modern science, on the one hand, and of art, on the other. Endell's design reveals a concept of modulation in architecture based in principles of recursivity and self-similarity. Long before fractal form and its properties were defined and visualized in the 1970s, Endell investigated such aspects of modulated form in regards to the architecture of consciousness. He thereby stressed that his built and designed forms were no mere novelties, but that they continued (a universal) tradition.

The notion of scale was thus fundamental, not only in science, but at the same time in art at the end of the century. Ornament became the idiom of Jugendstil. Endell's concept of ornament was the microcosm of his vision of the interchangeability of art (and architecture) and life: the plant-like ornaments would branch further, or go on designing, into all the interrelated layers of life/society. Ornament would become the basis of all created forms and of a society based in empathic relations, in a parallel to natural form coming in all variations within the branching paradigm of nature.

Moreover, Endell's notion of the ornament branching further into all layers of society evokes Ruskin's writings. Endell's notion of design as based in art and science, as simultaneously

a pedagogical tool and a vehicle of moral responsibility, recalls that social critic's ideas on art. Attempting in a scientific manner to articulate the common origin of the organic and the inorganic, Endell's preoccupations with ornament as the basis of all spatial form-making deserve to be counted among endeavors within the Jugendstil movement, while at the same time they convey his interest in social and ethical questions in ways characteristic of the Arts and Crafts movement through which Ruskin's ideas were later on taken up in Germany. Endell's approach to the ideal of social change, in the sense of continuing the ideal of medieval society, also resonated with Ruskin, who emphasized it as a model for a harmonious society. In Munich academia, the social economist L. Brentano was preoccupied with medieval guilds in relation to modern economy. Endell's preoccupation with social and ethical questions means that his views should be ranged alongside these other constructive critics.

The four chapters of this dissertation map out the emergence and evolution of Endell's concept of experiential form: first, beginning with Endell's concept of ornament (and design), with particular reference to his design of an interior light; second, his concept of inquiry, with particular reference to his teachings at his Schule für Formkunst (School of the Art of Form) 1904-1914 in Berlin; third, his concept of architectural surface, with particular reference to the Hackesche Höfe in Berlin; and fourth, his concept of landscaped cemeteries, with particular reference to two related, unrealized projects. This account of selected works follows the chronological order of their emergence. Moreover, it highlights the continuation of Endell's idea of ornament as the quintessential spatial form—one that makes memory visible as the most essential feature of monumental form, in the sense of lending a dimension of consciousness—in his architecture, design, and landscaped design.

Chapter One contextualizes the emergence of Endell's interior light design, a part of Endell's debut architectural work at the Photoatelier Elvira (1898-1899) in Munich, within a discussion of Endell's formative experience in academia, highlighted by the introduction of the Akademischer Verein für Psychologie. I interpret the interior ornament as a designed morphogenesis of experience as creation—both a symbol and a form of the cerebral cortex, and in whose construction feeling plays a central role. Analysis of the ornament illuminates a constructive principle grounded in experimental exercises in perceptual grouping and in physiology, emphasizing scale and branching as fundamental in the modeling of experiential form that seeks to reconcile between nature and culture, between nature and modern technology.

Chapter Two examines Endell's Schule für Formkunst, 1904-1914 in Berlin. Endell's concept of experiential form is followed here on the scale of a model of an alternative kind of institution that introduced the notion of a "laboratory" of experience with regard to its basis in art and science, on the level of its curriculum as well as its organization. I discuss how the school shared aspects of other emerging schools of applied arts in the context of arts and crafts in Germany (with its roots in England), but I also show how in many ways the school was unique. In the context of the support at Endell's school for the survival of craft in the German economy, ideas of the influential professor in social economy in Munich during Endell's time there, L. Brentano, are brought into the discussion. In light of many of its principles, the school may well lead one to relativize the extent to which the pedagogy of the Bauhaus was groundbreaking.

Chapter Three takes up Endell's concept of experiential form on the scale of a designed vision of social change in the context of the first courtyard of the socially oriented building complex at Hackesche Höfe (1905-1906) in Berlin. The discussion will center on Endell's design of an experience of an ever-expandable universe based in empathic relations—a continuation of

the nineteenth-century tradition in Germany of the notion of cosmos as unity in diversity. Here, Endell's design of the architecture of conscious experience investigated the relationship between western and eastern (both secular and religious) as one of reciprocal reflection. The design evinces parallels in regard to the compositional principles of visual form and music. I contextualize the work with reference to the area of research into the perception of complexes in music undertaken by the philosophers Stumpf and Ehrenfels, and it becomes clear that Endell was at the same time concerned with showing the foundations of these investigations in physiology.

Chapter Four focuses on Endell's (unrealized) projects for landscaped military cemeteries during World War I. I examine Endell's concept of the modern observer as *a warrior* fighting against an institutional conception of form—his most vociferous critique of contemporary immobile forms as forms lethal to progress. The projects are presented as statements about the necessity of rethinking an institutionalized conception of form: plans based in form's aspect of solidity, and perspectives based in form's aspect of extension. At the same time, the projects present a form based in both coordination and subordination, in stark contrast to the popular row grave cemeteries based in a specious ideal of equality. The projects show a concern with the loss of a visible relation between memory and history, and thereby a concern with the interrelation of biological and cultural origins as regards the pervasive loss of humanity. Moreover, the chapter introduces the projects with reference to Endell's very little discussed 1916 essay "Zwei Kriegerfriedhöfe" (Two Warrior Cemeteries)—an intriguing and, to date, largely overlooked exemplar of cultural critique in a time of war.

In the final paragraphs of this introduction, in keeping with the formulations arising from my investigations I would like to ask the reader to exercise empathy while following this

scholarly undertaking, with its process of re-construction of partially intuitive and partially scientific ideas from built and designed works of a highly synthetic thinker. No written version of Endell's notion of synthesis is available to us. I have tried to piece together and relate the aspects of Endell's thought.

There is one constant among all the variables in Endell's endeavors: persistent avoidance of conceptual polarities of any kind. I suggest that the kinds of polarities, categories, and –isms to which we are habituated present a trap when dealing with a thinker like Endell. Overall, I ask the reader to be tolerant of the fact that, at times in my text, ideas might seem not as clearly categorized as we would wish them to be. As much as I have tried to describe the concepts that came to my attention during the writing of this dissertation, there may be inherent difficulties in bringing this to expression. Also, one might take the view that the emergent disciplines in which Endell grounded his approach are today more rigidly defined, as may be our thinking, in ways that may pose a further hindrance.

In closing, I want to emphasize that our lack of familiarity with the particular historical context of scientific philosophy out of which Endell's ideas grew may also be related to the long wait for a monograph on Endell in English. This may help account for the relative invisibility of Endell's designing principles, despite his efforts towards forms of visibility, and despite the critical and scholarly attention he has received.

With my work here, I aim to lay the ground for my future interdisciplinary work and to participate in laying the foundations of neuro-architectural history. I am interested in a direction of research that takes up questions of visibility of relations common to neuroscience and architecture. In the context of that interdisciplinary work, I would also like to situate my

argument within the broader area of practical explorations of theoretical issues that also led to innovations in modern music at the beginning of the twentieth century.

I believe that it is easy to realize that we can fortunately begin with a universal chain of causality, without which our existence would be questioned, and because of which and only because of which the adoption of dualism (such as that of Descartes) is impossible. In this way, I am thinking about an area of philosophy that would prove how and in what way explanations might be proposed. I imagine being able to prove that this is only possible in a materialistic way, with the help of the three elements space time, matter (movement) [*sic*].

—August Endell to Kurt Breysig, April 2, 1892

I have cut into a layer that has not been worked on, and which is the core of all philosophy, the aim of psychology, and the starting point of all applied psychology, meaning all ethics, logic and aesthetics, namely the theory of feeling.

—August Endell to Kurt Breysig, 1896

Our life is really only in the least extent visual.

—August Endell, "Um die Schönheit," 1896

CHAPTER ONE

August Endell's Formative Munich Years: Construction of Feeling in Theory and Practice

To comprehend August Endell's interior light design in his debut architectural work at the Photoatelier Elvira (1897-1899) in Munich requires an understanding of his formative experiences as a student, especially his involvement in scientific philosophy (1892-1896) at the Ludwig-Maximilians-University in Munich.¹ When Endell turned to designing the interior light, he had no training as an architect, but had a background in studies in science, art, philosophy, and aesthetics. With this rich repository of ideas combined with skill in experiment in perceptual psychology, Endell explored in design the notion of a form of life constituted by ethical relations.

¹ I provide an abbreviated biography of Endell in Appendix A.

In the first part of this chapter, I discuss two transformative events during Endell's studies in Munich that immediately predated his turn to architecture, design, and the decorative arts. First, I introduce the Akademischer Verein für Psychologie (Academic Association for Psychology) founded in 1895 in Munich, and I explore the ramifications of Endell's inaugural directorship (July 1895-June 1896) in this Verein, which signaled his active involvement in attempts at reform within academia. Second, I assert Endell's work in 1896 towards a dissertation in philosophy titled "Gefühlscontrast" (Feeling Contrast) as a trigger in his turn to practice of architecture and design theory. In a discussion of these formative experiences that makes use of flashbacks to the beginning of Endell's studies, moreover, I trace the origins of Endell's interest in administering a "laboratory" for mobility of thought, a notion that found expression in his designed work later on. It becomes evident that much of his abiding interest in design and architecture arises from the intersection of his early meditations on a science of consciousness and on issues involving the (in-)visibility of ethical foundations in contemporary society.²

Subsequently in this chapter, I emphasize ways in which these ideas were at the core of Endell's efforts to emancipate feeling from its subordination to reason in contemporary society. In Endell's interior light design stressing visibility of (ethical) relations, pre-Gestalt exercises mediated an experimental foray into a multidimensional, modulated, ornamental form constituted by varying rhythms of its spatial and temporal scales. Endell's designing principles exhibit a concern with a recursively structured perceptual and physical continuum that would impel seeing

² In the course of the chapter, I discuss Endell's ideas in his letters to his cousin, the historian Kurt Breysig, in the years 1891-97. Archiv von Staatsbibliothek zu Berlin, Preussischer Kulturbesitz, Handschriftenabteilung, Kurt Breysig, K. 5. Endell's letters were first mentioned by the German architectural historian Tilman Buddensieg, who published excerpts from selected letters. Idem, "Zur Frühzeit von August Endell. Seine Münchener Briefe an Kurt Breysig," in *Festschrift für Eduard Trier zum 60. Geburtstag*, eds. Justus Müller Hofstede and Werner Spies (Berlin: Mann, 1981), 223-50. See also, Tilman Buddensieg, "The early years of August Endell: Letters to Kurt Breysig from Munich," *Art Journal* 43, no. 1 (Spring 1983): 41-49. Translations of the excerpts from the letters are my own.

the design's interrelated origins in nature, art, and technology interchangeably.³ The experiment in the light design is concerned with interrelated processes of seeing based in memory and feeling, in a functional form imbued with humanity.⁴

Since the chapter is mostly dedicated to a discussion of Endell's formative period and to an analysis of the interior light at Elvira, I will first seek to establish the relevant historical context of the Jugendstil movement as well as sketch the ways in which Endell's interior light design was an expression of an individual vision. When Endell embarked on a career in architecture, he stood in the midst of efforts in art and architecture to identify a new style that best suited the needs of a rapidly changing modern society. In Munich, an important center of the artistic movement in Germany at that time, artists and architects became associated with the art journal *Jugend* (Youth, first published in 1896), and their efforts were collectively referred to as Jugendstil.⁵ They desired to overthrow eclectic approaches to historical styles in the nineteenth century as inauthentic, turning instead to nature as a foremost source of inspiration. The

³ With the term recursivity, I refer to a designing principle of a continual pattern of reciprocal mirrorings of design's varying scales, and thereby to a mode in design that allows for the emergence of self-similar modulated parts. Nowadays, the aspect of form's recursivity and self-similarity receives special note in fractal forms.

⁴ Klaus Reichel argued that Endell transitioned from Jugendstil to Sachlichkeit. By contrast to Reichel's emphasis on Endell as transitioning from empathy to abstraction, I focus on establishing that, from the beginning of his career as an architect, Endell consistently explored the notion of a functional form based in feeling. Overall, Reichel defended Endell from being labeled an engineer and instead emphasized the origins of Endell's later work as arising from concerns with aesthetics during his Jugendstil phase. Reichel included a comprehensive biography of Endell. Klaus Reichel, *Vom Jugendstil zur Sachlichkeit* (Ph.D. Diss., University Bochum, 1974), 63-105.

⁵ The journal *Jugend* was founded by the writer and publisher Georg Hirth (1841-1916) in Munich and was issued 1896-1940. The journal was influential in popularizing the movement. On Munich Jugendstil, see Maria Makela, *The Munich Secession: Art and Artists in Turn-of-the-Century Munich* (Princeton: Princeton University Press, 1990); and Gillian Naylor, "Munich: Secession and Jugendstil," in *Art Nouveau 1890-1914*, ed. Paul Greenhalgh (New York: Harry N. Abrams, Inc., 2000), 286-97. See also Stanford Anderson's first chapter, "A Context for the Early Work of Behrens: The Emergence of a New Architecture in Germany and Austria around 1900," in idem, *Behrens*, 1-25. For a rich discussion of the complexity of Art Nouveau in general, see the essays in *Art Nouveau*, ed. Greenhalgh.

architectural historian Barry Bergdoll has emphasized that architects "took interest in the organic world of form as a principle of both structural form and spatial design."⁶

Moreover, the artists were motivated by the ideal inspired by the English arts and crafts movement and so they explored harmony between decorative arts (and architecture) on all scales in interiors ornamented with wrought iron, glass, and curvy lines. The ideals of the artist and social reformer William Morris (1834-1896) and the social critic John Ruskin (1819-1900), calling for a return to the values of pre-industrial society in handicraft and for unity within the arts, appealed to the Jugendstil artists as they explored the interior in the sense of the *Gesamtkunstwerk* (total work of art). Artists without formal training were perhaps specially suited to explore novel ideas in this atmosphere of anti-historicism and anti-academicism. The architectural historian Stanford Anderson has emphasized the potential impact of these new ideas, stating: "To consider the people who were in those years distinctly open to new ideas, one must turn to those Art Nouveau artists who were working their way through graphics and crafts to become self-taught architects."⁷ Endell fits this description. Moreover, Endell almost certainly would have felt "at home," with his background in science and perceptual psychology, in the architectural culture of the 1890s and its ongoing discussions ever since the 1870s, when psychology had come to be defined as a discipline, involving subjects such as psychology of form, empathy, Gestalt psychology, and theories of space.⁸

⁶ Bergdoll, *European Architecture*, 279.

⁷ Anderson, *Behrens*, 3.

⁸ In nineteenth-century Germany, the term for empathy was *Einfühlung* ("feeling into"). Robert Vischer coined the term in 1873 in *Über das optische Formgefühl*. Empathy is the term's English translation by E. Titchener. *Einfühlung* gained popularity with the work of Theodor Lipps, a German philosopher concerned with a scientific theory of empathy in the context of psychological aesthetics. Select translations of theories of form, space, and empathy are in Mallgrave and Ikonomou, eds., *Empathy*. Especially famous exemplars in the 1890s were Adolf Hildebrandt, "The Problem of Form in the Fine Arts," and August Schmarsow, "The Essence of Architectural

The concern with ornamental form as space became especially crucial for Endell. In his 1900 article "Architektonische Erstlinge" (Pioneers of Architectonic Form), he asserted that in the interior of his debut architectural commission at the Photoatelier Elvira (1897-1899) he "intended to achieve the greatest possible variety of spatial effects through variable distribution of the ornaments and multifacetedness of the forms."⁹ When he turned to his debut work in architecture in 1897, he averred: "Were it not for Obrist, I probably never would have gone in for arts and crafts."¹⁰ Yet it is important to emphasize Endell's insistence that, "I had spatial [*plastische*] ideas, but never ornamental ones [like Obrist's]."¹¹ The Swiss artist Hermann Obrist (1863-1927) was at that time the most famous of the artists in Munich. A contemporary art historian, the American Bernard Berenson, commented that this artist was someone "viewed as a *caposcuola* in Germany and who was invited to lecture everywhere."¹² Endell became interested in Obrist's work in 1896 when visiting the Salon Littauer in Munich to take in an exhibition of Obrist's embroideries. These embroideries with their vegetable motifs impressed Endell to such a

Creation," 227-79, 281-97. For a commentary on the history and pre-history of the texts in the context of German philosophical aesthetics, see Mallgrave and Ikonomou, introduction.

⁹ August Endell, "Architektonische Erstlinge," *Deutsche Kunst* 3, no. 8 (May 1900): 297-317. Reprinted in Endell, *Vom Sehen*, ed. David, 54-65, here p. 59. "...durch wechselnde Verteilung der Ornamente und Mannigfaltigkeit der Formen möglichst verschiedenartige Raumwirkungen zu erzielen." See Endell, *Vom Sehen*, ed. David, for selected texts by Endell and for biographical essay on Endell.

¹⁰ Endell to Breysig, 1897. "...ohne Obrist hätte ich wahrscheinlich nie Kunstgewerbe gemacht." In his letters, Endell was especially excited about Obrist's first exhibition in Munich.

¹¹ Endell to Breysig, 1897. "Ich hatte plastische Ideen, aber nie ornamentale."

¹² In her monograph on Bernard Berenson, Mary Ann Calo footnoted a letter he wrote to his future wife, Mary Costelloe (January 1897 from Berenson to Costelloe), in which Berenson talked about Obrist. See Mary Ann Calo, *Bernard Berenson and the Twentieth Century* (Philadelphia: Temple University Press, 2004), 198. Calo further discussed Obrist's interest in Lipps' lectures delivered in Munich between 1894-1913.

degree that he described them as "the most important artistic events of the year," indeed calling them "the most mature and beautiful form that art has come up with since Rococo."¹³

The Jugendstil movement experienced an intense but brief life. It started dissipating in the early 1900s when critics began to opine that what had been an inspired movement had degenerated into a commercial enterprise.¹⁴ Within the movement, with its intellectually and artistically stimulating intensity, there however did emerge inspired expressions of individual visions. Endell's individual vision of designed form of life based in ethical relations echoed pursuits within Jugendstil to emphasize expression of nature's organizing principle. Nevertheless, Endell took this principle to be simultaneously an experience of feeling into a "mechanism" of empathy: in the interior light design, he experimented in laying bare the morphogenesis of this experience and in showing its origins in the interrelated processes of seeing based in memory and feeling.

The branching appearance of the interior light design made reference both to natural form and to the brain, implying a notion of continuity of nature and conscious experience. In Germany, scientific aesthetics had a long tradition. With his notion of an experiment in a design positing the continuity of the rhythms of the brain with the rhythms pertaining to the organizing principle in nature, Endell came close to the aesthetics of Gustav Theodor Fechner (1801-1887),

¹³ Endell to Breysig (no date), presumably from spring 1896. "Diese Ausstellungen sind das wichtigste künstlerische Ereignis dieses Jahres. . . . Diese Stickereien sind das Reifste und Herrlichste, was die Kunst seit dem Rokoko aufzuweisen hat."

¹⁴ Jugendstil was considered a merely decorative style in the first decades of the twentieth century. A change in attitudes toward Jugendstil came in the 1930s. Fritz Schmalenbach explored an interest in flatness and depth in the works of the Jugendstil artists. See idem, *Jugendstil. Ein Beitrag zu Theorie und Geschichte der Flächenkunst* (Würzburg: K. Trietsch, 1935). For a critical evaluation of the historiography on Jugendstil between 1918-1964, see Jost Hermand, ed., *Jugendstil: Ein Forschungsbericht 1918-1964* (Stuttgart: J.B. Metzler, 1965).

the "father" of psychophysics in Germany, who conducted experiments in the belief that he could scientifically prove which abstract forms are naturally pleasing.¹⁵

Beside nature, modern technology (electric light and structural iron) plays a central role in Endell's interior light as a metaphor of creation—a creative brain based in empathy in continuity with the symbol of God's creation. The interior light explores the interrelatedness of both perceptual and physical continua with a ceaselessly changing pattern of interrelated rhythms of reciprocal mirrorings—a multidimensional elastic formation.¹⁶ As a result, it points to scale as fundamental to the architecture of both nature and experience. Based in a principle of illusion and its reversal, moreover, the light design becomes an experiment in experience that involves a construction of a false sense of authenticity and its loss, leveling a critique at contemporary seeing in society (and at the related notion of identity) as based in illusory seeing. Endell's explorations of a design constituted by ethical relations echoes the concerns with the ideal of harmony, which contrasted with the increasing invisibility of relations in modern society.¹⁷

¹⁵ Theodor Gustav Fechner's (1801-1887) was a German physicist and physician who became famous with his book *Elemente der Psychophysik* (Elements of Psychophysics, 1860). Fechner was interested in aesthetics from below and above. For a discussion that locates Fechner in the context of aesthetics in late nineteenth-century Germany, see Harry Francis Mallgrave and Eleftherios Ikononou, "Introduction," in Mallgrave and Ikononou, eds., *Empathy*, 1-85. On Fechner, see Michael Heidelberger, *Nature from Within: Gustav Theodor Fechner and His Psychophysical Worldview* (Pittsburgh: University of Pittsburgh Press, 2004).

¹⁶ I derived the mechanism of reciprocal mirroring in Endell's interior ornament from my analysis of that work and from Endell's ideas in his letters to Breysig. There is however an intriguing essay by Christiane Voss, who points to an "interesting mechanism of mental mirroring" in David Hume's philosophy. Lipps translated Hume's *Treatise of Human Nature* (1739) into German in 1904. Voss discusses the instances of Hume's influence on Lipps and Lipps' departure from Hume in their epistemic and aesthetic categories. See Christiane Voss, "Einfühlung als epistemische und ästhetische Kategorie bei Hume und Lipps," in Robin Curtis and Gertrud Koch, eds., *Einfühlung: Zu Geschichte und Gegenwart eines ästhetischen Konzepts* (Munich: Wilhelm Fink Verlag, 2009), 37. In relation to Endell's mirroring principle, Hume's mechanism of mental mirroring would require a further research.

¹⁷ These themes echo the central themes in the thought of John Ruskin. In his famous major works *The Seven Lamps of Architecture* (1849), where Ruskin described the necessity that architecture reflect seven moral categories. Another largely influential work was *The Stones of Venice*, 3 vols., (1851-53), in which Ruskin praised Gothic ornament and critiqued division of labor as a negative outcome of industrial society. Moreover, Ruskin had a great interest in botany and in nature in general. The thought of the English social critic John Ruskin and the social reformer William Morris were very much appreciated by the Jugendstil artists. The greatest impact of the arts and crafts movement in Germany, however, was in the education of applied arts artists (and architects) after 1900. On

Endell was drawn to designed form as a shared boundary between mind and life—a construction that would make form and space visible interchangeably. His curved line in the interior light design is a small-scale expression of the same phenomenon of a shared boundary between life and mind.¹⁸ It explores vision in keeping with the principle of the unavailability of a straight line in nature, suggesting an architecture of experiential form based in feeling and memory through a continuously constructed rhythm of recursively structured curved lines. With his "designed" theory of spatial form in which recursively structured time—memory—played a central role, Endell participated in the discourse on form, space and empathy in late nineteenth-century Germany.¹⁹

Ruskin's ideas in the context of a discussion of Art Nouveau, see Paul Greenhalgh, "*Le Style Anglais: English Roots of the New Art*," in *Art Nouveau*, Greenhalgh, ed., 129-36. For Ruskin's writings, see John D. Rosenberg, ed., *The Genius of John Ruskin: Selections from His Writings*, with a foreword by Herbert F. Tucker, Victorian Literature and Culture Series (Charlottesville: University of Virginia Press, 1998).

¹⁸ Stanford Anderson has described the response on the part of the observer of Endell's form in terms of a physiological mechanism, and he has called Endell a patheticist (this term relates to the German term *pathetisch*, meaning emotive). Anderson further has characterized Endell's work as "setting up a psychology of perception that hypothesizes neural stimulation by physiological reactions to the viewing of lines." Overall, Anderson's contribution to the interpretations of formal attitudes within Jugendstil lies in his substitution of the "liniar-floral" and "abstract-floral" divisions within the general understanding of Jugendstil differentiations through a table of characteristics of work according to artistic attitudes around 1900. Idem, *Behrens*, 5 and 11. On Jugendstil, see esp. Chapter One, 11-43. In a recent dissertation, Stacy Hand has sought to trace the potency of the origins of abstraction in Munich Jugendstil, investigates Endell's biomorphic idiom. Hand argues that proto-abstraction in the artists' works originated in their pseudo-scientific explorations of the relationship between life and mind, in a parallel to nature and mind. The author argues against overly simplified and vague interpretations in accounts on the origins of visual abstraction in modern art in Jugendstil that disregard its roots in life/bodily experience. See Stacy Hand, *Embodied Abstraction: Biomorphie Fantasy and Empathy Aesthetics in the Work of Hermann Obrist, August Endell, and Their Followers* (Ph.D. diss., University of Chicago, 2008). By contrast, I assert that Endell's 'line' explored a shared boundary between architecture of the mind and nature in an experiment in morphogenesis of the brain in keeping with the effort to model a functional form based in empathy. My argument therefore echoes aspects of both Anderson's and Hand's accounts—the response through a physiological mechanism—but in so doing, it emphasizes the aspect of continuity with the underlying ordering principle in nature.

¹⁹ The German art-historian August Schmarsow emphasized time as the fundament in perception of architecture in his famous lecture, "The Essence of Architectural Creation" (1893). There, Schmarsow explored architecture as spatial creation (as opposed to style), emphasizing the body's role in perception of architecture, and essentially referring to the role of its structure (besides other manifestations) in movement. Architecture, in his view, had the ability to facilitate empathy since it had the function of an enclosure. In Mallgrave and Ikonomou, eds., *Empathy*, 281-97. See also Mitchell Schwarzer, "The Emergence of Architectural Space: August Schmarsow's Theory of *Raumgestaltung*," *Assemblage* 15 (August 1991): 49-61.

In the context of the commission in the Photoatelier Elvira, Endell asserted a stance with regard to the movement for women's rights in Munich. With Endell seeking in the commission to emancipate feeling from its subordination to reason, feeling—traditionally associated with the feminine—would become visible as a fundament in the reform of contemporary society. The design evidently strove to liberate feeling from its association with the feminine, weak, and irrational. Endell's morphogenesis of the creative brain impelled him to go beyond a dichotomous conception of the two sexes, and this indicated his affinities with the movement for emancipation. Overall, given a design concerned on all of its interrelated levels with what is essentially the reconciliation of opposing phenomena, the design reflects an effort in reconciling between the atomistic and holistic tendencies in understanding of phenomena. In this way, it reflects the concerns with the relationship between the structure and nature of knowledge in academia in late nineteenth century Germany when Endell was a student.²⁰

²⁰ In a recent article, Zeynep Çelik Alexander has discussed Endell's work and thought in the context of cross-disciplinary discourse. Alexander investigates Endell's work in the context of pathognomy, and thereby as a shift within cultural discourses towards a notion of emotion as a bodily phenomenon that circumvents the mental. Alexander is concerned with how the notion of kinaesthetics in Endell's work belonged to a disciplinary discourse in education and training in knowledge in Wilhelmine Germany. See Zeynep Çelik Alexander, "Metrics of Experience: August Endell's Phenomenology of Architecture," *Grey Room* 40 (2010): 50-83. For a more detailed discussion of the changing discourses in pedagogy in Wilhelmine Germany, see Alexander's dissertation *Kinaesthetic Impulses, Bodily Knowledge, and Pedagogic Practices in Germany, 1871-1918*, esp. Chapter Three, "August Endell's Science of Emotive Effect," 141-82. For a discussion on cross-disciplinarity in the shaping of the modern subject, see Crary's account on the cross-disciplinary practices of attention in the nineteenth century in relation to works by Eduard Manet, George Seurat, and Paul Cezanne. In Crary, *Suspensions of Perception*. I explore Endell as a transitional figure between disciplines, but I stress that his project was rooted in a vision of social utopia. I investigate the kinaesthetics in Endell's work on the level of 'a science' of the rhythm(s) of the brain with its physiological underpinnings in empathy in continuity with nature. I thereby assert that Endell's project was concerned with 'mapping' the brain in ways that suggest a utopian subversion of disciplinary effects in knowing—a kind of neuroscience that, with its research into the underlying architecture of humanity, would serve in establishing an ethically based society. For a discussion of the rise of holistically oriented science as a response to the mechanistic practices of positivist science in Wilhelmine Germany up to the First World War, see Anne Harrington, *Reenchanting Science: Holism in German Culture from Wilhelm II to Hitler* (Princeton: Princeton University Press, 1996). Harrington did not locate the discourse in the context of institutionalized science, but aimed to "establish a place for [holistic life and mind] as a neglected voice in German history." Idem, *Reenchanting Science*, xx. For a reading in history of psychology that helps understand the rise of holistic attitudes in German psychology, see Mitchel G. Ash, *Gestalt Psychology in German Culture, 1890-1967: Holism and the Quest for Objectivity*, Cambridge Studies in the History of Psychology (Cambridge and New York: Cambridge University Press, 1995).

The Akademischer Verein für Psychologie in Munich

During his studies at the Ludwig-Maximilians-University in Munich, Endell participated in reform efforts within academia.²¹ In 1895, Endell became a co-founder and director of the Akademischer Verein für Psychologie.²² This association, founded by professors and students in philosophy at the university, was interested in promoting mobility of thought by advocating cross-disciplinary discussions inside as well as outside of academia. The statutes describe the Verein as "[having] as its purpose scientific engagement with psychological and related philosophical questions."²³ Endell's directorship lasted for a year (1895-1896). This was at a time when Endell was a student in philosophy in Munich and therefore was eligible to take an administrative position at the Verein. The founding document listed limitations in regard to the field of interest of members only in relation to its acting director, stating that the director had to be a psychologist, or otherwise a philosopher by discipline.²⁴ Endell remained a member in the Verein until he left Munich in 1901. The experience in administering this "laboratory" of mobility of thought in academia was essential to his later experiments in experiential form as an attempt at a new kind of epistemology.²⁵

²¹ The listing of Endell's courses of study in Munich in this chapter come from the records of August Endell's matriculation status and registration, Matriculation Documents, Ludwig-Maximilians-Universitätsarchiv, Munich, Germany.

²² I noted a mention of the relation of August Endell and the Verein in Schuhmann, "Philosophy and Art in Munich." The information in the book came without a citation for its source. Karl Schuhmann, "Philosophy and Art in Munich around the turn of the century," in Roberto Poli, ed., *In Itinere. European cities and the birth of modern scientific thought* (Amsterdam: Rodopi, 1997). I am thankful to Professor Dr. Wolfhart Henckmann (a colleague of the deceased Schuhmann), who provided me with the information regarding this particular source on the Verein. Pol. Dir. 3229, Akten der Polizeidirektion Munich, Staatsarchiv Munich.

²³ Pol. Dir. 3229, Akten der Polizeidirektion Munich, Staatsarchiv Munich. "Der Verein bezweckt die wissenschaftliche Betätigung mit psychologischen und daran sich anschliessenden philosophischen Fragen."

²⁴ Ibid.

²⁵ Ibid.

With its cross-disciplinary discussions and openness to the public, the Verein modeled a form of academic inquiry whose boundaries were elastic: namely, while it was called *academic*, the Verein provided a public stage that also enabled professionals outside of academia to engage in a discourse on inquiry. Weekly meetings were to be held at different cafes and restaurants where philosophers, scientists, physicists and artists as well as students in these areas and in economy participated in discussions.²⁶ The emerging model of inquiry in the Verein was thereby far removed from any elitist academic enterprise. It explored instead ways of interrelation of theory and practice. Thus, beyond the effort to reform academia the Verein at the same time generated a platform for society's reform—a model of a kind of elastic social and cultural form.

The founding document of the Verein listed a variety of professional interests among the honorary, ordinary, and special members.²⁷ Among the honorary members were many established scholars; the ordinary and special members were predominantly students. Among the students listed in the Verein's inaugural phase were the future psychologist Felix Krueger (1874-1948); the chemist Freiherr von Liebig; Wilhelm Wirth (1876-1952), who was interested in psychophysics; as well as the students of philosophy Alexander Pfänder (1870-1941), Paul Stern and Theodor Kretschmann. Apart from particular students who in the course of their careers were to become widely known, especially in the early years of the Verein's existence when Endell was participating the others listed included medical students, often of Russian or Polish origin, as well as students of chemistry and mathematics, and finally artists. The liberal and

²⁶ Ibid. These meetings had their launch at the Café Minerva in Munich.

²⁷ Ibid.

activist nature of the Verein was further confirmed by the membership of students of the professor of social economy in Munich, Lujo Brentano (1844-1931).²⁸

The Verein's founding honorary members were Theodor Lipps,²⁹ chairman of the department of philosophy at that time; Hans Cornelius (1863-1947), a private instructor (*Dozent*) with a post at the department of philosophy in Munich; and the practicing physician and main proponent of hypnosis in Germany, Dr. Albert Freiherr von Schrenck-Notzing (1862-1929), a former participant in Charcot's experiments in hypnosis in Paris. Schrenck-Notzing was also general secretary of the Society for Scientific Psychology of Munich (founded in 1886) at that time. Finally, Hans Cornelius, once a student of the former chairman of the philosophy department, the philosopher Carl Stumpf, and now a philosopher concerned with the scientific treatment of experience.³⁰

The areas of expertise of these honorary members were related by the nature of their investigations, which involved crossing the boundaries of their respective areas in their searches for visibility of relations that would point to a principle of continuity in perception. The subjects that the honorary members explored belonged to investigations that were simultaneously

²⁸ Schuhmann, "Philosophy and Art in Munich," 46. Lujo Brentano and his interest in craft will be discussed in Chapter Two.

²⁹ Theodor Lipps (1851-1914) was a German philosopher concerned especially with psychological aesthetics. He is best known for his psychological theory of empathy (*Einfühlung*). Lipps was also concerned with the issue of perception of optical illusions among others. Among Lipps' works concerned with this problematic are "Zur Einfühlung," *Psychologische Untersuchungen*, vol. 2 (1907): 111-491; *Ästhetische Faktoren der Raumanschauung* (1891) and *Raumästhetik und geometrisch-optische Täuschungen* (1897): 39-59 Lipps' seminal work on aesthetics appeared in two volumes: *Grundlegung der Ästhetik* (1903) and *Ästhetik. Psychologie des Schönen und der Kunst* (1906). Also significant is Lipps' article "Einfühlung und ästhetischer Genuss" (1906), in which he explained his notion of *Einfühlung*.

³⁰ Cornelius published "Fundamentals and Teaching Principles of Instruction in Elementary Drawing" (1901) and explored drawing as a medium of visibility. Later, he continued emphasizing drawing as a means to understanding "the difference between the real and the visible object." See idem, *Kunstpädagogik. Leitsätze für die Organisation der künstlerischen Erziehung*, (Erlenbach, Zürich and München: Eugen Rentsch, 1920), 42. Cornelius became a professor of the philosophers Max Horkheimer and Theodor Adorno in Frankfurt, Germany.

philosophical and psychological, or artistic and visual, or finally sensory and asensory. Hypnosis, prominent in von Schrenk-Notzing's field of "expertise," stood in a close relationship to the newly founded psychology. Lipps too, in fact, engaged in theoretical speculations on hypnotism.³¹ When investigating issues in perception, art, and rapport in hypnosis, these three practitioners explored perceptual continua. Both Lipps and Schrenck-Notzing conducted experiments by which they aimed for the unconscious to become visible as the foundation of consciousness. Their investigations addressed similar issues: namely, they engaged in processes of visibility of the unconscious, aiming at its materialization.

The model of inquiry in the Verein, based in bridging the emerging gaps between disciplines in academia by loosening the boundaries between areas of knowledge, reflected the kind of experimental philosophy emphasized within the philosophy department. There, the kind of investigations in psychology in origins in perception coincided with the overall interest in academia at that time in investigations in the foundations of literally everything.³² The question of origins in perception became the main focus in the exercises in perceptual psychology and psychological aesthetics in exercises conducted by Theodor Lipps, with whom Endell studied during 1894-1896.

In the 1890s Lipps was preoccupied with exploring perceptual continua and the related issue of complexity in perception through experimenting in geometric visual illusions and exercises in perceptual grouping. Lipps published *Ästhetische Faktoren der Raumschauung* (1891) and *Raumästhetik und geometrisch-optische Täuschungen* (1897), where he investigated

³¹ Theodor Lipps, *Zur Psychologie der Suggestion* (1889) and *Suggestion und Hypnose* (1898).

³² On this subject see Liliana Albertazzi, "Introduction: Back to the Origins," in *The Dawn of Cognitive Science: Early European Contributors*, ed. Liliana Albertazzi, vol. 295, Studies in Epistemology, Logic, Methodology, and Philosophy of Science, eds. Dirk van Dalen et al. (Dordrecht/Boston/London: Kluwer Academic Publishers, 2001).

perception of space with geometric visual illusions.³³ In the essay "Zu den 'Gestaltqualitäten'" (1900), he described perceptual grouping according to specific criteria, thereby exploring processes in continuity in perception.³⁴ The subjects of Lipps' investigations indicate an interest in investigating phenomena as sharing boundaries.

Lipps' scientific philosophy, in fact, provided the training ground at the department in terms of crossing boundaries of all kinds: perceptual, disciplinary, and finally, institutional ones. Liliana Albertazzi, a current scholar of Munich intellectual circles around Lipps, described the theories and the resultant practical efforts as displaying awareness of the complexity of problems and of the interrelations among different areas of inquiry.³⁵ Endell was Lipps' student in exercises involving psychology and aesthetics (1894-1896), and he chose Lipps to become his dissertation advisor in 1896. Moreover, he continued to be in contact with the department through his membership in the Verein up to 1901. There he trained in explorations of processes of continuity in perception, following on from experiments at the philosophy department involving reconciliation of opposing explanatory methods of philosophy and science.

One (unpublished) lecture topic is an example of the kinds of discussions that took place in the Verein when Endell was still a member. This lecture from 8 July 1898 concerns the subject of the act of observation. It is titled "Observing" (*Beachten*) and was apparently given by the

³³ Theodor Lipps, *Ästhetische Faktoren der Raumschauung* (1891), and *Raumästhetik und geometrisch-optische Täuschungen* (1897). In these works, Lipps investigated perception of space by means of geometric visual illusions and provided visual material in the form of geometric figures.

³⁴ Theodor Lipps, "Zu den 'Gestaltqualitäten,'" *Zeitschrift für Psychologie und Physiologie der Sinnesorgane* 22, no. 5 (1900): 383-385. Also published as idem, *Zu den 'Gestaltqualitäten'* (Leipzig: Barth, 1900). The work discusses criteria for perceptual grouping.

³⁵ *Ibid.*, 3.

philosophy student and future phenomenologist Alexander Pfänder.³⁶ The lecture bears as a subtitle the phrase "man in relationship to the surrounding world," announcing a subject concerned with visibility of relations. The main title of the lecture indicates a concern with continuity in observation. It can be translated into English as "(the act of) observing," or alternatively as the infinitive "to observe."³⁷ As a nominalized infinitive, the title conveys an attitude toward observing as an act in a way continuous with the notion of Franz Brentano, the "father" of empirical psychology, of psychological phenomena as acts. With regard to the content of the following notes, the title might be best translated into English with the gerund *observing*.³⁸

The notes reveal an interest in the Verein in investigating perception in the sense of inquiring into the possibility of perception of both (form's) parts and wholes, signaling a concern with processes of simultaneity in perception. The central theme in the lecture is with "one's relation to observation" – with *attentive* observation in relationship to the opposites of "unconscious excitement" and "conscious feeling."³⁹ In the notes, Pfänder asserted that attention is a conscious phenomenon, and he disagreed with the psychologists of association who, as Pfänder noted, overlooked the importance of attention in perception.⁴⁰ Moreover, Pfänder posited

³⁶ Later, at the beginning of the twentieth century, Alexander Pfänder became one of the founding members of the phenomenological movement in Munich, involving philosophers, phenomenologists, and psychologists around Edmund Husserl. A useful resource on individuals who were active in these circles is Eberhard Avé-Lallemant, *Die Nachlässe der Münchener Phänomenologen in der Bayerischen Staatsbibliothek* (Wiesbaden: Otto Harrassowitz, 1975). The lecture I refer to in my text is available as a manuscript in the form of fragmentary notes. "Psychologische Vorträge und Notizen auf kleinen Zetteln." Nachlass Pfänderiana, C III 2. Bayerische Staatsbibliothek Munich archive.

³⁷ Nachlass Pfänderiana, C III 2.

³⁸ Kevin Mulligan has described Brentano's use of the nominalized infinitive and the way of translating it into English as a gerund. Kevin Mulligan, "Brentano on the mind," in *The Cambridge Companion to Brentano*, ed. Dale Jacquette, Cambridge Companions to Philosophy (Cambridge, UK: Cambridge University Press, 2004), 66-97.

³⁹ Ibid., 3. "...Gegensatz vom unbewussten Erregen und bewusstem Empfinden"; "...Beachten als das Bewusstseinsphänomen."

⁴⁰ Ibid. Opposing the associationists meant essentially opposing a disregard of complexity in perception.

the following problem: "the range of that which is observed can be greater or smaller... . The question now is, when the multifaceted [form] is observed simultaneously, if then this multifacetedness will be observed always as a whole, or if at the same time...[these] or those parts can be observed continually to a great extent."⁴¹ Pfänder indicated an interest in the department of philosophy at that time in engaging questions of simultaneity in perception. Finally, in the notes is a remark about a previous lecture (presumably hosted by the Verein) on the subject of "Attention."

Around 1900, Pfänder turned to phenomenology, along with significant numbers of others of Lipps' students and members of the Verein. Most former students in experimental philosophy in Munich redirected their research away from questions concerning form as relations either to the idea of perception in relation to the subject or to holistically oriented preoccupations with Gestalt. Endell, who forsook his studies, however remained committed to the question of visibility of relations for the rest of his life. Both Lipps' experimental exercises and the topic concerned with simultaneity in perception of the varying scales of visible form were at the core of his future debut work in the interior design at the Photoatelier Elvira.

Endell was especially indebted to Lipps for the skill with experiment. In perception, however, Lipps was famous for his interest in pursuing freedom of research in Munich academia at that time. According to Karl Schuhmann, Lipps was the foremost force pressing in the direction of new ways of inquiry in Munich: he was "the most impressive example...of how freedom of science and research was both advocated and practiced at the University."⁴²

⁴¹ Ibid., 6. "Die Frage ist nun, ob dann, wenn ein Mannigfaltiges gleichzeitig beachtet wird, die Mannigfaltige innere als Ganzes wieder zugleich als Ganzes beachtet wird, oder ob auch zugleich diese oder jene Theile des Ganzem wieder zugleich im höherem Grade beachtet werden können."

⁴² Ibid., 47. Schuhmann further cites Lipps' students Aloys Fischer and Emil Utitz. The former became interested in pedagogy and the later became a student of the philosopher Christian von Ehrenfels.

Moreover, the author claimed that Lipps numbered among the most popular professors in Munich at that time: his interests were broad and included physics beside philosophy, law and society.⁴³ As a former student of Wundt, Lipps continued the "father" of modern psychology's experimental method. By contrast to investigations of the correspondence between a stimulus and a physiological reaction, however, Lipps emphasized perception as a mental act in the experimental exercises.

Another of Endell's professors promoting experiment based in visibility of its processes was the philosopher Georg von Hertling (1843-1919), a future German chancellor (1917-18). This professor lectured on history of philosophy with a special focus on Aristotelianism. In his 1898 speech "*Freiheit der Lehre und Freiheit der Forschung*" (Freedom in Teaching and Freedom in Research), Hertling stressed his interest in experience as an explanatory method when he proposed an exploration of methods of synthesis. He stated the need "to proceed synthetically [so as] to make visible the process through intentional setting of precisely determined conditions."⁴⁴ In this way, he addressed the necessity of conducting research at the university, aiming at visibility of synthesis based in analysis.

In the orbit of the empirical approaches of these professors, Endell deepened his empirical approach as well as the experimental skill he had gained as a candidate in the natural sciences when he first took up his studies in Munich. He continued his previous studies in science and humanities, but now seeking their reconciliation in the study of an experimental kind

⁴³ Karl Schuhmann, "Philosophy and Art in Munich around the turn of the century," in *In Itinere. European cities and the birth of modern scientific thought*, ed. Roberto Poli (Amsterdam: Rodopi, 1997). Schuhmann is a scholar in Brentanian philosophy in general. Schuhmann also noted that both professors regularly lectured on law and society.

⁴⁴ In Winfried Becker, ed., *Georg von Hertling 1843-1919* (Paderborn: Ferdinand Schöningh, 1993), 106. "...synthetisch zu verfahren, durch absichtliche Setzung der genau bestimmten Bedingungen den Vorgang experimentel zu veranschaulichen."

of philosophy.⁴⁵ Moreover, this kind of experimental philosophy provided him with new possibilities for the exploration of ideas that dated to the beginnings of his studies.

Endell's early thoughts in regard to ethics and (in-)visibility of relations

Already in 1891, when Endell was a student in Psychology and Philosophy in Tübingen, notions evident in his thought indicated an interest in processes of visibility of relations. Specifically, he was concerned with the question of (in-)visibility of ethical relations in contemporary society. He was intrigued by the possibility of developing ethics from within human nature. In a letter to his cousin Kurt Breysig, Endell meditated on the possibility, and indeed the necessity, of "laws" of ethical behavior in contemporary society formulated in a completely new way. Endell was especially concerned with a lack of ethics in the contemporary legal system and economy in Germany, and he pointed to ethical behavior as an indispensable basis for life in modern society. He thought of this new kind of ethics as a requisite foundation of the natural sciences, and he singled out this ethics as an area independent from all other areas of knowledge:

What is more, the thought always hovers before me, [the possibility] to derive all man's behavior directly from man's nature, and in that way to make ethics to a certain extent the basis for all science, all art, and all practical life; not in the way of providing these fields with laws, which is what philosophy attempts, but merely in a way that explains from whence the interest of people in these areas originates.⁴⁶

⁴⁵ For a discussion of the nature of research into scientific philosophy, see Albertazzi, ed., *Dawn of Cognitive Science*. That work explores various disciplinary linkages pertaining to scientific philosophy in Central Europe and Germany.

⁴⁶ Endell to Breysig, April 7, 1891, Tübingen. "Zudem schwebt mir immer der Gedanke vor die ethischen Gesetze, Tun und Handeln der Menschen überhaupt, unmittelbar aus seiner Natur herzuleiten, so gewissermassen die Ethik zum Fundament aller Wissenschaften, aller Kunst und alles practischen Lebens zu machen; und zwar nicht in der Weise, dass sie diesen Gesetzen gibt, wie es die Philosophie tun will, sondern nur erklärt, woraus das Interesse der Menschen an diesen Dingen entspringt."

Evident in this moment are the first signs of Endell's future concern in architecture and design with a construction of empathic relations. The issue of the emergence of an ethical principle based in perception in Endell's thought (and work) was essentially concerned with the processes by which a common boundary of culture and nature could become the (visible) foundation of life.

Building on these speculations, Endell indicated that a way to ascertain the principles underlying ethical behavior would consist in the definition of an all-unifying theory from which it would be derived. He asserted in the same letter from 1891, "this is the only way to understand the entirety of life from one fundamental thought."⁴⁷ Here, Endell was toying with the idea of (a form of) life in which ethical relations constituted the unifying ingredient of its parts. Later on, in his design, he continued this search with ways of construction of a kind of feeling that would become the central ingredient of conscious processes, a theme he highly likely addressed in his dissertation concerned with the subject of feeling contrast.

With the same breath, however, Endell admitted that such a solution was impossible because contemporary forms did not reveal their foundations in ethical relations to begin with: "I am afraid, however, that it will not be possible to solve this task [of a definition of life unified by a principle of ethical behavior given in form's structure and nature] since our contemporary life manifests forms and relations that are too complex."⁴⁸ In other words, contemporary forms—social and cultural—had grown too complex to become visible in their entirety and reveal the forces and relations that mediated them. This subject of (in-)visibility in contemporary society was perhaps the trigger of Endell's later interest in the experimental method in perceptual

⁴⁷ Ibid. "... dies das einzige Mittel ist, das gesamte Leben von einem Grundgedanken aus zu verstehen."

⁴⁸ Ibid. "Aber ich fürchte, dass es unmöglich sein wird, eine solche Aufgabe zu lösen, weil unser heutiges Leben viel zu verwickelte Formen und Verhältnisse aufweist."

psychology. Endell's interest in exploring the visibility of complex forms for the sake of an all-unifying theory based in ethical relations was maintained (in variation) in the course of the exercises in complexity in perception at the department of philosophy, as already noted.

Upon his arrival at the university in Munich in 1892, Endell reformulated his thoughts on a new kind of ethics, now pondering a "science" impelled by the search for laws that would instill ethical behavior in modern society. Endell then entertained the idea of a new area of knowledge to which he referred interchangeably as science and philosophy. He thought that this "science" could supplant the former predominance of religion—that it could become modern society's base by supplanting religion's role in fostering ethical behavior. Before Endell introduced this idea in a letter to his cousin, he told him about the ways in which he was currently thinking: "I am already now almost convinced that my philosophizing leads to atheism and materialism, and therefore not to religion but rather to an ethics that departs significantly from what is familiar around here."⁴⁹ Nevertheless, he showed the reason why he thought a change was necessary: "However we live in a time in which reaction and clericalism have fully asserted themselves, and if this state of affairs continues then academic freedom will also soon be done for."⁵⁰

As the statement conveys, already before Endell was engaged in the Verein, he considered freedom of research in academia, and thereby a necessity of change in academia, imperative for the emergence of this new kind of ethics. He further indicated that he was ready to

⁴⁹ Endell to Breysig (undated). In light of its content, it seems to belong within the period between 1892-1893. "Nur bin ich fast überzeugt schon jetzt, dass mein Philosophieren zum Atheismus und Materialismus führt, und den gemäss zu keiner Religion und zu einer Ethik die von den landesüblichen um ein Bedeutendes abweicht. Nun leben wir aber in einer Zeit, wo Reaktion und Pfeffertum in der vollsten Breite stehen, und wenn die Wirtschaft so weiter geht, dann ist es mit der Lehrfreiheit auch bald aus."

⁵⁰ Ibid.

take action against the prevailing direction in thinking if the state of affairs did not soon change, when he asserted:

If this does not come about, then even the nasty circumstances will not prevent me from saying aloud what I think is right. Of course that would not be particularly advantageous. Nevertheless, free-thinking has to such an extent already gotten the upper hand that opposition to the prevailing tendency should be able to count on quite a lot of applause and support.⁵¹

These early statements signal Endell's almost activist stance opposing any restrictions on freedom of thought —whether direct or indirect—that would remain at the core of his pursuits throughout his life and the Verein was, in a way, Endell's first assertion of an activist stance. During Endell's candidacy in natural science at the beginning of his studies, the fundamental problem of (in-)visibility in contemporary society with which he had before been preoccupied now crystallized as an issue of scale in nature.⁵² Endell had a chance to study natural forms that offered a paradigm of visibility within which structure and nature exist in interrelation: that is, of visibility of parts in relations as well as in relations to the form as a whole. It is this kind of visibility that Endell's speculations about the possibility of an all-unifying idea called for. Compared with natural forms, the crux of the problem of contemporary social forms, which Endell viewed (and termed) as a form of life, would now emerge as an issue of the impossibility to reconcile between life as a whole and its forms as its parts. To be able to reveal its origins in

⁵¹ Ibid. "Sollte das aber nicht eintreten, so machen mich die widrigen Umstände auch nicht abhalten, das laut zu sagen, was ich für das Richtige halte. Opportun ist das freilich nicht gerade. Immerhin hat das freie Denken schon so überhand genommen, dass es seine Opposition gegen die herrschende Richtung auf mannigfachen Beifall und Unterstützung rechnen dürfte."

⁵² When Endell began to study in Munich, his first course was in experimental optics taught by Eugen von Lommel (1837-1899), a German scientist researching questions involving the origins and behavior of light. In this course, Endell would acquire skill in experiment as well as an interest in optical phenomena. Matriculation Documents, Ludwig-Maximilians-Universitätsarchiv, Munich, Germany.

relations, both forms of life (both organic or inorganic) and life as a whole needed to exhibit a relationship between their structure and nature. Similarly, the task in making contemporary forms' origins in ethical relations visible entailed relating social and cultural forms—modern institutions—and society as a whole in ways that would showcase their difference as an issue of their varying scales.

What initially seemed to impede the possibility of life based in ethical relations—the "too complex" forms in contemporary life—became the point of departure for Endell's theorizing. At least, this can be inferred. The seemingly self-evident impossibility of seeing simultaneously both sides of the same coin—nature and culture—as equally meaningful parts of life did not drive Endell away from exploring the possibility of their simultaneous visibility. In these meditations can be traced the origins of Endell's interest in processes of visibility of an all-unifying theory, and with it a principle of visibility of the underlying structure (and nature) of morality in a construction of empathic relations. In a sense, Endell became invested in investigations of a kind of visual relations that would enable retaining the complexity as well as the paradoxical nature of contemporary social forms.

Endell's experience in the natural sciences in 1892/93 opened doors to viewing the question of visibility of (ethical) *relations* as involving a search for an ordering principle in nature that would help make visible the ethical foundations of contemporary social forms. The kind of cross-disciplinary thought Endell had been entertaining prompted him to consider social and natural forms reciprocally: social forms were to be seen as organic entities constituted by relations among people, and the basis of natural forms was to be found in a law of form-making. This kind of visibility in society required a "designing" principle that would enable relating all of its scales—a principle of synthesis on multiple interrelated levels of phenomena. Endell would

continue exploring this in experiments in continuity in vision at the philosophy department later on.

Moreover, in the context of his search for this principle and his dawning understandings concerning the paradoxical nature of contemporary form, Endell became caught up in the paradoxical nature of sensory experience. These two now crystallized as parallel and interrelated issues: since Endell thought of contemporary social forms as lacking visible origins and, implicitly, as obscuring their mediating forces, it might be argued that he considered them as illusory forms. The kinds of exercises in illusion he undertook within a couple of years with Lipps would provide Endell with a possible designing method for revealing in perception the obscured origins of contemporary complex forms.

Endell's theory of feeling

Another major event beside his directorship in the Verein during Endell's last years of study in 1895-1896 was the turning point in his work on a dissertation titled "Feeling Contrast."⁵³ Endell reported to Breysig that he was working on a theory of feeling that did not yet exist. He introduced his theory of feeling to Breysig only briefly, but in terms conveying the euphoria of a great scientific discovery:

I have cut into a layer that has not been worked on, and which is the crucible [*Brennpunkt*] of all philosophy, the aim of psychology, and the starting point of all applied psychology, meaning all ethics, logic and aesthetics, namely the theory of feeling.⁵⁴

⁵³ Endell to Breysig, August 1896. (It is unclear whether the letter's date is original or was added later.) "Gefühlscontrast."

⁵⁴ Ibid. "Ich habe da eine Schicht eingeschnitten was so gut wie unbearbeitet ist und der Brennpunkt aller Philosophie, der Mittelpunkt der Psychologie und der Ausgangspunkt aller angewandten Psychologie, also aller Ethik, Logik, Aesthetik etc. ist, nämlich Gefühlstheorie."

Endell's description of his discovery reads like a physiologist's discovery during a dissection, or a geologist's encounter with a new kind of a mineral through a cross-section of material. It signals a concern in Endell's thought with the intertwining of multiple layers of phenomena. Endell defined his theory of feeling essentially as a base common to various areas of inquiry and, at the same time, as the constituent of their relations, in a parallel to a formation consisting of interrelated parts or strata, one that could be either organic or inorganic. When Endell suggested that theory of feeling, philosophy, psychology and other listed areas of inquiry were interrelated, he was introducing the strata of which inquiry, as a process, would ideally consist. The overall formulation, moreover, as well as the scientifically inflected terms such as "layers" and "cutting through," captured the experimental modality of Endell's thought.

Endell's description evoked a thought-experiment pointing towards an elastic form of inquiry within which (a theory of) feeling would provide the necessary viscous material. With this description Endell suggested an interrelation between the foundations of knowledge and its binding processes. Beyond Endell's description of his "discovery" and the title of the dissertation, no more is known about the dissertation. We can only speculate about its content, so convincing to Endell yet so difficult to express, that made him turn to expressing it through architecture and design.

Endell's proposal for a "science" of consciousness

Endell's meditations that preceded his work give a sense about both the direction and ambition in his thought prior to his dissertation and his turn to architecture. Here belongs Endell's notion of a "science" of consciousness. Between 1892-93, Endell wrote to Breysig that

he thought about an area of philosophy (that he alternatively referred to as science) preoccupied with consciousness, and that his idea had been triggered by the writings of Immanuel Kant.

In regard to Kant, Endell invoked in the letter Kant's "great discovery," implying Kant's notion of subjective knowledge:

All synthetic science brings to light subjective explanation, not objective truth...all natural laws are only laws of people, formulated in such a way that people understand the diversity of phenomena coherently: for example, atom theory, in which it does not matter if there are atoms in reality, but that the theory makes the world comprehensible as unified.⁵⁵

Here, Endell was emphasizing the notion of a scientific theory as a method of science that makes the world comprehensible. Next, however, he showed the ways in which he thought it was necessary to challenge Kant's point. At the same time as he credited Kant for grounding knowledge subjectively, he began to speculate on the possibility of both subjectively and objectively grounded knowledge and thereby on a theory that would make the world comprehensible because it would concern a method of explanation that is intrinsic to human nature. Endell claimed: "Kant has proven that the explanatory efforts of science are subjective. However, the question arises whether these explanatory efforts are not determined in advance by our nature."⁵⁶

Endell's arrival at this speculation was a turning point. He asserted in the same letter: "It is clear that we set forth certain demands for any explanatory effort. These would be derived from the basic urges of our nature, and in this way science would have a particular direction from

⁵⁵ Ibid. "...alle synthetische Wissenschaft subjektive Erklärung, nicht objektive Wahrheit zu Tage fördert, dass alle die Naturgesetze nur Gesetze der Menschen sind, gemacht, die Mannigfaltigkeit der Erscheinung einheitlich zu begreifen, dass es z. B. bei der Atomthorie gar nicht daran ankommt, ob die Atome in Wirklichkeit vorhanden sind, oder nicht, sondern vielmehr darauf, ob jene Theorie die Welt uns Menschen einheitlich begreiflich macht."

⁵⁶ Ibid. "Kant hat nachgewiesen, dass die Erklärungsversuche der Wissenschaft subjektive sind. Es entsteht aber die Frage, ob diese Erklärungsversuche nicht von vornherein durch unsere Natur bestimmt sind."

its beginning."⁵⁷ He implied that this science, in the sense of a theory of knowledge, would be grounded in both body and mind.⁵⁸ Moreover, Endell suggested that with an investigation of the origins of knowledge in human nature, "the question between materialism and idealism would be resolved."⁵⁹ With such an ambition informing his thought, Endell numbered among the thinkers at the university who formed theories that had distinctive features, along the lines of "complementarity of scientific spirit and metaphysical tension, of empirical analysis and research into the absolute."⁶⁰

Next, Endell described to Breysig the materialistic method of his "science" with categories of physics in a way that conveyed a notion of consciousness as a spatio-temporal continuum. Endell asserted: "I do believe I am able to prove that [the explanation of phenomena] is possible only in a materialistic way, with the help of the three elements space time, matter

⁵⁷ Ibid. "Es ist klar, dass wir an jeden Aufklärungsversuch gewisse Anforderungen stellen. Diese wären aus Grundtrieben unserer Natur abzuleiten und damit der Wissenschaft von vornherein eine bestimmte Richtung gegeben."

⁵⁸ Endell's "correcting" of Kant and his interest in a science of consciousness that he at time referred to as philosophy coincided with the concern on the part of the neo-Kantians in epistemology. In a letter to Breysig dated December 6, 1891, Endell wrote: "Precisely the confirmation with the perfecter of the new philosophy, with Kant, and with Cohen's book about him, showed me that it is impossible to construct one's own perspectives here, unless one has an appropriate foundation in the natural sciences." [Und grade die Bestätigung mit dem Vollender der neuen Philosophie, mit Kant, und Cohens Buch über ihn zeigte mir, dass es unmöglich [ist], hier sich eigne Aussichten zu bilden, wenn man nicht eine gehörige Grundlage in den Naturwissenschaften hat.] It is unclear to which book Endell was referring to. The most famous of Hermann Cohen's (1842-1918) books on Kant was *Kants Theorie der Erfahrung* (1871). This book is considered the foundation for Neo-Kantianism in Germany at the beginning of the twentieth century. Cohen posited an anti-psychologistic interpretation of Kant's *Kritik der reinen Vernunft* [Critique of Pure Reason] (1781), arguing that Kant's concept of cognitive faculties refers to the methods of mathematical natural science. Endell's questioning of the possibility of both subjective and objective knowledge alone coincides with Cohen's views on synthetic a priori principles present in experience. For a consideration of Neo-Kantianism, see Klaus Christian Köhnke, *The Rise of Neo-Kantianism: German Academic Philosophy Between Idealism and Positivism* (Cambridge: Cambridge University Press, 1991); and Frederick Copleston, *A History of Philosophy*, vol. 7 (New York: Continuum International Publishing Group, 2003).

⁵⁹ Ibid. "Hier hätte sich die Frage zwischen Materialismus und Idealismus zu entscheiden."

⁶⁰ In regard to the nature of the research being undertaken in Munich, here Albertazzi offered citations by or related to the author Zagajewski. Albertazzi, "Back to the Origins," 3.

(movement)."⁶¹ The missing comma between space and time in this statement, as well as the term *movement* in parentheses, suggests how Endell's method was concerned with consciousness as both a perceptual and a physical continuum. (Support for the inference that the missing comma is not just a simple omission comes in the form of other examples of this kind of visualizing of a notion of a continuum in Endell's thought and work. Such examples include Endell's similar expression indicative of intersensory experience, or his textual diagrams of a house as a spatio-temporal continuum. The former will be addressed later on in this chapter, and the latter will be discussed in the following chapter.)

Materialistic method became central to Endell's experiment in making the invisible structure and nature of both consciousness and (contemporary) forms visible. He approached both as *formations* (*Formgebilde*)—as structures of interrelated parts whose relations simultaneously are the foundations of visible form.⁶² While Endell in this way grounded his theory of consciousness in both philosophy and science, yet at the same time asserted its independence from all sciences in a way similar to his understanding of ethics, he conveyed that he aspired to provide a guide in the service of all human endeavor.

It becomes evident that Endell came to view questions of "ethics," science of consciousness, and elastic contemporary forms as interrelated. Endell described his *new* field of

⁶¹ Endell to Breysig, April 2, 1892. "Und ich bilde mir ein, nachweisen zu können, dass dies nur möglich sei in materialistischer Weise, mit Hilfe der drei Elemente Raum Zeit, Masse (Bewegung)" (sic). The use of this method indicates Endell numbered among thinkers of the turn of the 19th and 20th centuries who were preoccupied with questions relating to perceptual continua that began with questions raised in regard to the foundations of geometry and subsequently of dimensions and their relations. See Liliana Albertazzi, "Continua," *Unfolding Perceptual Continua*, ed. Liliana Albertazzi, vol. 41, *Advances in Consciousness Research*, ed. Maxim I. Stamenov (Amsterdam and Philadelphia: John Benjamins Publishing Company, 2002), 1-28.

⁶² One of Endell's key concepts that figures in his theories and becomes visible in his later work with visual forms is formation (*Formgebilde*), in philosophy also translated as configuration, a term that was used in Germany in both science and philosophy and that signified the visibility of form's quality of consisting of parts in relations. I suggest that Endell used it in both the sense of formation and of configuration, where the first is familiar from the natural sciences and the latter more from perceptual psychology. In connection to visual forms, Endell referred to "rare forms" as "Formgebilde."

knowledge to his cousin suggesting it was concerned with the relation between the structure of conscious processes and the structure of visible form. He asserted: "In this area of philosophy, it will be about what man desires to know in regard to his nature, and in which way he desires the researched /subject/ to be explained."⁶³ Simply put, Endell indicated that once this "science" established that there was such a relation, there would be a possibility of attaining forms that resonated with the architecture of consciousness, thereby facilitating a harmonious feeling. Endell aspired to such forms, believing that making people cognizant of the ways in which knowledge emerges would help in generating a feeling of groundedness they currently lacked.

The ambition inherent in Endell's "science," namely that it would yield a modern way of grounding people in knowledge, targeted knowledge as the kind of ground (and strength) that religion had offered to people in the past. Endell lamented the lack of such a ground when he asserted: "We live in a time in which belief in Christianity is beginning more and more to teeter, [and] Social Democracy only offers thousands the negative outcome of atheism, thus robbing them of every secure hold in life."⁶⁴ Neither religion nor atheism was for Endell the answer to contemporary crisis, but rather a new kind of science that would serve in fostering values of humanity.

Endell's rejection of religion as well as of Social Democratic politics as incapable of providing a ground for the emergence of a sustainable modern society implied that any kind of form imposed on people from above or any form arising from doctrinaire imperatives would be disruptive of their conscious experience. He distanced himself from critiquing politics directly

⁶³ Endell to Breysig, April 2, 1892. "Bei dieser Teil der Philosophie würde sich also darum handeln: was wünscht der Mensch vermöge seiner Natur zu wissen und in welcher Weise wünscht er das Erforschte erklärt zu wissen."

⁶⁴ Ibid. "...als wir in einer Zeit stehen, in der Glaube an das Christentum mehr und mehr zu wanken beginnt, die Sozialdemokratie Tausenden nur das negative Resultat des Atheismus in die hand gibt, und sie so jeden festen Platzes im Leben beraubt."

and sought the solution to society's crisis in laying out a kind of science that would facilitate a possibility to derive knowledge from within. As is evident from all this, Endell considered ethical behavior a central ingredient of conscious processes.

He next suggested in his letter that the architecture of consciousness could be explored through processes of modulation: "*ethics...depends on psychological analysis. This consists in the modulation of our inner consciousness*" (emphasis added).⁶⁵ The solution to the double challenge of establishing a new kind of "ethics" as the principle of modern society, and at the same time of reestablishing it as a valid concern of philosophy, crystallized for Endell in considering the visibility of the foundations of humanity in ways that revealed conscious processes in interrelations. Implicitly, the solution to the lack of ethics in contemporary philosophy—reflected in society's lack of ethical behavior in its institutions—became evident as consisting in constructing forms that would mirror the structure and nature of modulated consciousness.

At this point, Endell's statements in his letter indicate that he was moving toward considering consciousness as a continuum between inner and outer experience, thereby theorizing experience as an act. He categorized a sensory act as spatial, which is to say an act of experience: "There are two standpoints, outer and inner experience. We are of the former, and for the latter, we have the theory of knowledge—it asks, what is going on in our consciousness? If I go back to this," Endell continued, "I have to say: I see feel hear things, not things are [*sic*]. These sensations are also spatially ordered, and, in a manner of speaking, space is also a sensation."⁶⁶

⁶⁵ Endell to Breysig, May 18, 1892. "Diese besteht in der Zergliederung unseres inneren Bewusstsein."

⁶⁶ Ibid. "Es gibt zwei Standpunkte, die äußere und die innere Erfahrung. Auf jenem stehen wir gewöhnlich, auf diesen die Erkenntnistheorie. Sie fragt, was findet sich in unserem Bewusstsein vor? Ziehe ich mich auf dieses

Endell continued in this way the concept of psychic phenomena as acts (seeing a color or hearing a sound, for example), espoused by the Austrian philosopher Franz Brentano (1838-1917). This philosopher had laid the foundations of empirical (descriptive) psychology in Central Europe and Germany.⁶⁷ His philosophy was transported to Munich by his disciples Georg von Hertling and especially Carl Stumpf (1848-1936), a professor of philosophy in Munich in the 1890s.⁶⁸ Brentano initiated an investigation of sensation as a durative process endowed with empirical character. Moreover, he explored the related notions of continuum, relations, and the relation between continua and their boundaries.⁶⁹ Endell followed in this lineage of thought with his assertion of the validity of sensation in perception. Already in Endell's account of various acts of sensations (without dividing commas) in the part of his statement where he claimed, "I see feel hear things," moreover, it becomes evident that he viewed perception as intersensory phenomenon.

zurück, so muß ich sagen: ich sehe fühle höre die Dinge, nicht, die Dinge sind. Diese Empfindungen sind aber räumlich geordnet, auch der Raum ist sozusagen eine Empfindung."

⁶⁷ The editor of the most up-to-date source on Brentano's scholarship, *The Cambridge Companion to Brentano*, introduced the philosopher as follows: "Brentano is the most important yet under-appreciated philosopher of the late nineteenth and early twentieth centuries. He led an intellectual revolution that sought to reverse what was then a prevalent post-Kantian trend in German-Austrian philosophy in the direction of an Aristotelian scientific methodology." Dale Jacquette, "Introduction: Brentano's Philosophy," 1. Jacquette also commented on the chapter "Brentano on the mind" by a leading scholar on Brentano, Kevin Mulligan, who referred to "Brentano's analysis of the mind as the most detailed description of mental phenomena, including their parts and interrelations, ever provided before the 20th century," 7.

⁶⁸ See Schuhmann, "Philosophy and Art in Munich." In regard to F. Brentano (not to be confused with Lujo Brentano, with whom Franz was related) and his place in the lineage of thought in Munich, see Liliana Albertazzi, "Towards a neo-Aristotelian theory of continua: Elements of an empirical geometry," in *Unfolding Perceptual Continua*, ed. Albertazzi, 71; and Liliana Albertazzi, "Form Metaphysics," in *Shapes of Forms: From Gestalt Psychology and Phenomenology to Ontology and Mathematics*, ed. Liliana Albertazzi, vol. 275 of *Studies in Epistemology, Logic, Methodology, and Philosophy of Science*, ed. Dirk van Dalen et al. (Dordrecht/Boston/London: Kluwer Academic Publishers, 1999), 257. Albertazzi discussed the descriptive approach of experimental philosophy as akin to Brentano's descriptive analysis. Also, she discussed Brentano's (and Herbart's) realist metaphysics as their interest in ways of "bring[ing] to awareness the primitive factors or particulars that convey the visual forces of direction, relation and expression." *Ibid.*, 174.

⁶⁹ Franz Brentano, *Philosophical Investigation on Space, Time and Continuum*, trans. Barry Smith (London: Croom Helm, 1988).

When Endell indicated that the experience of consciousness itself could be accessed as *space*, he was toying with the inner and outer spaces, striving to make them visible interchangeably. This suggested a possibility of a relationship between visible form and consciousness based in reciprocal reflection. Moreover, since Endell's concern with sensation related to his interest in questions of origins, he emphasized the question of processes of perception: "the main question is not at all *whether* we perceive, but *how*," and he believed that "an analysis of our inner consciousness" would make the structure of experience visible.⁷⁰ These articulations signaled a concern with an all-unifying theory in terms of a question of visibility of consciousness as a psycho-physical continuum.

Endell emphasized in a letter to Breysig that his "science" differed from the current dominant way of psychology based in physiology, as practiced by Wundt.⁷¹ To make his point clear, Endell stressed the need for a new kind of research concerned with analysis of consciousness as an area related to inquiry into the structure and nature of processes of thought. He explained this area referring to ethics as a parallel to his idea of science: "Science asks: What is, what was; what is happening, and what happened? Ethics: What should we want? Nothing can

⁷⁰ Endell referred to this new area of inquiry interchangeably in his letter: at first as philosophy and a part of philosophy, and later on as a science.

⁷¹ Endell to Breysig, November 16, 1894, from Munich. Evidently, Wundt's approach was too positivist for Endell who thought along the lines of bridging positivism and idealism. Wilhelm Wundt (1832-1920) was a physiologist and psychologist in Germany with a background in studies of neurological and chemical stimulation of muscles. Wundt founded the first laboratory of psychology in Leipzig in 1879, by virtue of which psychology was established as an independent science. He is regarded as one of the founders of modern psychology and as the 'father' of experimental psychology. Wundt analyzed consciousness by the method of introspection along the principle of psycho-physiological parallelism. Among his numerous works concerned with physiology and other topics related to his research are his famous *Principles of Physiological Psychology* (1874). Wundt was widely influential, and laboratories in psychology were modeled after his example. On the history of psychology, see Edwin G. Bohring, *A History of Experimental Psychology* (New York: Appleton-Century Crofts, 1950); Kurt Danziger, *Constructing the Subject: Historical Origins of Psychological Research* (Cambridge and New York: Cambridge University Press, 1990); Martin Kusch, *Psychologism: A Case Study in the Sociology of Philosophical Knowledge* (London and New York: Routledge, 1995); and John Fizer, *Psychologism and Psychoaesthetics: A Historical and Critical View of Their Relations*. Linguistic & Literary Studies in Eastern Europe. Vol. 6 (Amsterdam: John Benjamins B.V., 1981).

teach us more about this than analysis of our instincts. That is, however, entirely independent from physiology."⁷² Here, Endell defended his notion of "science" of consciousness as a study independent from physiology, claiming that physiology does not say which inner process corresponds to the observable outer [process]. Instead, he considered physiology to be dependent on psychological analysis in the sense of a scientific analysis of processes of consciousness.

Taking into account an understanding of the mind and the brain as interrelated in an entirely new way, Endell sought to express a notion of consciousness as a multidimensional elastic spatio-temporal continuum. Essentially, Endell was intrigued by the prospect of a "science" that would "visualize" the operations of the brain. The physiology of the brain (and eye) would ultimately become important in the search for the structure and nature of experience, yet the corresponding inner processes would need to be derived from this psychology/science of consciousness. In trying to formulate "a 'science' that did not yet exist," Endell searched for ways of making visible the relations of the structure (and nature) of consciousness and the physical world.

Modulation as a method of analysis of consciousness

Endell's meditations upon the relation of philosophy and science gained in complexity to such a degree that he realized theory would no longer suffice in his attempt at a construction of feeling. Already in a letter from 1892, Endell claimed: "I often damned the abstractness of my science...[it lies] in the lack of material."⁷³ Endell explained to Breysig that modulation

⁷² Endell to Breysig, May 18, 1892. "Die Wissenschaft fragt: Was ist, was war; was geschieht, was ist geschehen? Die Ethik: Was soll, was sollen wir wollen? Nichts kann uns hierüber belehren, ausser der Analyse unserer Triebe. Diese ist aber völlig unabhängig von der Physiologie."

⁷³ Endell to Breysig, July 2, 1892. "Und dabei ich die Abstraktheit meiner Wissenschaft oft verwünscht...Und das liegt hauptsächlich an dem Mangel an Stoff."

(*Zergliederung*) of consciousness was the method necessary for analysis.⁷⁴ The method however required working with "a material" (a visible active brain) that was not accessible at that time. Endell found a substitute for this "material" in art considering lines in a parallel to feelings. He thought of art, in fact, as relevant on a par with the study of Kant's philosophy.

Moreover, Endell signaled concerns with aesthetic questions when he pointed to an encounter with an artwork in which "through empirical analysis it becomes evident what is actually expected from an artwork. Of course, this is not possible without *Anschauung*. (Already Kant had shown that mathematics is a science of visibility [*eine anschauliche Wissenschaft*]). One has to look at art works, bad and good, in order to be able to modulate one's feelings."⁷⁵ This statement makes evident that Endell began considering issues involving the essence of art, conscious experience, and an all-unifying theory as related phenomena. Moreover, Endell indicated here that he considered aesthetic experience and mathematics to have a common denominator in *Anschauung*.⁷⁶

It seems therefore that out of lack of access to his "material," Endell turned his attention from the relationship of experience and consciousness to the relation between aesthetic and conscious experience in whose constitution he would consider both mathematics and feeling to

⁷⁴ Endell to Breysig, May 18, 1892. "[Die psychologische Analyse] besteht in der Zergliederung inserer inneren Bewusstsein."

⁷⁵ Endell to Breysig, April 2, 1892. I translate the term *zergliedern* as to modulate. The prefix *zer-* indicates a process of taking something apart. The root of the word *Glied* translates as "part/member." The upcoming chapters will show that next to *zergliedern* as a method of analysis, Endell employed the synonymous terms *zerlegen* or *in the Elemente herauslegen*. "... also durch empirische Analyse kommt an dazu, überhaupt sich bewußt zu werden, was man eigentlich von einem Kunstwork verlangt. Natürlich ist das nicht zu machen ohne Anschauung. (Schon Kant hat gezeigt, dass die Mathematik eine anschauliche Wissenschaft ist.) Man muss Kunstwerke vor sich haben, schlechte und gute, um seine Empfindungen zergliedern zu können."

⁷⁶ In the history in German philosophical aesthetics, Johann Friedrich Herbart (1776-1841) was most influential owing to his arguing for a mathematical basis of experience and for having attempted to prove this scientifically. For a discussion of philosophical aesthetics in Germany, see Mallgrave and Ikonomou, "Introduction," in idem, eds., *Empathy*.

be central. Line became a building block of his theory of feeling: it was both a process and a result of modulation in vision. He now had a way: he explored the relationship between form and consciousness by way of the relationship between *lines* and *feelings*:

[M]ainly it is *lines* that come into consideration. However, it is possible to find out, without the least physiological knowledge, up to what degree we see a building, how far away from it we must stand, [or] which course of line is pleasant for the eye. Naturally this depends on the construction of our sense organ, and for physiology the investigation of these relations is a very interesting task. For aesthetics what matters is the end-effect, and this can be determined by direct observation.⁷⁷

This is the first instance when Endell imputed that lines would serve as the building blocks of both visual forms and feeling. Simultaneously, this is the first time when Endell indicated lines as having a fundamental role in visibility of the architecture of consciousness.⁷⁸ In this statement, moreover, Endell articulated more clearly in what way the physiology of the senses plays a role in the formation of feeling. Finally, here is the first instance of Endell's hypothesizing a possibility of harmonious feeling instilled with a line (and lines in relations), implying that harmony would emerge as both a process and a result of a construction consisting of physical and perceptual processes. His concern with such a construction's effects of forms now crystallized essentially as a concern with lines in relations.

⁷⁷ Ibid. "Hauptsächlich kommen hier ja die Linien in Betracht. Aber es lässt sich ohne die geringsten physiologischen Kenntnisse feststellen, bis zu welchem Grade wir Gebäude übersehen, wie weit wir von ihnen abstehen müssen, welche Linienverlauf dem Auge angenehm ist. Natürlich beruht das auf dem Bau unserer Sinnesorgane, und für die Physiologie ist die Untersuchung dieser Verhältnisse eine sehr interessante Aufgabe. Für die Ästhetik kommt es nur auf den Endeffekt an, und der lässt sich unmittelbar beobachten."

⁷⁸ These are the first signs of Endell's move to address lines and feelings, both as foundational concepts of form and consciousness. Albertazzi speaks about the theories emerging at this time "to conduct analysis of the foundational concepts or primitives" of various disciplines. Idem, *Origins*, 5. Also about Lipps' "mechanical aesthetics" according to which an object is a resultant of forces ... in which operate spatial primitives consisting of points, surface lines, direction, angles, and parallelograms of a space which still does not possess the features of Euclidian space but comprises tactile and kinaesthetic qualities, movement, velocity, and tension towards a form. It is therefore an essentially dynamic structure of the phenomena of vision. See Liliana Albertazzi, "Form Aesthetics: Introduction," in *Shapes of Forms*, ed. Albertazzi, 7. I suggest that Endell treated lines as building blocks in a designed morphogenesis of consciousness.

Endell approached the relationship of lines and feelings as one of reciprocity. This method aiming at visibility of feeling provided him with a possibility of thinking about lines and feelings not as fused together, but as generating a "space" in perception. This "space," in turn, would generate processes of consciousness and its form in a way of each other's mirrorings: *self-similar* processes meaning same yet different. Put in spatial terms, Endell's conceptualizing of a relation between visible form and consciousness involved theorizing of, basically, a relationship of superimposition, which is to say, a relationship that would allow for their reciprocal reflection. For Endell, such a structure would enable an emergence of space for *conscious experience*. In a concept of this kind of space emerging relative to form in perception, moreover, "perceptual" time structured recursively would play a central role. Endell's evocations concerning his idea of a new "science" suggest a possibility of experiential form based in form's reversal in consciousness, a phenomenon accompanied with a shift in consciousness—both symbolic and literal expression of the kind of sensation of being "moved/affected" experienced in the presence of art.

After a two-semester break, in the winter semester of 1894-95 Endell signed up for an intensive course in "Exercises in Psychology" with Lipps, in addition to humanities courses such as "Renaissance Painting" and "History of Literature."⁷⁹ Thus, four times a week he intensely engaged in research and experiments. Furthermore, he attended "Exercises in Philosophy" with Hertling, whose course Schuhmann described as "lectures [where] the pupils of Lipps received...a reliable survey of the history of philosophy, and especially Aristotelianism[.]"⁸⁰

⁷⁹ August Endell's matriculation status and registration, Matriculation Documents.

⁸⁰ Schuhmann, "Philosophy and Art in Munich," 47.

When Endell was nearing a decision on a dissertation advisor, he evoked in a letter to Breysig from 1894 that neither Lipps nor any other contemporarily working professor in philosophy would be the one with whom he could work closely. He hoped to work in the direction of the newly emerging psychology, from which he claimed he "could use a lot."⁸¹ At the same time, he explained that he was heading in a direction of psychology that was opposed to that of Wundt: "my view also includes modern psychology, which goes against Wundt and has its center in the *Zeitschrift für Psychologie and Physiologie der Sinnesorgane* [Journal for Psychology and Physiology of Sense Organs]."⁸²

In regard to his choice of an advisor, the one philosopher that Endell looked up to as "the only independent and therefore true philosopher" was Eduard Hartmann (1842-1906).⁸³ Endell remarked however that Hartmann did not currently hold a post in academia. Hartmann established his reputation in German philosophy as the author of *The Philosophy of the Unconscious* (*Philosophie des Unbewussten*) in 1869, a publication in which he discussed the underlying layer of reality as the unconscious. The notion of Endell's admiring Hartmann for his true philosophy in the sense of its independence from other areas of knowledge points perhaps to

⁸¹ Endell to Breysig, November 16, 1894. "Ich habe manches an ihr aus zu nutzen...."

⁸² *Zeitschrift für Psychologie and Physiologie der Sinnesorgane* [Journal of the Psychology and Physiology of Sense Organs] appeared between 1890-1906, roughly in a period that coincides with the productive stage of Theodor Lipps, who was one its main contributors. The journal was founded by the philosopher H. Ebbinghaus. Its opposition to Wundt was due its orientation towards scientific research of higher mental processes. For a brief discussion of the journal in the context of the emergence of psychology in Germany, see Jo Groebel's chapter "Germany," in *International Psychology: Views from around the World*, eds. Virginia Staudt Sexton and John D. Hogan (Lincoln, NE: University of Nebraska Press, 1992): 159-82, here 160-61. Endell to Breysig, November 16, 1894. "...und ich fasse schon jetzt die Philosophie [...] von einem anderen Gesichtspunkte auf. Aber auch meiner Ansicht schliesst die moderne Psychologie in sich, zu viel diejenigen, die gegen Wundt Front macht und ihren Mittelpunkt in der Zeitschrift für Psychologie u. Physiologie der Sinnesorgane hat."

⁸³ The concern with a notion of the underlying pattern of conscious experience as continuous with the underlying ordering principle in nature evident in Endell's work gives indications about the nature of Endell's interest in Hartmann's notion of the unconscious as a metaphysical reality. Hartmann's *Philosophie des Unbewussten* (1869) was very popular and went through 10 editions in 1890. For navigating the history of German philosophy, see Copleston, *History of Philosophy*, vols. 6 and 7.

Endell's own ambition in establishing a "science" of consciousness as an independent science. Ultimately, Endell chose to work with Lipps, albeit not without reservations (for reasons already mentioned): "Already now I conceive of philosophy from another point of view. I am standing partially on a different standpoint. But as for the rest of it, I can learn a lot from [Lipps]." ⁸⁴

The choice of Endell's courses at this point was indicative of his need to familiarize himself with ways of visibility of consciousness through mathematics and the brain, thereby gathering knowledge of the "objective" ways of expressing the architecture of consciousness. In a letter from March 1895 to Breysig, Endell stated: "I have now studied anatomy of the brain and physiology; broadened and refreshed my knowledge of physics and chemistry. I currently carry on differential calculus." ⁸⁵ Subsequently, in the summer semester of 1895 he signed up for courses in aesthetics, psychology, art, and literature: Lipps' "Aesthetics," which included a section called "Exercises in Psychology," "Exercises in Philosophy" with Hertling, "German and Dutch painting" with Berthold Riehl (1858-1911), and "History of Literature" with Franz Munker. In the winter semester 1895-96, Endell matriculated as a candidate in psychology and studied "Aesthetics of Painting" in a seminar with Lipps.

Lastly, in winter semester 1896-97 Endell signed up for mathematics, aiming to return to a subject he had taken up together with the natural sciences at the beginning of his studies in Munich in 1891. Now, he was planning to return to it perhaps as a way of symbolizing experience in the pursuit of his new kind of epistemology—a "language" in which it would be

⁸⁴ Ibid. "Ich fasse schon jetzt die Philosophie [...] von einem anderem Gesichtspunkte auf. Ich stehe teilweise auf einem anderen Standpunkt. Im übrigen kann ich viel von Ihm lernen." Lipps was interested in scientific psychological aesthetics. As Endell's early letters indicate, Endell was interested in bridging idealism and materialism.

⁸⁵ Endell to Breysig, March 27, 1895. "...habe jetzt Gehirnanatomie und Physiologie studiert, meine physicalischen und chemischen Kenntnisse aufgefrischt und erweitert. Treibe gegenwärtig Differentialrechnung..."

possible to express his idea of ethical relations as underlying an ordering principle of life.⁸⁶

Beyond this point in time, however, Endell never returned to mathematical studies or to his dissertation writing. As already noted, at the moment when Endell believed he had formulated a theory of feeling, and possibly realized that the only way to express it would be through an undertaking that would involve both mathematics and feeling, Endell turned to architecture. Instead of continuing to theorize experience, he went on to design it, thereby striving to make a statement about design and architecture as an epistemology based in ethical relations in society.

On Beauty

In the same year that Endell broke off his studies, for the first time Endell engaged in graphics (with a text) in which he showed a concern with a "construction" of experience based in feeling. In 1896, on the occasion of an exhibition of contemporary art in the *Glaspalast* in Munich, Endell published an art-critical essay "Um die Schönheit" (On Beauty). The essay attracted interest among such famous personalities in Munich as Lou Andreas-Salomé, a future student in Freud's psychoanalysis.⁸⁷ With the image of a strange, frightening looking orchid blossom on the cover page, Endell emphasized negative feeling in aesthetic experience. **[Fig. 1]**

Executed in black with apparent precision on the one hand, but with strong evocations on the other, the flower was anything but beautiful in the traditional sense of the term and brought up a contrasting feeling to the one associated with the term beauty in the title of the pamphlet. In the following text, Endell evoked this feeling once again, describing it in ways that suggested the

⁸⁶ Endell to Breysig, June 12, 1891.

⁸⁷ Biddy Martin, *Woman and Modernity: The (Life) Styles of Lou Andreas-Salomé* (Ithaca: Cornell University Press, 1991). See also Julia Vickers, *Lou von Salomé: A Biography of the Woman Who Inspired Freud, Nietzsche and Rilke* (Jefferson, N.C.: McFarland, 2008).

involvement of the entire body in aesthetic experience: "there are certain orchids that belong to the most horrible that can be imagined, ones that make fear flow directly into us."⁸⁸ Here, he evoked a somatic experience of discomfort that accompanied the notion of beauty in his text.⁸⁹

The essay's opening passage linked the redefined concept of beauty to the issue of relations among people. In that way, Endell related the issue of aesthetic experience to the issue of relations among people, suggesting a lack of empathy in contemporary life:

We humans are strangers [even] to ourselves, we know nothing of each other; deep chasms set our souls apart. We long deceive ourselves about this and do not suspect the truth. There are also people whose eyes are never opened, and indeed on that count they are considered fortunate. For, whoever awakens to seeing is seized by shivers of loneliness, and that person's life becomes a desperate struggle, a singular great yearning, to extend the boundaries of the self, to recognize one's own feeling in other souls.⁹⁰

The experience of the cover page image of the orchid, moreover, implied that the text to follow would be about ways of seeing newly and implied that this shift would be both empowering and frightening. Thus Endell's image was not an illustration of the text—it was an instruction in

⁸⁸ Endell, "Um die Schönheit," in idem, *Vom Sehen*, ed. David, 25. "Es gibt gewisse Orchideen, die zu dem Entsetzlichsten gehören, das man denken kann, die uns direct Furcht einflößen."

⁸⁹ Wilhelm Worringer emphasized the negative aspect of fear in aesthetic experience in regard to abstraction as a mode in aesthetic experience in *Abstraktion und Einfühlung. Ein Beitrag zur Stilpsychologie* (1908). For a discussion of the presence of notions signaling abstraction in late nineteenth century German discourses in aesthetics on perception of spatial form, see Koss, *Modernism*, especially the chapter "Empathy Abstracted," 67-83. Koss dissects these texts and extrapolates notions in the theories concerned with mental activities. She has argued, for example, that Vischer, Hildebrandt, and Fiedler considered "optical experience [as] occur[ing] within the entire body," Koss, *Modernism*, 76. Koss also has asserted that the theorists of empathy failed in emphasizing the negative aspect in experience. Koss noted that Theodor Lipps was the only theorist of negative empathy next to positive.

⁹⁰ Endell, "Um die Schönheit," in idem, *Vom Sehen*, ed. David, 13. "Wir Menschen sind uns fremd, wir wissen nichts von einander, tiefe Abgründe scheiden unsere Seelen. Wir täuschen uns lange darüber and ahnen die Wahrheit nicht. Es gibt auch Menschen, deren Augen niemals geöffnet werden, und man preist sie wohl um dessentwillen glücklich. Wer aber zum Sehen erwacht, dem packen die Schauer der Einsamkeit, und sein Leben wird ein verzweiflungsvoller Kampf, eine einzige grosse Sehnsucht, die Grenzen des Ichs zu erweitern, das eingene Fühlen wiederzufinden in anderen Seelen."

seeing. It provided experience in a parallel and related way to how the text described it, elevating visual form to the level of text and making practice and theory appear equally meaningful.

The orchid and Endell's concept of beauty became simultaneously a form of critique. The essay was preceded by a sonnet from the collection of poems *Les Fleurs du Mal* (The Flowers of Evil) (1857) by the French symbolist poet Charles Baudelaire (1821-1867). Endell in this way imputed yet another relation—between visual form and poetry. Even before one would engage with the actual text, the blossom would now become visible as one such *fleur du mal*. It (re-) presented the notion of poetics of form both as a new theory of symbol and as critique. What Endell intended for the reader to experience upon encountering the image was something he discussed later on in the text: "we need a strong, independent explanatory critique."⁹¹ He thereby paid homage to Baudelaire as both a modern poet and a critic. In this introduction, Endell placed nature, poem and visual form into a new kind of relationship. Critique was to become an inherent part of his later works, including Endell's interior design as a critique of the contemporary concept of illusory seeing in contemporary society. He demonstrated that the roots of poetics of created form were to be found in both nature and culture. The orchid became a source of beauty in modern art as both a natural formation and a symbol. These two aspects shared in the process by which they revealed form as a continuum consisting of parts and wholes in relations. In this example, Endell choreographed an aesthetic experience consisting of visual, emotional, and cognitive processes in interrelation.

Ultimately, the experience that Endell aimed to evoke was one of paradox. Endell reflected on the title of Baudelaire's collection of poems, picking up on a figure of speech evocative of paradox (or even oxymoron) both symbolically and literally. He thus turned the

⁹¹ Ibid., 17. "Wir brauchen eine starke unabhängige klärende Kritik."

reader into a conscious observer who is the (re-)creator both of form's poetics and of form's critique. Linguistically speaking, a paradox is a figure of speech that combines opposing terms. A paradox denies any clarity or fixedness of its meaning while retaining the form of a composition made up of clear and identifiable opposites. In a parallel to this figure of speech, the structuring of visual form in the manner of a paradox brings up a feeling of change that, however, resists definition. This would result in an experience of form as movement, as opposed to a form that facilitates fixed meaning. It is fair to say that Endell hoped to mediate for the observer this kind of an experience: that is, of visual form as ceaseless movement. He continued to express something essential about contemporary life in a way akin to Baudelaire's claim, in "The Painter of Modern Life," about modernity as both the transitory and the immutable: "By modernity I mean the transitory, the fugitive, the contingent which make up one half of art, the other being the eternal and the immutable."⁹²

With the publication of this essay, new venues opened up for the former philosophy student. Andreas-Salomé sought out Endell immediately after its appearance. This intriguing future student of psychoanalysis and Endell seem to have shared an interest in modalities of "visibility" of consciousness. The two remained life-long friends. In the summer of 1897, Andreas-Salomé and Endell met many times in Wolfratshausen in the company of, among others, the poet Rainer Maria Rilke and the Russian intellectual and idealist critic Akim

⁹² John Mayne, trans. and ed., *The Painter of Modern Life and Other Essays* (London: Phaidon Press, 1995), 13.

Volinskij.⁹³ Moreover, at this time, poetry inspired Endell to such a degree that he published a collection of poems titled *Ein Werden* (A Becoming).⁹⁴

Soon after these meetings, still in 1897 Anita Augspurg and Sophie Goudstikker, professional photographers and radical feminists involved in the movement for women's rights, commissioned Endell to redesign an existing building as their new photographic studio.⁹⁵ This was at Von-der-Tannstraße 15 in one of Munich's prominent quarters. Endell highly likely became acquainted with his clients through the Münchener Verein für Fraueninteressen (Munich Association for the Interests of Women), where he lectured on "the concept of work in regard to both sexes."⁹⁶ Moreover, the clients and Endell had a common friend in the progressive intellectual Andreas-Salomé. With her assertion that "freedom to follow one's impulses and passions was necessary to women's sexual and emotional lives,"⁹⁷ and given her own unconventional living and orientations that would conduce to her later training in psychoanalysis under Freud, Andreas-Salomé was well known in the community around the Association for the

⁹³ In my dissertation I do not discuss these relations, focusing instead on the formative period in academia. These relations too, however, played a role in Endell's formative period and need to be addressed in any kind of comprehensive study regarding Endell.

⁹⁴ August Endell, *Ein Werden, Gedichte* (Munich: Knorr und Hirth, 1896).

⁹⁵ On the discussion of both the photographers and the photography produced, see Rudolf Herz and Brigitte Bruns, *Hof-Atelier Elvira, 1887-1928: Aestheten, Emanzen, Aristokraten. Ausstellung des Fotomuseums im Münchner Stadtmuseum 13. Dezember 1985 bis 2. März 1986* (Munich: Das Stadtmuseum, 1985). The authors discussed the relationship between reform strivings in general and the women's right movement in particular. In this context, the authors discuss the participation by this female couple of professional photographers in the women's rights movement in Munich at that time and the movement for visibility of women's artistic work. Archival material in regard to discussions at the Akademischer Verein für Psychologie shows that its members were interested in the issue of the relation of women and work, for example.

⁹⁶ Rudolf Herz, "August Endell in München. Bau des Ateliers Elvira und die Resonanz der Zeitgenossen," Herz and Bruns, eds., *Hof-Atelier*, 32. Herz cited "Verein für Fraueninteressen, Bericht über die fünfte Generalversammlung (1889)" (Munich, 1899), 28. In the text, Herz also comments that the Swiss artist Hermann Obrist was a member, raising the possibility that it was Obrist who introduced Endell to the Association for Women's Interests.

⁹⁷ Lora Wildenthal, *German Women for Empire, 1884-1945*, Politics, History, and Culture, eds. George Steinmetz and Julia Adams (Durham and London: Duke University Press, 2001), 69. This book is a valuable source of information regarding some of the women involved in intellectual circles in Munich in which Endell participated.

Interests of Women. Endell, who in his self-introduction by way of an image of an orchid strove to emancipate feeling from its subordination to reason, must have appealed to his clients who, by establishing themselves professionally, were themselves promoting women's claims to equality in Munich. There could be no more suitable advertisement for such clients than a building that visualized feeling as an ingredient central to conscious processes, thereby challenging all kinds of traditional views of the feminine—as weak, romantic and irrational.

Lora Wildenthal, the author of *German Women for Empire, 1884-1945*, noted that Goudstikker was the first unmarried woman to obtain a royal license to practice photography in Germany.⁹⁸ Augspurg, Wildenthal commented, belonged to "the German Branch of the International Women's League for Peace and Freedom [*Internationale Frauenliga für Frieden und Freiheit*] [along with] several important German feminists."⁹⁹ Wildenthal claimed that the Photoatelier Elvira "was a hub of gay and lesbian social life and intellectual and artistic life in Munich."¹⁰⁰ At the same time, Andreas-Salomé's thinking matched Endell's who, since the time of his studies, hoped to address the urges and needs of people in order to make them conscious and thereby *free* from the blinding illusory ways of seeing in contemporary society.

In the commission, Endell had a chance to continue his ideas about the (inter-) relatedness of form and symbol in practice. Requiring a re-design, the commission asked for a change that resonated with Endell's theory of form based in feeling as essentially a change from within. Endell embraced the task as simultaneously an expression of the building's newly defined

⁹⁸ Wildenthal, *German Women*, 66.

⁹⁹ *Ibid.*, 179. A book that came to my attention in the final stages of writing and thus could not be closely consulted is Lida Gustava Heymann and Anita Augspurg, *Erlebtes—Erschautes: Deutsche Frauen kämpfen für Freiheit, Recht und Frieden 1850-1940* (Meisenheim am Glan: Anton Haim, 1972). It promises to shed light on these early clients of Endell. Moreover, it may prove useful for the further exploration of the relation of Endell to the circle of progressive female artists, professionals, and intellectuals in Munich.

¹⁰⁰ *Ibid.*, 66. Wildenthal bases her assertions on Herz and Bruns, eds., *Hof-Atelier*.

function (of a modern portrait studio "advertising" ways of emancipation of women) and of his concept of experience consisting of contrasting feelings.

The misconstrued feeling in Elvira's exterior ornament

In the most visible part of his work—a monumental ornament on the front façade—Endell's attempt at a statement about a new way of seeing failed due to its misapplication by the construction crew.¹⁰¹ Endell's subsequently published comments in the 1900 article "Architektonische Erstlinge" aid, however, in understanding his overall intention in Elvira. In these comments, Endell claimed to have conceived a "unified ornament" (*einheitliches Ornament*) whose moving form would be "arranged within the façade."¹⁰² **[Fig. 2]** Yet he had to admit that "the whole façade was exploded by the ornament," and for this he blamed the untimely introduction of an additional window.¹⁰³

The executed "sea-green" colored façade of the two-story building with its flat roof carried a giant "cyclam-red" curvilinear ornament on a façade and this was on a scale and with a look Munich had never seen before.¹⁰⁴ **[Fig. 3]** In the end, what was to become a laboratory and

¹⁰¹ From Helge David's commentary regarding Endell, in idem, *Vom Sehen*, ed. David, 58. David published Endell's selected texts making them for the first time available in a collected form. In the commentary, David provides Endell's biography. In the course of my writing, I located an extensive account concerning Endell's work at the Photoatelier in the essay by Nikolaus Schaffer, "Architektur als Bild. Das Atelier Elvira—ein Unikum der Architekturgeschichte," in Herz and Bruns, eds., *Hof-Atelier*.

¹⁰² Endell, "Architektonische Erstlinge," 57. "Um die bewegte Form desselben [the unified ornament] der Fassade einzuordnen...."

¹⁰³ Ibid., 59. "...die ganze Fassade wurde durch das Ornament gesprengt. Die Gesamtwirkung ist dadurch sinnlos, unharmonisch und quälend geworden."

¹⁰⁴ The initial stages of the ornament's design had included work on a life-sized model in his 'studio.' Anna Endell described Endell's work on the model retrospectively: "In his working area, Endell himself modeled the model for the dragon, but not the actual dragon. Under his direction, craftsmen emplaced [the dragon] on the façade." Anna Endell to Margret Moll (Cappenberg 100b/ Lünen i. Westf. March 16, 1958). From Molls Erinnerungen an August Endell (Beilage), Marg Moll Nachlass, Deutsches Kunstarchiv im Germanischen Nationalmuseum, Nürnberg. "Den

training ground in complexity in experience (Endell even thought of changing the colors every year)—the façade with its over-sized ornament—became a source of the kind of associative thinking to which Endell was opposed.¹⁰⁵ Instead of generating an uplifting feeling, the ornament prompted people to seeing in it a stranger. Upon not finding anything they already knew in its abstract curvilinear form and unusual color of "luminous bluish purple," they associated the ornament with the unfamiliar—dragons and marine creatures among others.¹⁰⁶ The ornament in this way failed to present Endell's notion of beauty and simultaneously a way of combating a concept of identity in contemporary society consisting in seeing one-self against the foil of the other instead of seeing one-self in relation with the other.

Light design as both a form and a symbol of creation

Endell's preoccupations with the notion of a possibility of retaining the complexity of contemporary life, but reveal its origins in ethical relations, come to the fore in the interior light design of the Photoatelier Elvira. **[Fig. 4]** The interior light is an experiment in design within which all parts resonate. This experiment explores a notion of visibility of a shared boundary on all of the design's interrelated layers of meaning in reconciliation: technology and art, symbol and form, form and space, illusion and conscious experience, natural history and biology, and on the level of mind and nature. In experience, the light design would be about continuous revealing of its multiple origins in interrelation as the basis of a new way of seeing and as a determinant of

Drachen selbst nicht, sondern das Modell dazu, hat Endell in seiner Bude modelliert. Auf die Façade wurde es unter seiner Leitung von Handwerkern aufgetragen."

¹⁰⁵ Margret Moll recalled that Endell planned to re-paint the façade every two years. From Moll's unpublished recollections of August Endell. Marg Moll Nachlass.

¹⁰⁶ "Meiner Erinnerung nach lagen die Ornamente der Façade auf einem lichtgehaltenen bläulichen Lila, das [Endell] gern verwandte." Anna Endell to the Direktion der Bayerischen Staatsgemäldesammlungen in München, February 20, 1958. Endell family private papers.

future vision. Endell experimented here in a design of a "science of consciousness" using pre-Gestalt experimental exercises in perceptual psychology concerned with continuity in vision—perceptual grouping of elements and perception of space through processes of illusion and its reversal.¹⁰⁷

Despite the design's complexity its origin in nature is immediately evident: the design appears as a form of growth. The formation spreads its stuccoed roots above the arch and its branches across the ceiling in a tree-like formation with roots laid bare. The giant branches on the ceiling reveal their pattern in detail, presenting the familiar morphology of veining of leaf. The leaf draws attention with its overwhelming scale and familiar look becoming in experience the ur-form in nature of the light design while, at the same time, paying homage to Goethe's principle of morphology. The design is simultaneously a symbol and a form of creation that has its ur-form in a leaf. Endell's friend, the painter Margret Moll, claimed that Endell considered a leaf the essential form from which he derived his designing principles for a piece of furniture that he had designed for her and her husband, the painter Oskar Moll. She claimed: "As the elemental form for these delicate and indeed so decorative inlays that he brought [into the design], Endell

¹⁰⁷ Theodor Lipps was concerned with visual illusions especially in the years in the 1890s when Endell was in Munich. In regard to Endell, Lipps has been generally known only for a theory of empathy. I focus on establishing Endell as an experimenter according to a design concerned with emergence of space as a shared boundary between nature and culture, a concept with which he went beyond psychological investigations. This strikes one for its similarity to Arthur Schopenhauer's (1788-1860) philosophy, which appropriated the concept of illusion from Eastern philosophical traditions. Idem, *The World as Will and Representation* (1818/1819) In, Kirsten Wagner, "Die Beseelung der Architektur. Empathy und architektonischer Raum," in Curtis and Koch, eds., *Einführung*, 49-78. Wagner has shed new light on Lipps, arguing that the foundations of his investigations lay in physiology. Moreover, she has asserted, for instance, that Lipps followed Hermann Helmholtz in his assertion that optical illusions are based in *Urteiltäuschungen*, meaning in experience and habit. My explorations of Endell's concern with ways of reversibility of illusory seeing stem from Endell's discussions in his letters of the issue of (in-)visibility of ethical relations in complex forms of life, and in the analysis of his works. It bears emphasizing, that Wagner's discussion is a valuable piece of research regarding Lipps' work in relation to architecture and architectural theories in Germany that needs to be taken into account in any future work on Endell.

developed almost everything from a leaf. He was able to endow [a leaf] with diverse, strange forms; for him, it was at the same time one of the ur-forms of creation."¹⁰⁸

In his *Versuch der Metamorphose der Pflanzen zu erklären* (Metamorphosis of Plants) (1790), Goethe discussed a leaf as the part from which all other parts of a plant derive. Annika Waenerberger has cited Goethe on the topic of morphology and on a plant as a Gestalt: "The plant was in this sense a unity, and through the reproduction of this unity it formed itself as a multiplicity, but at the same time through subordination to a new, more elevated unity."¹⁰⁹ Endell designed it as an experiment in morphogenesis of experience along with processes of coordination and subordination—an experiment in unity and multiplicity. This notion of form resonates with the lecture given in the Akademischer Verein für Psychologie (noted earlier) in 1898 of the construction of Elvira. Endell's light design, which investigated a possibility of both coordination and subordination, calls to mind the lecture given in the Verein on *Observing* concerned with issues of simultaneity in vision.

The simultaneously branching and branched designed form demonstrates relatedness in nature both symbolically and literally. The reciprocally constructed branching pattern expresses relatedness in nature with the notion of diversity in unity. At the same time, the branching becomes a technique in visualizing relatedness in nature along the lines of probably the most

¹⁰⁸ Moll's unpublished recollections, Marg Moll Nachlass. "Als Grundform für diese zarten und doch so schmückenden Intarsien, die er anbrachte, entwickelte Endell fast alles aus dem Blatt, dem er die vielfältigen, seltsamen Formen geben konnte; es war für ihn gleich eine der Urformen der Schöpfung."

¹⁰⁹ On the discussion of Urpflanze and ornament, see Annika Waenerberg, "Urpflanze und Ornament. Pflanzenmorphologische Anregungen in der Kunsttheorie und Kunst von Goethe bis zum Jugendstil," *Commentationes Humanarum Litterarum* 98 (1992). Chapter 3, "Morphologie und Kunstbetrachtung," offers an analysis of Goethe's text. "Die Pflanze war [demnach] eine Einheit, die sich durch Reproduktion dieser Einheit zu einer 'Mehrheit' aber gleichzeitig durch Subordination zu einer neuen höheren Einheit gestaltete."

fundamental representation of nature in the nineteenth century—Charles Darwin's tree of life.¹¹⁰

The design aspired in this way a concept of natural science based in bridging Goethe's teleology (of art and nature) and the modern notion of evolution, presenting a vision of progress based in processes of modulation in nature. Endell's earlier notions of philosophy as a science reflected in this feature of the design.

Next the design explores its origins in illusion and its reversal, bringing to the fore a notion of a designed form as space in which awareness arises in experience of contrasting feelings. Specifically, lit from below, the "leaf" above seems to protrude into the space of the observer floating like a giant leaf in the space above. Being most visible it would be the first to draw attention. The root-like part below recedes from view at this moment and the ornament's physical and symbolic origins become obscured. This is a staged illusion of an unmediated experience triggered by unconscious seeing. The lower part would come into view due to the structuring of the ornament according to the principles of perceptual grouping based in the criterion of similarity. At this moment, the experience of a false sense of authenticity would reverse into a destabilizing feeling of (its) loss—a feeling of pain that, however, would solicit awareness.

The design evokes processes of resonance in yet another related way—with form's aspect of self-similarity. All of its parts become visible as both the same yet different—as self-similar. The giant branching pattern above makes visible what in fact is a small-scale formation in nature. The diminished branched root, by comparison, makes an otherwise fairly visible pattern in nature

¹¹⁰ Evolutionism played a great role in German culture at the end of the century. Among the Jugendstil artists, perhaps the best-known proponent of Darwin's evolutionary theory was the zoologist, artist and illustrator Ernst Haeckel (1834-1919), renowned for the publication of his scientific drawings of organisms between 1860s and 1900s. In regard to Jugendstil, Greenhalgh has stated that by the 1890s, the work of evolutionists all over Europe led to a new vision of nature, which came to act powerfully on the central sphere, and not least upon the decorative arts. See Paul Greenhalgh, "Cult of Nature," in *Art Nouveau*, Greenhalgh, ed., 54-71.

difficult to discern. This play with scale brings up an experience of varying scales becoming visible interchangeably, conveying a form of continuum whose parts are both continuous and discontinuous by virtue of their being self-similar. This would render them both same and different. The design "theorizes" empathy not as a fusion of form's parts—and implicitly of form and observer, but as a process that calls for its parts' autonomy and unity at the same time.

Like in a laboratory experiment, the design stresses light as central to experience. On the physical level of the form, time is evoked symbolically through light. There is a branching pattern that comes into focus as the origin of continuity in perception—the middle part of the iron rods bearing light bulbs. Having been "trained" now in grouping of elements based in similarity, the observer would now accommodate to seeing similarity here also, despite the varying scales. With their fan-shaped pattern, the outstretched rods would appear self-similar to the leaf above—as its abstracted version revealing the leaf's structure in iron. The two superimposed patterns would make the newly encountered iron in the design visible (both literally and symbolically) as structural "material." The design manifests an interrelation of processes of abstraction and empathy.

Echoing each other, the metal rods and the most visible veins of the pattern on the ceiling too would facilitate a new kind of a space in experience—a space filled with resonance. Within this space, the rods make visible the mysterious source of the created form as a place of interrelation of the sensory and perceptive processes. The design aspires to demonstrate a principle of unity in nature by symbolically expressing creation as based in structural iron and electricity. It thereby presents a symbol familiar in western culture—a symbol of creation—in a new way. Echoing each other also in the number of their respective parts, the seven rods and seven main veins of the pattern above evoke one of the most powerful symbols in western

thought, the number seven. As the symbol of creation (six days of creation followed by a day of rest), the number seven continues the symbol of God-the-creator in the observer as the creator of modern form. The outstretched rods, symbolic of processes of light, continue the symbol of God's creation by shaping a form through structure and light.¹¹¹

Endell's interior light suggests the importance for him of a design's ability to express space in its function of a shared boundary. Moreover, Endell's designed theory of experiential form communicated one more essential feature: namely, the interior ornament evokes time recursively structured, suggesting a concept of design (and architecture) as curved space in whose construction (and perception) memory and feeling in interrelation play a central role. Specifically, Endell experimented in a construction of continual experience in a way that conveys the mechanics in which each previous view would become the origin of the present view, as well as would indicate the direction of future view within a continuum of ceaseless change. In experience, this continuity would be evoked with processes of memory, seeing and future vision. Endell thereby implied design and architecture as media capable of expressing social utopia through "architecture" of experience based in empathic relations. The interior design might be seen as an experiment in the notion Endell entertained as a student: that is, in a designed "science" of consciousness. It is a laboratory of experiential form rooted in interrelated rhythms of its varying spatial and temporal scales—design that aspires to express the architecture

¹¹¹ Endell's design of recursively structured self-similar continuously changing pattern could be set within a context of concerns with crystals relating to the discourse concerning the cultural phenomenon of *Lebensform* in late nineteenth century. For a discussion of Ernst Haeckel's living crystals see Spyros Papapetros, "On the Biology of the Inorganic: Crystallography and Discourses of Latent Life in the Art and Architectural Historiography of the Early Twentieth Century," in Botar and Wünsche, eds., *Biocentrism and Modernism*, 107-26. Papapetros discusses this interest in living crystals in the context of questions of life in anorganic forms. In regard to the origins of a crystal metaphor with a special emphasis on the discourse on the crystalline as a symbol in German art and architecture, see Regine Prange, *Das Kristalline als Kunstsymbol: Bruno Taut und Paul Klee* (New York: Georg Olms, 1991). In modern architectural history, the crystalline metaphor is generally associated with expressionism in architecture. See Rosemary Haag Bletter, *Bruno Taut and Paul Scheerbart's Vision: utopian aspects of German Expressionist architecture* (Ph.D. diss., University of Michigan, 1977).

of human brain based in a mechanism of empathy rooted in the intertwined processes of feeling and memory.

There was a contemporary of Endell, the philosopher and graphologist Ludwig Klages¹¹² (1872-1956), who in fact described Endell's design of Elvira as akin to the cerebral cortex: "I would like to compare [Elvira's] interiors with the cerebral cortex (though with angled instead of curved relations) projected onto the exterior."¹¹³ This statement illuminates a striking connection to Endell's interior ornament. Moreover, Klages' analogy—just like the ones people made about Elvira's exterior ornament, when seeing it as "the other"—pointed out yet another stranger in relation to Endell's work—the brain. With its aspiration to visibility of consciousness, the design attempts to convey the opposite: namely, that its form is in fact the most familiar. The brain was a familiar subject for Endell since, as previously discussed, he studied its anatomy (in 1895) in Munich.

Among its multiple interrelated levels of meaning, the design evokes the cortex as a form continuous with art and nature: it resembles an active brain (in cross-section) as a variation on the branching structure of a form seen in nature and on symbolic form constituted by the

¹¹² During Endell's time in Munich, the philosopher Ludwig Klages was becoming famous, especially as a member of the so-called Munich Cosmic Circle, a group of intellectuals interested in reviving ancient, mystical, and Germanic pasts in their writings and related endeavors. See especially the first volume of Hans Eggert Schröder, ed., *Ludwig Klages: Die Geschichte seines Lebens* (Bonn: H. Bouvier, 1966). On the cultural milieu in Munich at the turn of the century, see also Werner Ross, *Bohemiens und Belle Epoque. Als München leuchtete* (Berlin: Wolf Jost Siedler, 1999). Furthermore, on the poet Stefan George, who was associated with the Munich Cosmic Circle apart from his own George-Circle, see Robert E. Norton, *Stefan George and his circle* (Ithaca: Cornell University Press, 2002). These accounts show the extraordinarily rich life in Munich at the end of the century. The poet George was greatly influential at that time. Endell wrote in a letter to Breysig (undated), presumably from 1896, the year of the publication of Endell's own collection of poems, that "from [George], he had learned form and resonance." In regard to the artistic circles in Munich, see Peg Weiss, *Kandinsky in Munich: The Formative Jugendstil Years* (Princeton: Princeton University Press, 1979).

¹¹³ This is a completely unknown analogy with respect to the Elvira ornaments. Schröder, *Klages*, 248. Schröder does not provide footnotes in his text, although in the first two volumes dedicated to Klages' biography he cites Klages' archives as a source for the great extent of quoted letters. "Seine erste im grossen durchgeführte Leistung war das photographische Atelier 'Elvira' in München, dessen Räume ich der nach aussen projizierten g r a u e n H i r n r i n d e (allerdings mit Winkel- statt Biegenbindung) vergleichen möchte."

interrelated processes of contrasting feelings. It reveals biological form as an interrelation of all of its scales. In the case of the brain, it makes visible interchangeably the structure of the cortex to the same degree to which it makes simultaneously visible the structure of the brain's smallest particular (known at that time, perhaps a branched Purkynje cell). The design's two main parts (in interrelation) evoke the relation of the cortex's two main parts: the *cerebellum* (the base/root of the brain) with its parallel folds, and the voluminous *cerebrum* with its "veining." [Fig. 5] As a form of both a physical and a perceptual continuum, the design evokes the continual relation between the cerebellum and the cerebrum (in the design this would have been visible as especially the part containing the occipal and temporal lobes).

Today, we know that the occipal and temporal lobes are the centers for processing vision, hearing, memory and emotion. The cerebellum, on the other hand, is a center for motor function and balance. We do not know, however, in what particular ways these parts interrelate. At the end of the nineteenth century, Endell designed a model form of morphogenesis of experience in ways that suggest an elastic brain constituted by a rhythm based in time's (forms' and space's) processes of recursivity: a rhythm of form's various interrelated spatial and temporal scales. Endell's light design both presents and represents a form of balance based in elastic movement. It conveys an experience structured through the interrelated processes of seeing, feeling, and thinking, whereby memory (visible in Endell's design of a recursively structured vision) stands forth as the basis of creative seeing. His design theorizes the reciprocity conditioning the relation between consciousness and its form. To the degree to which Endell's designed theory of experience reveals feeling as the fundament of consciousness, and structure and light as the fundament of modern design, it simultaneously reveals time as the fundament of the brain in

structuring experience out of continual processes of reciprocal reflection of its parts in which both processes of empathy and abstraction coexist.

Overall, with its unusual appearance accentuated by light in this location in the reception room, the design calls to mind a trophy above a triumphal arch. The design is thus placed strategically, seeking to evoke an experience of victory. During their wait for the image of themselves, the clients would have a chance to see themselves in a new way—aware of both their body and mind as the constituents of experience and thereby as themselves in an empathic relation with others. When passing through the arch on their way to the studio, the victory thereby suggested would be about fostering empathic relations by elevating feeling from its subordination to reason. In the context of the commission by female professionals, this would be, at the same time, a victory for visibility of women as constituents of modern society as opposed to conceiving them as the weak, emotional, irrational— "other."

First, we will teach the pure ornament—in the broadest sense understood as an artistic form in general—and, only then, arts, crafts, and architecture.

—August Endell, 1904¹

CHAPTER TWO

Endell's School of the Art of Form, 1904-1914

This chapter investigates Endell's experimental Schule für Formkunst in Berlin (School of the Art of Form, 1904-1914), where he undertook extensive efforts in fostering the visibility of his theory of experiential form. The chapter takes up the challenge of reconstructing Endell's pedagogy on the basis of the mere handful of extant documents from the school, involving curricular iterations and course-work. In documenting and supporting of my interpretations, I will also present close analyses of Endell's advertisement for his school, as well as rare examples of students' drawings.²

The chapter will launch the discussion of Endell's school first by considering what can be seen as the early sparks in Endell's thinking on design—Endell's meditation on a society based in

¹ August Endell, "Kunstgewerbliche Erziehung," *Berliner Tageblatt*, Beilage, *Der Zeitgeist* 33 (August 13, 1904). Reprinted in Endell, *Vom Sehen*, ed. David, 109. "Zuerst wird man das reine Ornament lehren—im weitesten Sinne als künstlerische Form überhaupt verstanden—und dann erst Kunstgewerbe und Architektur."

² "Schule für Formkunst" (1904), a typed loose-leaf document, Staatsbibliothek Berlin Preussischer Kunst, Handschriftenabteilung, Nachlass Kurt Breysig, Kasten 5. "Schule für Formkunst Drittes Jahr" (September, 1906) a typed loose-leaf document, Nachlass Kurt Breysig. "Abschrift Schule für Formkunst, Vorträge über Architektur" (October, 1907), Akademie der Künste Archiv, Berlin, Baukunst Abteilung, August Endell Nachlass, End 01-38. Hanns Jacob, "Versuch einer Wiedergabe der pädagogisch-praktischen Kunstlehre von August Endell (1906) durch eine systematische Disposition," Nachlass Endell, End-01-39. The preceding is a typed loose-leaf document produced in retrospect by Endell's former student, the architect Hanns Jacob. There is one further such document that was produced by Hanns Jacob, "August Endells: Schule für Formkunst. Zu: Formwirkungen" (1 October 1950), Nachlass Endell, End-01-40. Endell's advertisement for Schule für Formkunst is in *Kunst und Künstler* 7, no. 8 (1904), and the three examples of students' drawings (two dated 1905 and signed by Schweller), are from a private collection in Germany. Translations from the German are my own.

relations among people, on the one hand, and in the collective work of craft informed by art and science, on the other hand.³ These early conceptual stirrings will be contextualized through a discussion of the thought and work of his contemporary at the Ludwig-Maximilians-University, the professor of social economy Lujo Brentano (1844-1931). The seeds of the idea of unifying applied and fine arts in a workshop type of education can be traced to the English Arts and Crafts movement. While focusing on ideas that were circulating in academia in Endell's day regarding how to sustain contemporary economy while making it human-centered, the account in this chapter does not deny the influence of the much discussed English Arts and Crafts movement on the education of craftsmen and architects in Germany. However, the account will show that, during Endell's time as a student when he was playing with ideas about bridging between contemporary economy and craft, L. Brentano's interest in the history and development of guilds drew attention to their possible relevance in the context of contemporary economy.

When Endell first advertised the school in 1904, he stated the title (*Schule für Formkunst*), his name as director, and the program: drawing and modeling free forms, design of carpets, wallpaper, textiles, lighting fixtures, and furniture.⁴ This situated the school and its curriculum within the practice of the applied arts. Neither in the title of the school, nor in the advertisement's text, did Endell presume to identify possible future professions for prospective

³ The connection of the English Arts and Crafts movement and workshops of design in Germany has been widely recognized. On the Arts and Crafts movement in general, see Elisabeth Cumming and Wendy Kaplan, *The Arts and Crafts Movement*, World of Art (London: Thames & Hudson, 1991), especially chs. 1-3; chapter 6 includes a brief discussion of Germany. See, for example, Gillian Naylor, *The Arts and Crafts Movement: A Study of Its Sources, Ideals, and Influence on Design Theory* (Cambridge, MA: MIT Press, 1980). John Heskett, *German Design, 1870-1918* (London: Trefoil Publications, 1986). For ideas concerning the role of the decorative arts in society, see essays by leaders of the English Arts and Crafts movement, in *The Collected Essays of the Arts and Crafts Exhibition Society*, with a preface by William Morris (London: Rivington Percival CO, 1893), repr. with a new introduction by Peter Faulkner (Bristol: Thoemmes Press, 1996).

⁴ August Endell's school is listed under *G.m.b.H., Architektur und Kunstgewerbe*, with August Endell as the company's director, in the Addressbuch, Landesarchiv, Berlin. (The same source informs that in 1902, Endell was listed as an architect in Berlin—Zehlendorf, Karlstrasse 20.)

graduates. With this omission, he took a stand against professionalizing crafts (and architecture) as separate domains, instead including them under the general category of the art of form that could be achieved through training in the constituent processes of free form. Throughout a three-year program of study, Endell emphasized drawing and modeling of free forms, as well as craft and architecture as related artistic practices that had their origin in a concept of ornament demonstrative of the natural laws of formations. He guided students systematically in a *practical theory* of pure, applied, and built form—thereby continuing to explore a notion of experiential form continuous with a universal ordering principle.⁵

The school's experiment(s) asserted the necessity of designing forms that were generative of ceaselessly changing foci, impelling students to become both experimenters and experimentees with consciousness. On the one hand, exercises and projects were experiments in techniques of experiential form; on the other, the school was an experiment in a form of institutional autonomy. Overall, Endell's pedagogy consisted of the interrelation of scientific and artistic processes, seeking to generate crafted and built form as creative act. Ambitious to facilitate autonomous ways of form and seeing, Endell school can be considered a "laboratory" of social change. With the school in Berlin, Endell entered a new phase in his effort to make programmatically available his concept of experiential form. Although the school exhibited organizational principles of a simultaneously branched and branching institution—a significant continuity with respect to the designing principles of Endell's interior light in the Photoatelier Elvira in Munich—Endell now transitioned from that earlier semi-Bohemian endeavor in a commission for well-to-do clients in Munich to a career in Berlin that was partly entrepreneurial,

⁵ Endell, "Kunstgewerbliche Erziehung," in idem, *Vom Sehen*, ed. David. Here Endell referred to his school as dedicated to craftsmen and architects. In the subsequent revised founding documents, he added theories about building forms, and a lecture series in architecture, among other things.

partly administrative, and fully that of a teacher invested in widely "publicizing" a designed "science" of consciousness through pedagogy.⁶

With its practical orientation, Endell's school participated in a movement along a broad front in Germany to reform education in general. This movement accompanied rapid industrialization and progress in research in the natural sciences. Overall, these changes were a manifestation of a growing determination to teach scientific method in order to enhance economically relevant processes and application techniques.⁷ Science now also came to permeate education in the applied arts in newly emerging schools that emphasized a practically oriented, workshop-type of inquiry. At the beginning of the twentieth century in Germany, new private and state schools for the applied arts were beginning to emerge under the directorship of artists and architects. Among these were Hermann Obrist and Wilhelm von Debschitz's Study- and Experimental Workshops for Applied and Fine Arts, founded 1902 in Munich; the Royal School of Art and Applied Arts in Breslau under the direction of Hans Poelzig; the Royal School of Applied Arts in Berlin under Bruno Paul; the Düsseldorf School of Applied Arts under Peter Behrens; and the School of Arts and Crafts founded in Weimar in 1907, under the direction of Henry van de Velde.⁸

This rise of these new types of schools coincided with a period of unprecedented expansion of education in Germany that began in the second half of the nineteenth century. As

⁶ August Endell's school is listed under *G.m.b.H., Architektur und Kunstgewerbe*, with August Endell as the company's director, in the *Addressbuch*, Landesarchiv, Berlin. (The same source informs that in 1902, Endell was listed as an architect in Berlin—Zehlendorf, Karlstrasse 20.)

⁷ Michael Stürmer discussed the changes in Germany's educational system in detail in his chapter, "Wissen ist Macht." Idem, *Das ruhelose Reich: Deutschland 1866-1918*, Siedler Deutsche Geschichte (Berlin: Siedler, 1998), 120-40.

⁸ For a detailed discussion of these schools, see John Maciuiika, *Before the Bauhaus: Architecture, Politics and the German State, 1890-1920* (New York: Cambridge University Press, 2005).

noted, schools on all levels reoriented their curricula in ways that identified a direct application to economically prosperous areas of work. Education came to stand in the service of society's economic growth and progress. The political motivations invested in this meant that there were close links connecting the growth of schools, the rise of new specialized subjects, and even the growing number of crafts oriented schools that opted for a hands-on approach.⁹ Schools of applied arts sought to formulate an aesthetic principle that resonated with the needs of modern society, with its technological progress and unlimited faith in reason. In architecture around 1900, attention was turning to the concept of objectivity (*Sachlichkeit*), and this concept also informed the orientation toward schooling in applied arts. The main proponent of this concept was the German architect Hermann Muthesius (1861-1927), who saw the model of an objective principle of *Sachlichkeit* in the English Arts and Crafts movement and who strove to practice it through modern design.¹⁰

The interest in Arts and Crafts in Wilhelmine Germany was, however, far from being a matter of mere aesthetic ideals; rather, it was simultaneously informed by urgent debates concerning commercial policies towards the applied arts.¹¹ A spectrum of politicians in fact counted on and sought to ensure the continued presence of a broad-based class of craftsmen, a prized characteristic of whom was their considerable degree of economic and political independence, certainly by contrast to the swelling ranks of the industrial working class drawn in

⁹ Stürmer, *Das ruhelose Reich*, 133.

¹⁰ Hermann Muthesius was a German reformer of arts and education. Muthesius derived the ideal of *Sachlichkeit* from his study of English architecture in England, where he had been sent by the German government in 1896-1903. Muthesius published on this topic in *Die englische Baukunst der Gegenwart* (1900). On Muthesius, see Stanford Anderson, introduction to *Style-Architecture and Building-Art: Transformations of Architecture in the Nineteenth Century and Its Present Condition*, trans. Stanford Anderson (Santa Monica, CA: Getty Center, 1994), 1-43.

¹¹ See Maciuika's discussion on the hybrid nature of the various Wilhelmine German reformers and their activities, with the example of Herman Muthesius. Maciuika, *Before the Bauhaus*, 16-24.

large numbers to Social Democracy. John Maciuika has asserted that the most prominent figure to support the preservation and nurture of this so-called *Mittelstand* was Otto von Bismarck himself, the German Imperial Chancellor (1871-1890).¹² Bismarck feared that the demise of these small and medium-sized enterprises, with their particular anchoring function, would expose Germany and its political system to the threat of revolution.¹³

In order to forestall such a development, Bismarck attended to ways in which craft could be turned into a stabilizing force, the continued healthy presence of which would even promote the country's expansionist trade policies. Bismarck was therefore an important ally for those who supported the striving in German culture to revive craft as a model type of work. The contributions of schools to the revival of craft stood in a reciprocally supportive relationship to official policies regarding the *Mittelstand*, combining to promote a particular vision of the sustainability of progress in Germany. With their practically oriented workshops, the new schools of applied arts reflected the expansion of *Bildung* (education). They participated in a gradual replacing of the post-Enlightenment ideal of education for the artist and intellectual, in the sense of self-cultivation. Whereas the idealism of the post-Enlightenment that accompanied the rise of education and science had heralded "endowing man with ways to oneself and to a life filled with sense through education," under the economic conditions of Endell's day this model morphed into an inquiry that focused on science as the arbiter of economic progress.¹⁴ Especially

¹² Ibid. 20-21.

¹³ The historian Volker Berghahn provided a telling statistic concerning the position and prospects of the *Mittelstand* when he noted that the situation of "artisans and small shopkeepers remained precarious," so that between 1882 and 1907, "the share of the self-employed declined from 25.4 percent to 18.8 percent." Volker R. Berghahn, *Imperial Germany, 1871-1914: Economy, Society, Culture, and Politics* (Providence and Oxford: Berghahn Books, 1994), 8.

¹⁴ Ibid.

the traditional component of a relation between knowledge and moral cultivation in *Bildung* was getting lost.¹⁵

Endell's school prioritized scientific method in a unique way: his school was based in the traditional model of *Bildung* as well as in the innovative tendencies within modern education. Endell believed in progress, and he addressed the issue of its sustainability with a form of education that was based in scientific method at the same time as it continued the post-Enlightenment tradition of a relation between knowledge and moral cultivation. As such, by contrast to the contemporary trend, the school was a form of critique of contemporary education vis-à-vis (the nature and structure of) its primarily economic orientation. Specifically, Endell's school critiqued the eclipse of moral (self-)cultivation in education because of the danger this posed to the visibility of the individual. By contrast to an inquiry oriented around commercial policies, Endell was concerned with an inquiry via processes of both scientific method and artistic creation. He explored a form of inquiry that would be capable of revealing, on the one hand, processes of vision as a creative act that fosters ethical relations, and on the other, he critiqued contemporary ways of seeing as a misleading construct. Endell thus strove to instruct in a path of (self-)discovery, one that would guide students to the creative potential of seeing, thinking, and feeling as an action potential for social change.

The school embodied the principles of both a formation (*Bildung*) and a formative journey (*Bildungsreise*). The core of Endell's pedagogy was a "science" of designed form based in feeling. The school's teachings and organization built upon the structure (and nature) both of a natural formation and of a symbol. On the one hand, the school's program, curriculum, courses,

¹⁵ A valuable explanation of the concept of traditional *Bildung* in Germany, elaborated by Wilhelm von Humboldt, is in Barry Bergdoll, *Karl Friedrich Schinkel: An Architecture for Prussia*, with photographs by Erich Lessing (New York: Rizzoli International Publications, Inc., 1994). The author establishes a relation between the Humboldtian ideal of *Bildung* in Prussia and the concept of public architecture explored by Karl Friedrich Schinkel. See especially pp. 46-48.

and individual exercises were all interrelated in a simultaneously branched and branching pattern of inquiry. On the other hand, the school had the paradoxical form of a symbol: it was an effort towards an autonomous institution. It exhibited the structure and nature of a paradox based in a form of reconciliation of opposites that had its module in a relationship of guidance and autonomy between the teacher and the student.

The concept of the education of the artist and intellectual of the eighteenth and nineteenth century—an obligatory formative journey (*Bildungsreise*)—and the twentieth century concept of education—formation through experiment—intersected in the concern at Endell's school with the morphogenesis of experience. The school's organization, as well as teaching principles that Endell (as the only teacher) implemented in his school, manifest an effort at developing a pedagogy suited to an applied arts artist and architect for whom designed and built form would resonate with construction of feeling, or what I have characterized as architecture of conscious experience. The school's organization illuminates an effort to accommodate both the physical and the symbolic aspects of modern education in an elastic form, in keeping with Endell's evident aspiration that the school should symbolize his notion of a crafted and built form as a ceaselessly changeable form of progress. All of the school's parts were to be self-similar, cultivating this characteristic of sameness, yet difference, in the work of the students.

As the documents concerning the curriculum strongly suggest, the school's structure implied that its graduates would be equipped to go on designing society in ways that would reflect and perpetuate their own formative experiences geared to "developing the sense of form and elasticizing the imagination."¹⁶ Endowed by Endell's training with a sensitivity for processes of simultaneously branching and branched formation, students would have the capacity to

¹⁶ Endell, founding document from 1904. "Man kann den Formsinn entwickeln, die Phantasie geschmeidig machen[.]"

construct self-similar forms on all scales of life, to turn society into a matrix of autonomously developing, and implicitly harmonious, institutions. Through modulating processes of reciprocal reflection, society itself would become a creative act—an inherently transitional form. Every detail in the school's organization was essential to the school as a whole. Endell even planned to modify the course of study by switching the order of exercises in an annually reissued curriculum, and he diversified the experience of the students further when he proposed an expected class size of 10-12 male and female students, a number that would permit an individualized approach.¹⁷ With this emphasis on diversity among those who would study the design of experiential crafted and built form, it can be argued that Endell sought to model a school committed to a principle of unity in diversity.

In a deliberate and cumulative approach, the curriculum (discussed later in the chapter) built upon entry-level knowledge of constructive processes of ornament as experiential form, while it expanded this base by way of design exercises in new techniques, media, and dimensions. Inquiry structured in such a way would enable students to see techniques, media and dimensions as variably relatable, thus training students' imaginations in elasticity. Students would explore the possibility to see (and think) in ways, perhaps in dimensions, foreclosed to others owing to habituation. Within an experiment involving ceaselessly shifting foci, students would explore *time*, and feeling, as the fundament of experiential form in ways that stressed designing principles associated with a thoroughly transitional form. Endell's aspiration to teach "aesthetic geometry, a harmony to a certain extent," took shape in his efforts to teach designing

¹⁷ Ibid. "...Unterricht wird jedes Jahr wiederholt, aber im Interesse der älteren Schüler in veränderter Reihenfolge und mit anderen Beispielen.... Aufgenommen werden Damen und Herren, doch nicht mehr als 10-12 Teilnehmer im Ganzen, um einen möglichst individuellen Unterricht zu gewährleisten."

principles informed by a study of form-making in nature, study of geometry, and study of musical concepts.¹⁸

Endell's early theorizing of a society based in ethical relations

In 1892 when Endell was still a student, he entertained ideas that may have stirred his interest in founding a school as an organic—transitional—form based in craft, and informed by art and science. In a letter to Breysig from 1892, Endell described life as consisting of two parts: "relations/communications among people and people's collective work, or the ethical part and the technical part."¹⁹ Next, he divided the former into relations vis-à-vis individual-to-individual, class-to-class, and state-to-state, thereby suggesting society as a form of modulation based in relations on all of its scales.²⁰ Once Endell established this modulating pattern, he suggested a way of instilling morality in society. He proposed "the collective work of craft, in its broadest sense, as work based in art and science, whereby the latter two are the supports of craft."²¹ In fact, according to Endell, ethics and technology intersected in society at the point of commercial activity and trade.²²

¹⁸ For a closer discussion of Endell's exploration of musical complexes and compositional considerations in regard to design, see also Chapter Three.

¹⁹ Endell to Kurt Breysig, April 2, 1892, from Naumburg. "Das Leben gliedert sich in zwei Teile, den Verkehr der Menschen unter einander und die gemeinsame Arbeit der Menschen, oder den sittlichen und den technischen Teil des Lebens. [...] der erste gliedert sich in den Verkehr von Mensch zu Mensch, von Klasse zu Klasse, vom Staat zu Staat; der andere im Gewerbe (im weitesten Umfang) in Kunst und Wissenschaft. Das Gewerbe aber bedarf der beiden letzteren als Stützen. Zwischen den beiden Hauptgruppen steht der Handel, weil hier technisches und sittliches sich kreuzen." This is also the letter in which Endell pondered the possibility of both subjective and objective knowledge in regard to Kant's thought (discussed in the previous chapter).

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

Endell's description reveals a visualization of form's processes as a pattern of interrelated rhythms in the construction of an intersection of these two domains. This points to Endell's envisioning of a society where individuals (in relations) and economy were to become simultaneous foci of visibility: that is, he evoked an image of a modern system whose progress was conditioned by society's base in ethics and technology. The description makes evident a notion of modern life as an elastic formation that is both organic and invented. Endell's concept of such a form indicates an attempt at a reconciliation of the elementarist and holistic conceptions of phenomena within a "form" of life as a continuum made up of coexisting opposites: a permanently changeable multidimensional form based in a feeling of harmony modulated through processes of reciprocal reflection.

Endell's description conveys "life" through interrelated sets of opposites: of individual and society, ethics and technology, and finally, movement and rest. His concept of relations among people can be understood as endowing life with mobility, whereas collective work was thought of as imparting a stabilizing effect. Such a conception of life as essentially a multidimensional form of balance, it can be inferred, would make contemporary society visible, by comparison, as fixed in time and space—incapable of progress. Moreover, proposing craft as a model for modern collective work, Endell evoked the historical origin of modern society in the principle of work in medieval society, but a principle now reconciled through means of modern technology. From these thoughts, it is evident that Endell assigned to craft a crucial role in facilitating elasticity on the socio-economic level. Generally speaking, craft was historically practiced in a guild setting. It was a collective enterprise that made individual craftsmen and their work visible as meaningful to the society as a whole. Crafted goods produced in workshops were similar yet never identical, reflecting the diversity of the individual craftsmen.

With this notion of collective work based in craft, one can reasonably speculate that Endell had in mind continuing the historical origins of modern society in craft's capacity to constitute society as a continuum of diversity in unity. Invoking such a form of life in this thought experiment, Endell secularized the God-centered ideal into a human-centered ideal of unity through processes by which collective work in modern society would be based in art and science. The 1892 letter to Breysig therefore highlights Endell's advocacy on behalf of a modern secular form of diversity in unity by continuing the ideal of craft without the need, advocated by the English Arts and Crafts movement, to return to a pre-industrial past. When Endell specified that collective work (modeled after craft) should be mediated by art and science, he demonstrated optimism with regard to possibilities for progress even in the face of seemingly intractable problems confronting contemporary society. Endell asserted that his notion of "philosophy" had the "task of determining the mission of mankind."²³

Next, Endell sketched the way in which this "philosophy" would operate. He suggested that such a philosophy's "main direction in research would consist in proving the necessity of communal life [*Zusammenleben*]," and that furthermore, it "would have to make clear the emergence of craft production [and] trade; art and science; and the rise of morality [ethics] in their three-fold relation."²⁴ Endell continued the explication by noting,

specific areas of research would flow from that: firstly, ethics as the basis for human relations; secondly, aesthetics as the basis for art; and thirdly, theory of knowledge as the

²³ Ibid. "...die Aufgabe der Menschen festzustellen, scheint mir die wahre Aufgabe der Philosophie zu sein." This notion of "philosophy" as a new area of knowledge is discussed in Chapter One.

²⁴ Ibid. "Genauso teilt sich die Philosophie. Eine Hauptuntersuchung würde die Notwendigkeit des menschlichen Zusammenlebens nachzuweisen und dann die Entstehung von Gewerbe Handel, Kunst und Wissenschaft, und die Entstehung der Sittlichkeit in der dreifachen Beziehung aufzuzeigen[.]"

basis for science. Craft would have its basis in both aesthetics and theory of knowledge; trade would have its basis in all three [ethics, aesthetics, and theory of knowledge].²⁵

Endell further expressed his conviction that, "in this way it would be possible, or so I believe, at least to consider the tasks of man from a unitary perspective."²⁶

Toward the end of this long letter, Endell sketched his plans for the three years prior to his graduation, which included "perhaps studying national economy to some extent," and after that, "dedicating his attention fully to this 'philosophy.'"²⁷ Endell strove to explain that what "moves him" about this particular area of knowledge was that it could help determine methods in the sciences. Whether, or on what level, Endell further engaged with the subject of national economy during the next three years while he was a student in Munich is not clear. His interest in the subject in relation to craft was, however, contemporaneous with the thought and work of a reform-minded professor in social economy in Munich, Lujo Brentano. At Endell's school later, when instructing in the design of experiential crafted and built form, a concern with craft based in art and science would become a bulwark of his notion of design as a means of shifting the foci of visibility in contemporary society in ways that would make the individual, as well as the economy, visible as meaningful to society's progress.

²⁵ Ibid. "Daran schlössen sich die Spezialuntersuchungen. Einerseits als Grundlage für den Verkehr des Menschen untereinander die Ethik, andererseits als Grundlage für die Kunst die Aesthetik, für die Wissenschaft die Erkenntnistheorie. Für das Gewerbe ergäben sich aus beiden die Grundlagen, aus allen die für den Handel."

²⁶ Ibid. "Aus diese Weise [*sic*] wäre es möglich, wie ich wenigstens glaube, wenigstens die Aufgaben des Menschen unter einem Gesichtspunkt zu betrachten."

²⁷ Ibid. "Es ist eben nur ein Versuch, das was mich bewegt, zusammenhängend auf das Papier zu bringen."

Reform-minded social economy at the Ludwig-Maximilians-University

Lujo Brentano lectured in Munich on society from the standpoint of utilitarian philosophy and was a member of the so-called "younger" Historical School, "an important movement in German 'political economy' and socio-economic history."²⁸ Moreover, Brentano numbered among the founding and active members of the *Verein für Sozialpolitik* (Social Policy Association) founded in 1873. This was an association that investigated potential solutions to 'the social question' engendered by the industrial revolution's rapid spread in Germany since the 1850s. Jacob Krabbe, a scholar of the historicist and organicist tendencies in German economics, referred to Brentano as belonging among the reformers who had "a militant attitude towards socio-economic reform."²⁹ Moreover, Lujo was the brother of *the* philosopher Franz Brentano, whose empirically oriented psychology informed the pursuit of scientific philosophy in Germany and Central Europe. Lujo's students participated in the *Akademischer Verein für Psychologie* in Munich directed by Endell in its first year. The fibers of the activist tendencies in Munich, at least among intellectuals, thus came to be interwoven in this counter-institution. Endell's school, which focused on designed and built form as an act, continued this lineage of activist thought from his time in Munich.

The Brentanos shared in a method of inquiry. Krabbe discussed Lujo Brentano's historical-empirical approach in economy that "implied that society should be seen in all its institutional diversity," and he pointed out that the economist's interests were rooted in his

²⁸ Krabbe offers a fresh look at the forgotten Lujo Brentano and at the young historical school and especially emphasizes the historical school's historicist and organicist tendencies of thought. Moreover, the author links the ideas of Brentano (among others) to concepts discussed in economic theory today and claims that contemporary theories are imbedded in this history of economic thought without acknowledging it. Jacob Jan Krabbe, *Historicism and Organicism in Economics: The Evolution of Thought* (Dordrecht: Kluwer Academic Publishers, 1996), 73.

²⁹ Ibid.

opposition to an atomistic concept of society.³⁰ Lujo's empirical approach to society and Franz's method of empirical psychology echoed each other. Endell was interested in social and ethical questions too, from the standpoint of an empirical analysis. When Endell critiqued contemporary society as essentially a complex form that consisted of institutions that did not reveal their ethical foundations, one can say, he was calling for ethics as the all-unifying principle of modern institutional life. (The ethical foundations I refer to are discussed in Chapter One.) Endell's views identifying the eclipse of ethics as the origin of contemporary crisis overlapped with L. Brentano's interest in pursuing a notion of economic ethics.

In one of his letters to his cousin Breysig, Endell asserted that he did not agree with the program of the Social Democratic Party: he did not think that it could offer the ground people currently needed.³¹ Instead, he thought of society along the lines of an organicist conception. This involved a form of society that asserts the centrality of man's needs and urges—biological functioning and functioning in social conditions. Brentano's interest in guilds within a holistic economic framework later culminated in his concept of "human economy" (*Menschenökonomie*), which stressed development of the working class by institutional measures.³² By opening a school that would teach design of experiential form, it can be argued that Endell hoped to place "science" of consciousness at the service of both society as a whole and the individual. Endell demonstrated that he was concerned with progress as a matter of processes for humanizing contemporary economy. Through an ideal of shaping students and, by modulation, society at

³⁰ Ibid., 78.

³¹ Endell to Breysig, April 2, 1892.

³² Krabbe, *Historicism*, 78.

large into conscious observers, it can be inferred that Endell envisioned projecting his concept of (functional) form based in processes of seeing, feeling, and thinking into society and economy.

In his workshop-oriented school, Endell grounded this concept of education via design in the historical notion of craft. This notion echoed the ideal of the English Arts and Crafts movement, as well as to a certain extent coinciding with L. Brentano's interest in medieval guilds, their history and development. Especially Endell's evocations of the necessity of a collective type of work for a sustainable modern society coincided with Brentano's interests in his first works: *On the History and Development of Guilds and the Origins of Trade* (1870), written in English, and *Die Arbeitergilden der Gegenwart* (German edition, 1871, Contemporary Labor Guilds). L. Brentano theorized a possibility of continuing the tradition of crafts in labor unions that "would fulfill a function comparable to that of medieval guilds."³³ In this way he demonstrated his interest in defining a kind of institutionalized ground (and bond) for people. Endell, on the other hand, continued the tradition of craft later on in a school of design that aimed to provide a model for an institution concerned with society as a whole, as well as with the individual. Endell too searched for the ground and bond people currently needed. He located it in a "designed" science of conscious experience.

Endell's Advertisement for the Schule für Formkunst

Endell introduced his School of the Art of Form with an advertisement in one of the leading art journals in Germany at that time, *Kunst und Künstler* (1904).³⁴ [Fig. 6] The ad consisted of two main parts: graphics and text. The graphic part contains Endell's monogram. As

³³ Ibid.

³⁴ *Kunst und Künstler*, vol. 7, no. 8 (1904).

already noted, the text of the ad included the school's title (School of the Art of Form), the name of the director (August Endell), and the program: drawing and modeling free forms, design of carpets, wallpaper, textiles, lighting fixtures, and furniture. A microcosm of Endell's concept of experiential designed form, it can be argued, the ad launched the school in a way that showcased its concern with processes of visibility in contemporary society.

Endell resorted to advertising, appropriating a potentially problematic 'technique' of visibility in contemporary society, in the cause of illuminating his notion of experiential form as a path to autonomous ways of seeing. Endell, the entrepreneur, embraced advertisement as a form suited to both discovery and self-discovery—a visual form with the capacity to activate the creative potential both of form and the observer. This conveys Endell's optimism in believing he could instruct in experience in ways that could lead to bridging between economy, art, and science in contemporary society. The ad can be seen, in fact, as a small-scale version of Endell's effort at "publicizing" a designing principle of social utopia through his school as an autonomous form of pedagogy geared to applied arts artists and architects. The ad could just as well be considered a sort of admissions test for readers willing to become observer of processes of conscious experience, and thereby, as future practitioners, to challenge established views in contemporary society, all conditioned by training in Endell's theory of experiential form.

In the pages of the journal, Endell's advertisement was placed alongside other advertisements, including some for new schools that were seeking to challenge traditional conceptions of artist and craftsman. Among these were the Kunstgewerbeschule (School of the Arts and Crafts) in Weimar, directed by Henry van de Velde, the Belgian artist and architect then living in Germany; the Schule für Rhythmus in Zeichnung und Malerei (School for Rhythm in Drawing and Painting) under Lothar Kunowski; and the Kunstschule (State Art School) in

Weimar directed by Hans Olde.³⁵ First, compared with these other schools, the title of Endell's institution, Schule für Formkunst, stands out with its assertion that projects in applied arts constitute a practice in the art of form. Second, Endell's ad signaled his school's specificity also with its composition.

Compared to the other ads on the page, Endell's lacked visible boundaries or sub-boundaries. It had neither a frame, nor commas in the text. Instead, the ad was *per se* a form of interwoven boundaries and sub-boundaries, signaling a notion of pedagogy and crafted form conceived as movement. The ad's composition permitted a broad degree of the visual form's mobility in perception. With this quality ensuring continuity in perception, the ad aspired to embody a form of action through its potential to draw the reader in, making the reader aware of his or her abilities to see, feel, and think in interrelation through its processes of reciprocal reflection. The ad, it can be argued, aimed to turn the reader into an observer.

In experience, the minimalist and seemingly simple form of Endell's ad turns out to possess a great level of complexity. The graphics and the text are related, it become clear, through the principle of perceptual grouping owing to the juxtaposition of the graphic sign with Endell's name. It can be argued that this signals that practice and theory would be equally meaningful to education in applied arts and architecture at Endell's school. Moreover, giving the impression of a mechanically typed form, the monogram's austere appearance emerges in

³⁵ In 1904, Henry van de Velde designed a new art school and around that time was also appointed by the Grand Duke of Saxe-Weimar to be the director of a new school of the arts and crafts. Henry Van de Velde (1863-1957), a Belgian architect influenced by the English Arts and Crafts movement in the 1890s, expressed his views on taking up craft in "Die Renaissance in Modernen Kunstgewerbe" (1901). Van de Velde's advertisement was, coincidentally, placed next to that of Endell, whom he would propose in 1914 as one of the nominees to be his successor in Weimar, as has been acknowledged in histories of the Bauhaus. In 1919, Walter Gropius incorporated the art school and the school of the arts and crafts into the famous school of design in Germany, the Bauhaus. Lothar (and Gertrud) Kunowski founded a school in Berlin that emphasized individual expression and new approaches to line, color and form. On a brief discussion of the newly emerging schools that proposed education through art before the Bauhaus, see the discussion of Bauhaus sources in education theory in Gillian Naylor, *The Bauhaus Reassessed: Sources and Design Theory* (London: Herbert Press Ltd., 1985), 14-24.

experience as a form of movement based in the interrelation of processes of vision and memory.

[Fig. 7] Due to the monogram's recursively structured semi-symmetrical rhythmical composition (consisting of the initials A and reversed E), the letter *A* becomes visible in two ways, generating a space in perception that constitutes the monogram as a transitional form.

The monogram signals a composition in which the introductory theme regenerates itself through a continuous series of sets of variations, as in a modern piece of music. *A* is simultaneously the same and different on two parallel and interrelated levels—it becomes a variation on its origins, while at the same time it is a variation on the reversed letter *E*. The emerging space in perception, visible in the composition also literally through a differing interval within its visual rhythm, generates a symmetry (based in asymmetry) and harmony (based in dissonance). What at first would have likely seemed a complete form, in experience turns out to be incomplete and awaiting its completion through the observer.³⁶ The monogram presents a notion of a principle of causality of consciousness shared by natural formations and symbols: a visual journey of morphogenesis of experience via interrelated processes of (self-)discovery and scientific method. One might suggest that the monogram stands forth as Endell's signature work, both literally and metaphorically. Whereas in the advertisement, Endell expressed in a *visual* form the designing processes he was setting out to teach—namely principles of form-making along with principles of music and form-making in nature—Endell asserted the same principle in the founding document of his school, where he described processes of the art of form as "to a certain degree a theory of harmony of form, an aesthetic geometry."³⁷

³⁶ In a later article, Endell demonstrated his continued attention to this aspect of modern form when he pronounced, "completeness is above all a nonsensical ideal [that is] hostile to culture." August Endell, "Das Bayerische Nationalmuseum" (1909), in idem, *Vom Sehen*, ed. David, 81. "Vollständigkeit ist überhaupt ein unsinniges kulturfeindliches Ideal."

³⁷ "Schule für Formkunst" (1904). "...gewissermassen eine Harmonielehre der Form, eine aesthetische Geometrie."

The school's founding document from 1904

In 1904, Endell issued the school's founding document "Schule für Formkunst" (School of the Art of Form), in which he introduced an autonomously developing form of inquiry as the school's aim. In the opening sentence of the document, Endell announced the course of study as "systematic guidance into autonomous projects for crafts and architecture," thus asserting a pedagogy based in a relationship of guidance and autonomy.³⁸ This relation between teacher and students was a small-scale module at the heart of the school's operations. As an autonomous institution, moreover, Endell's school modeled an alternative to contemporary institutions.

The founding document reveals the ways in which Endell sought to guide his students to awareness of their creative potential:

A sense for form can be developed, the imagination made elastic, by means of directly demonstrating to students the process of invention, by ensuring that composition of all forms will be taught, from the most simple up to the most complex forms. With each kind of form, the specific difficulties and the ways to more simple executions will be exhibited: to a certain degree, a theory of harmony of form, an aesthetic geometry.³⁹

Endell's terms *sense for form* and *elasticizing of imagination* indicated that the course of study would be concerned with the enigmatic subject of consciousness. Evidently, Endell grounded his teaching of designing practices in the interrelated processes of architecture of consciousness and experimental method. Endell was advancing the study of applied arts and architecture with a mode of teaching that aimed to dissolve the boundaries between art and science, on the one hand,

³⁸ Ibid. "[Die Schule erstrebt] systematische Anleitung zu selbständigem Entwerfen für Kunstgewerbe und Architektur."

³⁹ Ibid. "Man kann den Formsinn entwickeln, die Phantasie geschmeidig zu machen, indem man dem Schüler den Gang des Erfindens unmittelbar vorführt, indem man für alle Formen von den einfachsten bis zu den verwickelsten die Bildungsweise lehrt, bei jeder Formart die besonderen Schwierigkeiten und die Wege zu leichtesten Ausführung zeigt: gewissermassen eine Harmonielehre der Form, eine aesthetische Geometrie." I translate *geschmeidig machen* as a process of making imagination elastic, and *Formsinn* as sense of form.

and form and space, on the other. The notions of sense of form and elasticizing of imagination by way of "free invention in color and form" implied a teaching method concerned with exploration of a relationship between processes of dynamicity of form and consciousness.⁴⁰ This development of sense of form—essentially the discovery of an additional sense—that Endell stressed in his founding document, it can be argued, was an indispensable prerequisite for the development of an ability to see newly, in accordance with Endell's notion of experience. The term elasticizing was related: it implied that this kind of sense could be explored through experimentation involving both a designed form and an observer.

Entry-level course in objective drawing

Next in the founding document, Endell set forth that the entry-level course would be concerned with the study of nature. He specified that, through the study of nature in the sense of "strictly objective drawing and modeling based on plants, shells, bugs, etc., a thorough knowledge of forms will be achieved."⁴¹ This entry-level course was fundamental. Overall, it can be inferred that its aim was to introduce nature as a repository of the visibility of forms, and their parts, in relations. The material for the course, consisting of especially small and nuanced natural forms, provided for their easy manipulation and the possibility of their exploration from a variety of angles. Observation of these formations would make evident that a distinct ordering principle in nature applies on all scales, pointing to natural forms' relatedness and coexistence within this variability. The formations arising in the drawing and modeling exercises based on nature would

⁴⁰ Ibid. In the first few sentences of the founding paragraph, Endell asserted, "...Freies Erfinden in Farbe und Form ist das Ziel."

⁴¹ Ibid. "Der Unterricht beginnt mit dem Studium von N a t u r f o r m e n: streng sachliches Zeichnen und Modellieren nach Pflanzen, Muscheln, Käfern etc., eingehende Formkenntnis soll erreicht werden[.]"

facilitate a student's grasp of the concept of interchangeability of scales, including on the level of their parts. In this context, it can be hypothesized how students would learn to see forms and their parts in relations in ways that would render the parts and forms self-similar. For students, the benefits of this developing sensitivity might even extend to the "discovery"—comparable to what I have described as Endell's own experience—of a principle of designed form, continuous with a principle of diversity in unity in nature, based in processes of coordination and subordination.

For Endell, the core development of "sense of form" and "elasticity of imagination" lay in "demonstrating for the students the path of invention" through "teaching them the principle of composition of all forms, from the most simple to the most complex."⁴² Given Endell's interest, beginning when he was a student, in the relations of lines and feelings, it can be conjectured that the main point of these exercises was to see in what way the relationship between this ordering principle and the principle of harmonious feeling was constituted. In drawing and modeling exercises that involved composing forms out of essentially self-similar parts, students would learn to modulate a form-making principle they observed in nature, on the one hand, with their feeling, on the other hand, exploring the concept of an elastic consciousness based in modulation that Endell had arrived at in Munich.⁴³

One can perhaps further ascertain the point of the drawing and modeling exercises by recalling Endell's ideas on the process of observation from the time when he himself was turning

⁴² For a full transcription, see fn. 40 in this chapter.

⁴³ I suggest that the technique of observation, as a way of seeing of parts in relations and in relations to the whole of form, corresponds to the concept of *zerlegen* (taking apart) of consciousness, which was discussed in Chapter One. I propose that Endell used this descriptive term in order to evoke the processes of form's morphogenesis that allows for seeing it as a process of metamorphosis. Endell used a similar descriptive term of experience—'*zersehen*'—in his essay "Eindruckskunst," *Neue Gesellschaft* 23 (September 6, 1905): 275-76. Reprinted in Endell, *Vom Sehen*, ed. David, 132-37.

to practicing design in 1897. In an article titled "Formenschönheit und dekorative Kunst I" (The Beauty of Forms and Decorative Art I), Endell described a process of observation that enabled *seeing* the changes that line undergoes in nature. He evoked line as a transitional form, in a way corresponding to dynamicity in vision:

We mustn't pass over forms inattentively, but we have to follow them precisely with our eyes, every curve, every bending, every expansion, every contraction, in short to experience [exact translation means "to live through"] every change of form.⁴⁴

The descriptive mode of experience assumed a central place in Endell's drawing (and modeling) exercises. In the founding document, Endell advised in techniques of observation of form that call to mind a description of scientific method:

Picking out the especially characteristic and beautiful parts of a piece of nature, dissecting the given form, breaking it up into simple elements, comparing, rearranging the form via systematic changes of its elements—every form will be connected to a great row of similar forms for the imagination—and finally, designing any chosen formations, free compositions deriving from natural forms[.]⁴⁵

With such an account of a technique of both observing and inventing free forms, Endell asserted that the processes of invention of form are simultaneously processes of form's perception, aiming perhaps to make visible that form has a value when it is a continuum of processes of creation and perception based in techniques of self-similar parts. In the entry-level course, students engaged

⁴⁴ August Endell, "Formenschönheit und dekorative Kunst I. Die Freude an der Form," *Deutsche Kunst* 1, no. 2 (Nov. 1897): 75-77. Reprinted in idem, *Vom Sehen*, ed. David, 149. "Wir dürfen nicht achtlos über die Formen dahingleiten, sondern müssen wir sie genau mit den Augen verfolgen, jede Biegung, jede Krümmung, jede Erweiterung, jede Zusammenziehung, kurz jede Änderung der Form miterleben."

⁴⁵ "Schule für Formkunst" (1904): "Heraussuchen der besonders charakteristischen und schönen Teile in einem Naturstück, Zergliedern der gegebenen Form, Auflösen in einfache Elemente, Sammeln ähnlicher Formen, Vergleichen, Umgestalten einer Form durch systematisches Verändern ihrer Elemente—jede Form wird so für die Phantasie mit einer grossen Reihe ähnlicher Formen verbunden—und schliesslich Entwerfen beliebiger Gebilde, freie Zusammenstellungen aus Naturformen."

in drawing and modeling, techniques that signaled that the value of scientific method pertained equally to artistic technique. With the inclusion of these simultaneously conducted exercises in the first year, moreover, students would have a chance to grasp experience not as a matter of a sense of vision exclusively, but of tactile sense as well, in that way probing experience as an intersensory phenomenon. These exercises would help students grasp form as surface and depth and would heighten their sensitivity to the visible world with its most nuanced transitions.

Three examples of student drawings

There are three examples of students' drawings that would have to be considered highly relevant to any effort at a reconstruction of Endell's objective of "free invention based on forms in nature." The drawings are dated 1905, and two are signed by E. Schweller.⁴⁶ While the three drawings at first may seem quite different, they all represent the same subject of demonstrating a form's elasticity through a graphic description of its interrelated processes. These drawings arguably investigated line (and form) as a process of modulation activating consciousness: that is, they explored line (and form) as an act. Students were required simultaneously to continue and discontinue a drawn line, and thereby to generate an experience of the drawn form's composition out of parts and wholes—art of form (learned from nature) as a balancing act between movement and rest. The drawn form thus would become visible as both the process and the result of a modulating technique. Exercises such as these, it can be argued, were developed to help students become versed in seeing technique and form interchangeably.

⁴⁶ Unpublished drawings, private archive, Germany. Two of the drawings are dated and signed by E. Schweller. The signature on the drawings is very difficult to discern—I make it out to be Schweller, or possibly Schweller. Regardless, it has not been possible to identify the student beyond the name. Almost nothing is known in general about Endell's students. I found the third (undated and unsigned) drawing of a circular pattern attached to the previous drawings in the private collection, and the original has a number in its left upper corner consecutive with the numbering on the preceding drawings.

The first drawing shows an animal/insect-like form that reflects the structure both of a natural formation and a symbol as a continuum based in the coexistence of opposites. [Fig. 8] While there is no documentation of the school available for 1905, in a revised founding document issued in 1906, Endell proposed that drawing should be concerned with the exploration of processes of *plant-like* and *animal-like* forms.⁴⁷ The drawing presents both a form and a symbol of metamorphosis: a phenomenon in nature continued through design. The branched structure conveys a continuum of the form's physical and perceptual processes, choreographed by means of counterpoint. Each line counterpoints another, resulting in a continuous form. Moreover, it is difficult to distinguish whether the form is modeled after an insect, perhaps a butterfly: with its indeterminacy, the drawing symbolizes and literalizes (natural) formation as both a process and a result of metamorphosis.

In perception, a continual interplay of shifts in attention takes place. The form has neither a culmination nor a center. Its apparent movement is achieved by processes of elasticizing through the technique of counterpoint. The form has a central axis around which lines in relations are symmetrically organized. This axis emphasizes form's upward movement. Spreading out in a sort of auxiliary counter-movement around this axis, this vertical movement slows down, resulting in a form of balance. Moreover, the lines directed outward do not just stop, but keep conveying form's continuity *within* by bringing the eye back to the axis. The tops of the longest lines are articulated in such a way as to return back to the place of origin of the visual journey in a sort of recursive motion. All of the lines within this drawing operate according to the same principle, only on different scales. The drawing consists of changing relations and makes one "see without wanting to fixate on something," to borrow Endell's description of visual

⁴⁷ Endell's requirements for drawing exercises of this kind are listed in "Schule für Formkunst" (1906), discussed in detail further below in this chapter.

experience described in one of his articles.⁴⁸ This drawing can be taken as an example of the kind of teachings Endell instilled in order for the students to arrive at a notion of experiential form whose principles would be continuous with principles of form-making in nature.

The second drawing shows that the same constructive principle as in the first drawing, with what might be thought of as a whole form, also applies in a partial form, and it thereby calls into question the traditional concept of symmetry (and harmony). **[Fig. 9]** The drawing evokes the wing of an insect or butterfly. In that sense, while the drawing is incomplete, it "feels" complete. This effect is produced by the application of a different kind of symmetry (and harmony)—one based in asymmetry and disharmony. It thereby demonstrates the kind of symmetry (and harmony) visible in nature. It is an experiment in reconciliation of symmetry and asymmetry based in counterpoint. As with the previous example, the drawing shows that, through processes of balancing a variety of lines and their differing directions and degrees of speed by means of counterpoint, balance can be achieved also in a partial form.

The third drawing might be taken for a study of an elemental form in experience. **[Fig. 10]** As such, it is similar to the kind of experiments scientific philosophers would conduct in perceptual psychology.⁴⁹ Albertazzi has referred to such experiments as a "map of the morphogenesis of the perceptive structures and of their objects."⁵⁰ This drawing might be described as exemplifying an experiment in the visibility of conscious processes by defining

⁴⁸ August Endell, "Abendfarben," *Neue Gesellschaft* 7 (May 17, 1905): 81-82. Reprinted in idem, *Vom Sehen*, ed. David. Endell described a visual experience in his essay "Colors of the Evening," conveying a sense of dynamic vision (and form).

⁴⁹ Endell discussed this phenomenon of form's behavior already in 1897 when referring to lines as elements that have a behavior (of velocity and direction) in the essay "Formenschönheit und dekorative Kunst I." In that piece Endell drew on his formative experience in Munich, especially Lipps' courses in aesthetics. Albertazzi discusses Lipps' preoccupation with the particulars of aesthetic experience in "The Aesthetics of Particulars: a Case of Intuitive Mechanics," *Axiomathes*, nos. 1-2 (1998), 169-96.

⁵⁰ Albertazzi, "Continua," 13.

form essentially as rhythm. From a small-sized circle, five wavy lines radiate at equally spaced intervals. These lines describe the behavior of the elemental form in perception. Bent at a 90-degree angle, they constitute a form of movement as a process of both continuity and discontinuity, thereby making visible the "invisible" forces in perception. This results from a tension caused by lines that juggle out and back and interrupt the visual flow of the circular movement. Through counterpointing these lines, the drawing powerfully suggests how, in perception, form would generate space for conscious experience.

These drawings instruct in the principles of transitional form—a pattern of rhythms. They do so, literally, through a pattern that is simultaneously branched and branching, and symbolically, as forms of metamorphosis. The drawings demonstrate a designing principle whereby even the simplest of forms and its parts would become capable of revealing a complex modulated structure generative of a relation between singularity and multiplicity. These drawings manifest experience as independent of size and solidity. In regard to their activating the observer through reconciling processes of abstraction and empathy, these small drawings have an ambition to achieve a kind of monumentality. They can be taken as compelling evidence of efforts, at least in these instances of student design, to grasp that forms of any scale have the potential to share the dimension of consciousness.

First year—explorations in invention of planar and spatial form

Whereas in the first document, Endell focused on explicating the immediate (first) year of study, with its special attention to the study of nature, he was much more explicit in the second document, from 1906, about how the study of nature would be followed throughout the first year. In the 1904 document, he only noted that study of nature was "a part of the first year's focus on

the study of *pure form*, first of all in planes."⁵¹ The document also stated that in the first year there followed "representation [in drawing and modeling] of important spatial forms."⁵² Endell insisted that students train in the first year sufficiently in inventing free form:

Beginning with the simplest, the discussion will encompass the character and effect of lines, surfaces, bundles of lines, combinations of lines, and combinations of planes; the laws, the auxiliary tools, and the special difficulties of construction will be demonstrated in practice; whereupon characteristic examples will impel discussion of the composition of richer forms, whole form and single form, main directionality and auxiliary directionality, the reciprocal influence of neighboring forms, equilibrium, making forms lighter or heavier, structure, effects of blotches, the influence of color on form, etc.⁵³

Only after mastering inventing free forms in this way could students continue with the study of specific techniques.⁵⁴

In a second document from 1906 titled "Schule für Formkunst Drittes Jahr" (School of the Art of Form Third Year), Endell provided a summary of a curriculum for all three years of study.⁵⁵ This particular document now referred to the first year's subject as a general theory of form, and with respect to invented forms, the document enumerated planar forms, spatial forms, penetrated forms, and free ornaments. In what immediately follows, I summarize the curriculum

⁵¹ "Schule für Formkunst" (1904): "In dieses so gestaltene Naturstudium fügt sich ein das Studium der reinen Formen, zunächst der ebenen."

⁵² Ibid. "Darauf folgt die Darlegung der wichtigsten räumlichen Formen."

⁵³ Ibid. "Vom einfachsten beginnend, wird Charakter und Wirkung von Linien, Fläschen, Linienbündeln und – büscheln, Linien- und Flachenscharen besprochen, die Gesetze, Hilfsmittel und die besonderen Schwierigkeiten ihrer Bildung praktisch vorgeführt, sodann das Zusammenfügen reicherer Formen, Gesamtform und Einzelform, Haupt- und Nebenrichtung, der gegenseitige Einfluss benachbarter Formen aufeinander, das Gleichgewicht, das Leichter- und Schwerermachen, Struktur, Fleckwirkung, der Einfluss der Farbe auf die Form etc. an charakteristischen Beispielen erörtert."

⁵⁴ Ibid. "Erst wenn diese Art des Entwerfens freier Formen hinreichend geübt ist und keine wesentlichen Schwierigkeiten mehr macht, wird zum Entwerfen für bestimmten Techniken übergegangen."

⁵⁵ "Schule für Formkunst Drittes Jahr" (September, 1906).

Endell issued in 1906 for the first year of study. For the sake of clarity, the original document is translated here and presented, as much as possible in straightforward English prose. However, the original German document possesses a schematic character that I have made available to the reader by including a full transcript (see Appendix B).

After the entry-level course in study of nature, investigations into processes of invention began with planar forms, and under this heading, students participated first in exercises in line and plane. By attending to the relation of line to plane, students learned to focus on form's character and effect on feeling, movement, and focal point. Next, they practiced the techniques of bifurcation, branching, clustering, and bunching, followed by exercises in plant-like formations and, finally, exercises with black-and-white blotches. Thereupon, these individual exercises in planar form were to become the subject of (presumably autonomously executed) assignments involving a book cover and a template. Next in the section on planar forms, there followed exercises in inventing freely floating forms. The exercise built upon knowledge of focal point, while it explored impact point, direction, and balance. These techniques would be explored in animal forms.

After students mastered the drawing and modeling techniques of planar form, they continued in a section on drawn and modeled spatial forms learning the techniques of spatial seeing, depth, foreshortening, shading, and representation of spatial forms, all of which came to expression in autonomous projects of flat relief. Next came more involved exercises in penetration of forms that involved learning a technique of movement in depth through form's veining (*Aderung*), structuring, and built-up edge formation. The culminating exercise was in free ornaments, either modeled or drawn in ink, with an assignment of a final autonomous project for the year in embroidery.

Overall, the summary of the first year makes clear that students would experiment in inventing drawn and modeled forms through lines (and planes) in relations, and they would do so by way of exercises designed to train in creative processes in continuation with principles of form-making in nature. Note the exercise in invention of plant-like and animal forms, on the one hand, but also exercises modeled upon processes of relating parts and wholes in nature—patterns—such as branching, clustering, or veining of form. Endell evidently used terminology from nature when he was describing invention of free forms, essentially referring to principles of relations visible in nature. At the same time, however, Endell began to transition from terminology descriptive of patterns in nature to expressions from physics such as focal point, balance and direction, for example. Overall, based on the summary of the first year's exercises and the examples of student drawings, of which two seem to be exercises in whole and partial insect-like forms, it can be assumed that, in their exercises, students focused on making form visible as constituted out of parts in relations—which is to say, on modeling transitional forms after nature. Attainment of sensitivity to (free) form as consisting in transitions was signaled by application of the learned processes of drawn line, its movement and direction, in a design of planar and spatial forms.

Second and third year of study: applied forms

After students had grasped the concept of spatial form as a process of movement in depth, they began experimenting in a design of artistically conceived crafted and built form in the second and third year.⁵⁶ From the summaries of the curricula of these two years, it is evident that students again systematically progressed from the simple to the complex, just as in their first-

⁵⁶ See "Schule für Formkunst" (1904).

year exercises, but they did so now, as becomes evident from the curriculum, in order to see a new quality of form arising from its constituent relation between natural formation and *art*. From concerns with planar, spatial, penetrated forms and free ornaments in the first year, they now graduated to exploring the art of form in planar art, spatial art, and penetrated (*durchgebrochene*) art. Endell titled the subject of study in the second and third year a theory of applied forms. In the second year of study, students trained in design for planar art, spatial art, and furniture. Expanding on their knowledge, in the third year students trained in a design of applications of decoration.

In comparison, in the founding document from 1904 Endell had described the second and third years of study only briefly, suggesting that students begin with techniques that presented "the fewest formal difficulties": "embellishment of books, wallpaper and printed fabrics, web patterns, needlework, carpets, lighting fixtures, furniture, and finally interior decoration and architecture."⁵⁷ Endell did not include architecture in the summary of the curriculum of the third year in his document from 1906, but he remarked in the founding document from 1904 that: "in the second and third year, advanced students will, to the extent possible, participate in the execution my own commissions."⁵⁸ Overall, students were prescribed design of free forms with an emphasis on their exploration involving different materials and techniques, paying attention to the advantages and limitations of diverse media.

⁵⁷ Schule für Formkunst, 1904: "Buchschnuck, Tapeten und Stoffdruck, Webmuster, Stickerei, Teppiche, Beleuchtungskörper, Möbel und schliesslich Innendekoration und Architektur."

⁵⁸ Endell, "Schule für Formkunst Drittes Jahr, 1906": "Im zweiten und dritten Jahre werden die Fortgeschritteneren nach Möglichkeit bei meinen eigenen Arbeiten herangezogen."

Second-year study in planar and spatial art and furniture

In what immediately follows, and once again working from Endell's 1906 curriculum, I summarize the second year of study (see Appendix B). This was organized in three groups, whereby no student was to be allowed to participate in two groups at the same time. In the first group, students learned skill in planar art. This involved experimenting at first in color studies: techniques of patterns of stripes and blotched patterns. Next in this section there followed geometric forms: distribution of planes and geometric structures, for which the culminating project called for the design of a typeface. Finally, more complex exercises involved lattice forms, with a culminating project in an autonomous design of lace and patterns such as row, band, planar pattern, and whitewash, with a project in wallpaper, fabrics and carpets.

This particular group, it can be inferred, stressed the artistic value of contrasting patterns and rhythms. Both lattice and lace techniques would target visibility of crafted form as processes of interrelation of geometric structures and distribution of planes, and this would presumably build upon the rhythms observed in nature in the first year. From Endell's emphasis on designs of lace, fabrics, and carpets, it is obvious that designs for textiles were essential to the study of patterns and rhythms. Patterns of embroidery and weaving would promote the exploration of forms and colors in relations, on the level of simple lines as well as distribution of planes.

In Group II, students experimented in a design of spatial art, practicing processes for composition of bodies of form: solid bodies, hollow bodies, and wheel-thrown ceramics. The autonomous project in this group called for the design of a container-like hollow form. Next followed an exploration of spatial art through geometric forms and their techniques—distribution of planes and geometric structures. After that, there followed an exploration of spatial art through geometric forms, as in Group I: mesh forms and penetrated bodies, with a final project in

metalwork and repoussée work, lattice forms, with a project in cast jewelry, and penetrated bodies, with a project in lighting fixtures.

As is evident from the summary, in this group Endell introduced new techniques that would enable students to transition from work with solids to hollows and pierced structures—training in visualizing processes of spatial form as a transitional form. The newly introduced technique—pierced structure—was literally transitional (between form and space), and thus was particularly suited to making crafted form visible as a web of relations, and thereby as a form continuous with the principle of form-making in nature. Students would essentially experiment with creating forms consisting of lines, nodal points, and space, which is to say, with a mapping of form through relations.⁵⁹

Group III in the applied forms was concerned with furniture design. Students learned the use of purely constructive forms, training in measuring and representing spaces and furniture. There followed the study of architectonic forms and the study of character, effect, and composition. Next came a study of the design of simple cabinets with a focus on the effect of the form as a whole. Students practiced representing construction by relating parts such as leg and base, panel, ledge, and simple profiles. Next, students inquired into composition of furniture's surfaces and planes, attending to frames and inlay, fluted-joint, mirror, and veneered surfaces (making these representations that combined planar and spatial art). This section's final

⁵⁹ Endell was obsessed with metal grids—transitional elements—in his practice. There were many examples of these in the interior of the Photoatelier Elvira and in his other works. His design of lights at the Hackesche Höfe offers perhaps his best examples of pierced structures. Students presumably had a chance to engage with this design work in the interiors of the Hackesche Höfe, to which their school was eventually relocated. This will be discussed in Chapter Three. Especially Endell's large hanging light fixtures have the look of skeletal three-dimensional forms. Within their structure, they make visible the relations among their parts while they also make visible the exposed light bulbs they hold—technology as a their constituent part. Endell made evident that light was both a part and a process of the design, form and space. I am planning to explore the various forms of his light fixtures as part of my future work, in which they can be shown as continuing the aspects of the ornamented light of the Photoatelier Elvira that I discuss in Chapter One.

autonomous project involved representations of wardrobes and linen cupboards. Next, students explored design of a combination of cabinetry, open furniture, and seating furniture, with projects involving side tables, bookcases, glass displays, shelving, beds, tables, sofas, desks for students, chairs. One can see that, in this exploration of furniture design, students would utilize their previous knowledge of construction of planes and spatial forms in combination.

In the third year, students learned to apply decorative forms with attention to three components: decorative elements, decoration of planes, and the color unity of a room. Decorative elements involved formation of bodies, as in Group II: moldings, profiles, bending so as to form right angles, frames, pillars, columns, bases, capitals, consoles, legs, crests. Decoration of planes involved geometric forms, as in Group I, also inlay, mesh, glass panes, plasticizing invigoration: carving, fluting. Color unity of rooms involved tonalities of wood, fabrics, wallpaper, carpets, metal, varieties of wood. This summary of the curriculum in Endell's school exhibits Endell's insistence on proceeding systematically toward the study of architecture, in which artistic effects would be derived from the specific techniques of transitional form students learned in these years beginning in the entry-level course with the study of nature.

"Formation, Structure, and Effect"

The next available record in regard to Endell's school documents shows that, in the third year, students were concerned with theory of building form in ways that focused on built form as an artistic practice.⁶⁰ "Formation, Structure, and Effect" introduces Endell's principles of an artistically conceived form in a way parallel to the applied arts, in which students learned

⁶⁰ Hanns Jacob, "Versuch einer Wiedergabe der pädagogisch-praktischen Kunstlehre von August Endell (1906) durch eine systematische Disposition." "Formaufbau, Formbildung und Wirkung," was highly likely tailored to students of the third year who now were entering into the study of architecture. The course was documented (in retrospect) by Endell's former student, the architect Hanns Jacob. These are four typed pages with a handwritten explanation above the text of the first page: Nachlass Endell, End-01-39.

techniques of planar and spatial art. This document shows that Endell now employed the terminology and concepts of nature, geometry, and music. The listed constructive principles point to Endell's guiding of students to ways of form that bridged invention and nature: that is, the program of instruction sought to establish principles of artistic continuity with nature's laws of form making, on the one hand, and with compositional principles in music, on the other.

In what immediately follows, I provide a summary of Hanns Jacob's retrospective notes on Endell's theory of art. A transcript of the four-page document is included (see Appendix C). Endell's theory of art is divided into four parts: simple composition, movement of forms, structure, and special structures. In simple composition's constructive processes, according to this document, Endell guided students in the attainment of artistic effects in created form by way of symmetry, rhythm, melodic order, modification or variation, and contrast. Symmetry was Endell's first foundational technique of processes of artistic built form. Endell demonstrated symmetry with examples of both geometrical shapes and forms in nature and the principle of axis/axes, defining symmetry as a repetition of two or more equal, simple planar forms in mirror image. He used three examples: compositions in which elements are organized along a straight axis of arbitrary length (in an Isosceles triangle; and in forms of leaves); a form organized along more axes that cross at one point (an Isosceles triangle, square, polygon, and circle); and finally, a form with two perpendicular straight axes (rhombus, oval, and pointed oval).

Next, students engaged in rhythm, the second foundational principle of the artistic effect of form in the section dealing with simple composition. Endell defined rhythm as a repetition of more equal forms at unequal distances according to subjective melodic mode, and he presented examples such as rows (frieze, row of windows, comb fence [*Kammzaun*]), layering (same structural levels), crowding (regular veneer pattern), stars (regular blossoms), and (regular) webs.

Endell's third foundational principle of an artistic form was the melodic order. It is described as a repetition of more of the same forms at non-specified distances, according to subjective melodic sensibility (*Empfinden*). Melodic orders are noted as having, depending on their effect, varying qualities: Endell distinguished between harmonious, or clear and recognizable order, and disharmonious, or undefined order.

The fourth instance of causes of an artistic effect were to be achieved through change or variation, which is defined as the connection of two or more similar forms. The documents make evident that change and variation were taught by implementing asymmetry (asymmetrical leaves, also curved), finger-like-shapes (*Fingerung*) (palmetto, jagged blossom), sequencing (irregular striation, spines), layering (irregular floors), crowding (irregular distribution), branching (regular or irregular) and nesting (spatial) etc. Next is listed harmonious or clearly perceptible; second, disharmonious or undefined; and finally, rhythmical, or perspectival variation (involving change in perspective).

The fifth and last process towards construction of a simple composition's artistic effect involved (constructing form as consisting of) opposites. The principle of opposites is defined as "connection of two or more different forms," distinguishing further between simple and multiple opposites. With regard to simple opposites, students inquired into basic opposites, such as large and small, long and short, narrow and wide, straight and curved, mass and opening, slow and fast forms, horizontal and vertical. Multiple opposites incorporated layering of strongly different floors, base-column, tree trunk-branches-leaves, branch-stem-leaf, representations of figures (legs, body, arms, head), and various colors. The opposites are further divided into four qualities: the harmonic opposite (where he remarked, see also theory of proportion), the extreme opposite,

the disharmonic or exaggerated opposite, and finally the unclear or irrelevant opposite, where he commented that students should also refer to his point regarding variation.

There were additional constructive principles—various other kinds of variations—depending on the quality of their effects. The category of techniques of artistic effects in simple composition was followed by structure, in which various further kinds of composing forms into new formations were addressed: sequencing, penetration, interpenetration, outgrowth, adding-on, and the collision of two or more forms. (Endell specified further examples: see Appendix C.) The fourth category bears the heading special structures, and provided examples of exchange of forms, piercing, mutual effects (between empty and main form), and mutual effects (between single form and whole form).

Next, in the category of movement of forms are differentiated: movement as apparent immobility or mobility of form, static and dynamic, temperament of form. Here are distinguished three kinds of form according to movement: static, slow, and fast. Static forms are those without apparent tendency to movement, and included here are, first, symmetric central forms that float free in space or on a surface (stars, blossoms), and second, forms positioned on an apparently solid support (horizontally positioned simple objects, low house with flat roof). Slow forms are forms with only slight apparent tendency to movement. Included here are bent tops (thorns, bulging peaked helmets), starkly bent lines (bulging contour line, bent stalk, spiral or snail), forms with a certain vertical development (house with steep roof, poplar or cypress), and approximately triangular forms that float in space or on a surface. Fast forms are forms with a strong apparent tendency to movement. Included here are straight tips (smooth tower tops, chimneys, flagpoles, lance), lines that are mildly bent or straight (blade of grass, stem, stalk, smooth contour line), and comet-like forms (for example) that float in space or on a surface. An

added remark states that the apparent tendency to movement of forms is greatly intensified by the "opposition" between dissimilar temperaments (for example, an overhung or suspended building element (*gelagerter Baukörper*) versus a tower, or a round helmet with a spike).

In a final section subtitled "Formations," the document listed various further ways of combining forms into new formations—processes of: interlinking, penetration, fusing, growing out of or attaching, and collision of two or more forms. Interlinking was further specified as a case of diverse forms attached to one another directly, building a new formation, without any single form becoming dominant. Processes of penetration were specified with the example of one form penetrating one or more other forms. Processes of fusing were specified as two or more forms merging into one another, making a new form (human and animal forms, etc.), and processes of growing out of or attaching to were specified with the case of one form becoming the bearer of one or more other forms, whereby these together make a new formation. In this fourth listing of processes of formation, the document further distinguished between standing forms (branch with leaves, blossom on a stem, leaf with a stem, thorns. See also, opposition), hanging forms, and forms that strut apart. The final process of formation, involving the collision of two or more forms, was further specified as, first, symmetrical collision, straight or oscillating; second, asymmetrical collision (opposition) straight or oscillating; and third, striking towards the balance point (two floating forms direct their apparent blow at their balance point).

Special formations was the last category discussed in the document. These formations were described as exchange of forms, perforation, and two cases of reciprocity. The case of exchange of forms was specified as emphasis on the voids between forms as the main form. Perforation was specified as construction of perforations with distinctive formal character. Reciprocity was listed between void and main form (see rhythm and variation), and between

single form and overall form (see also proportion and point of view, and distance, of the observer). In the first case of formation conceived as reciprocity, the document noted that one should consult the section on rhythm and variation, whereas in the second case, a similar note indicated a section on proportion and point of view, and the distance of the observer.

The summary of the document provided above, of Endell's teaching of the "causes" of artistic effect in a (simple built) composition, stresses symmetry, rhythm, melody, variation and contrast—all to be found in nature and music—as the causes of artistic effect in a built form. Moreover, the summary makes evident that Endell introduced rhythm facilitated by varying intervals, which asserted the principle of repetition common both to nature and to music. It also makes evident that Endell introduced a concept of repetition based in modulation of interval space. This rhythm is possibly the subject of the third drawing, discussed above. It can be categorized as a simple form in a section concerned with form as rhythm, a form modeling "the possibilities for instantiating [*Hervorbringen*] artistic effects via conscious application of artistic means as a cause."⁶¹ Moreover, the drawing demonstrates a principle that Endell used in his own work: in a light design at the Hackesche Höfe, for example, in which the same principle is expressed through rectilinear geometries.⁶² **[Fig. 23]**

Moreover, following the document one can see that Endell introduced a new category of artistic form with a constructive principle based in disharmony. An inquiry into processes of the melodic order of disharmony significantly broadened the field of exploration of the effects of

⁶¹ This point demonstrates the main idea of Endell's core course in design, "Formation, Structure, and Effect – the Achievement of an Artistic Value in Form," documented in Hans Jacob, "Versuch einer Wiedergabe der pädagogisch-praktischen Kunstlehre von August Endell (1906) durch eine systematische Disposition." Nachlass Endell, Baukunst Abteilung, Akademie der Künste, Berlin.

⁶² Endell's work at Hackesche Höfe will be discussed in Chapter Three. This particular design, however, is included here in order to show the affinity between the experimental drawing and Endell's own work.

artistic forms, since students now learned to understand harmony in a new way. Students would also learn to address form as a continuum of opposites—at first conditioned by the opposing speeds of elements' behaviors, and subsequently in constructing forms as parallel and interrelated sets of opposites. Endell's course demonstrated in this way that built forms might be infinitely varied, yet they had to express the fundamental ordering principle in nature. Side by side among Endell's examples are architectural forms, natural forms, and even the human body, a repertoire of forms that reflects the ambition to establish a continuum between invented and natural form. With these examples, the teaching also pointed to the coexistence of scales of natural and invented forms, now expanding the scope of references to include the subject of simultaneous visibility of varying scales of the elements of built forms. The culminating exercises stressed built form as an exploration of an underlying ordering principle of visibility engendered by diversity in unity.

Endell's term variation, too, resonated strongly with processes of modulation in nature, on the one hand, and music, on the other, where it ranks among the basic principles of composition. In visual form, Endell utilized constructive processes based in the principle of perceptual grouping according to the criterion of similarity, in a way parallel to similar phenomena in music. Finally, with the help of the term disharmony, Endell emphasized irregularities in form as what constituted harmony. He provided the example of asymmetrical leaves, and thereby stressed asymmetry and irregularity as comparable triggers of artistic feeling. He "theorized" that natural and artistically conceived built forms share their origins: namely, in a structure that, while generated by an invisible axis, appears as symmetrical and harmonious.

In regard to the subject of effects of form, at his school Endell also drew attention to the subject of proportion. Again, the former student of Endell, Hanns Jacob, summarized Endell's

notion of proportions, stating that Endell, "with his new teaching concerning the laws of effects of form [*sic*], enters into a certain opposition to generally acknowledged artistic principles."⁶³ Jacob stated further that, "according to Endell's teaching, 'formations' are subject to too much individual variation and reciprocal influencing, for example so-called optical illusions, for the mathematical mass-relation to play a dominating role. In [Endell's] opinion, only that which is experienced and felt, directly involving the artwork itself, by the artist at the time of creation of a formation, can later be experienced and felt by the observer, [whereas] all other effects are incidental."⁶⁴ Under the term "proportion" (*Massstab*), Jacob further cited "two widely divergent possibilities: 1) subjective or human measure [*Massstab*], independent of the absolute size of the formation...[and] 2) relative measure, strongly dependent on the absolute size....In the pursuit of artistic effects, the two methods can be juxtaposed."⁶⁵

The third year's focus on theory of built form included a theory of building construction and courses in architecture. In this final year, students (according to the founding document from 1904, previously discussed) were to participate, to every possible extent, in Endell's own work, and in addition they would attend lectures.⁶⁶ Endell's lectures on the subject of a theory of built

⁶³ Hanns Jacob, "August Endells: Schule für Formkunst. Zu: Formwirkungen." "August Endell tritt mit seiner neuen Lehre über die Gesetze der Formwirkung [*sic*] in einen gewissen Gegensatz zu [die] allgemein anerkannten Kunstregeln."

⁶⁴ Ibid. "Nach seiner Lehre sind 'Formgebilde' viel zu sehr individuellen Variationen und gegenseitigen Beeinflussungen unterworfen z.B. die 'sog. Optischen Täuschungen' als dass mathematische Mass-Beziehungen eine beherrschende Rolle spielen könnten. Nach seiner Meinung kann nur das, vom Künstler bei der Schöpfung des Formgebildes, am Werk selbst unmittelbar Erlebte und Empfundene später vom Betrachter erlebt und empfunden werden, alles andere ist Zufallswirkung."

⁶⁵ Ibid. "Man unterscheidet allgemein zwei extremen Möglichkeiten: 1) Der subjective oder menschliche Massstab unabhängig von der absoluten Grösse des Formgebildes...[und] 2) Der Relative Massstab. Stark abhängig von der absoluten Grösse....Beide Möglichkeiten müssen nicht etwa klar voneinander angewandt sein, sondern es können zur Erzielung von künstlerischen Wirkungen beide Methoden im Gegensatz nebeneinander stehen[.]"

⁶⁶ See document "Schule für Formkunst" (1906). Between 1905 and 1906, Endell was working at the Hackesche Höfe, where his students had a chance to practice design. From 1906, their classes were even held inside the complex.

form "had an exclusively practical purpose."⁶⁷ These lectures, as well as an introductory lecture about "the artistic problems of contemporary architecture," were open to the public. During these lectures, Endell emphasized presentations on the chalkboard. (Photographs were an ancillary visual resource only.) At this juncture, in lectures concerning the construction of built form, Endell thus brought attention back to the technique of representation of form as an act that students were to have assimilated in their entry-level course. By incorporating lectures in the history of architecture as well as lectures on his practical theory of form in the third year, Endell emphasized an artistically conceived built form as based in both tradition and innovation.

Endell introduced an overview of the material of the lectures planned for the upcoming six semesters, noting their subject as "an artistic theory about building forms in completion of the customary technical/historical theory...a theory about the effect and formation of building forms, and their application, in the most common building tasks: house and shop."⁶⁸ In his layout of the material, Endell essentially demonstrated that he would be addressing a house (and a shop) as a dynamic form. For the first semester of (Winter 1907/08), Endell planned on introducing a theory of building forms as a general theory of forms concerned with movement of forms. First, a theory of building form Part I, concerned with Constructive Tectonic Forms. Next came the subject of the country house (Summer 1908), followed by a theory of building form Part II,

⁶⁷ Ibid. "Der Zweck der Vorträge ist ausschliesslich ein praktischer."

⁶⁸ "Eine künstlerische Lehre von den Bauformen in Ergänzung der üblichen technisch-historischen wollen die Vorträge geben, eine Lehre von der Wirkung und Bildung der Bauformen und ihre Anwendung auf die häufigsten Bauaufgaben: Wohnhaus und Geschäftshaus." August Endell, "Schule für Formkunst. Vorträge über Architektur" (Abschrift). Nachlass Endell. This document is not dated, but includes a schedule of lectures for Winter 1907 to Winter 1909. It proposes that the series begin with a "General Theory of Forms" and continue with "Theory of Building Forms", where the approach calls for dividing it into parts: constructive-tectonic forms and architectonic forms, artistic forms. I could locate only the lecture that concerns the building principle of a house.

concerned with Architectonic Forms (Winter 1908/09). Endell's layout of the material concluded with a lecture dealing with townhouse and shop (Summer 1909).

Endell further indicated the subcategories of the two parts of a theory of building form. From the way Endell documented the teaching of the house, it might be argued that he took an approach that would expand on his theory of spatial form: through a *practical theory* visualized in and symbolized by what seems to be a textual diagram. The diagram we have set forth the house in a way that allowed him to interrelate practice and theory in his lectures. From the time of his own studies, Endell had very much understood that, in the absence of practice, theory on its own could not lead to any solutions. With his "Bauformenlehre I. Teil" (Theory of Building Forms, Part I; see Appendix D) dedicated to constructive tectonic forms, Endell conveyed the house first of all as interior space, proposing its emergence as spatial form on all of the interior's interrelated levels—as both sequence and layering of spaces. The categories of sequence and layering of forms were previously discussed in regard to Endell's teachings of rhythm as a technique of composition. Next, Endell conveyed the house's exterior, drawing attention to its overall form constituted by the body of house and roof—all of its exterior surfaces.

In "Bauformenlehre II. Teil" (Theory of Building Forms, Part II; see Appendix E), Endell discussed architectonic forms as art forms. Here, Endell drew on principles in nature by showing that interiors, like natural formations needed to be conceived as simultaneously unified, partitioned and grouped, and he conveyed the same need on the exterior, where roofs had to have artistic forms, and façades needed to exhibit movement, rhythm and melody. In other words, the rhythms of patterns in nature and compositional principles in music lay at the core of Endell's artistic formation of a house that consisted in its dynamicity conveyed on both the inside and outside. The essence of the artistic tools used in the building of a house was scale effect and

emergence. Here too, Endell evidently took nature as a repository for the emergence of forms out of relations on all of its scales.

The second diagram elaborates on the first part of Endell's theory of construction of a house as space. It elucidates Endell's concept of a building as simultaneously a perceptual continuum based in the interrelation of processes of both natural and artistic form. Just as in his advertisement, I surmise that this was in order to convey a sense of a continuum in which parts coexist as layers in relations to other parts, as well as to the house as a whole. Endell thereby encouraged his students, it seems, to "follow" the building process as a continual process that generates the house in experience as a form of both coordination and subordination of its parts, seeking to express an ordering principle in synchrony with nature and music—a principle of harmony. What Endell proposed as the melodic and rhythmic partitioning of the façade would simultaneously become the core principle of his "dynamic" house.

The diagram shows parts of the house interrelated in a way that enhances the sense of its elastic form, on the one hand, and the sense of it as a part of a yet greater continuum—nature—on the other. Endell's recourse to such a diagram might be taken as signaling an effort in (re-)presentation of a house as an experiential form based in feeling, in the sense of it having the structure (and nature) of both natural formation and symbol. The representation of a house in plan would have relied instead on processes of abstraction. The diagram, instead, might be an effort on Endell's part to exploit the possibility of conceptualizing a built form through processes both of abstraction and empathy. It would graphically assert architecture as an artistically conceived form—an inherently transitional form—capable of activating the observer. The diagram accentuates the house as a continual visual flow facilitating a concept of a built form as, literally, a continuous space and form. Moreover, it might be hypothesized that Endell

emphasized continuity as the foremost principle of the house in which all parts would be interrelated by leaving out any commas between the descriptive categories of its parts.

Finally, the two parts of Endell's model form of conception (and perception) of a building might be taken for demonstrating a point of a practical theory of harmony between feeling and form. As in nature, Endell conceived of building as capable of branching off and modulating a principle of form based in a feeling of harmony through processes of its reflection in society. In that sense, Endell elevated any building (including a house) to a monumental form—capable of instilling in life the dimension of consciousness. The two parts of Endell's theory of building forms follow.

Theory of building forms. I.

"Theory of building forms. I. Part: Constructive tectonic forms

Forming objectively (economic-technical) given built bodies through shifting of mass

Interior of a house

Space

Whole form

Relationships of masses

Ceiling vaulting wallpaper floor

Space and door

Space and light

Space and window

Space and furniture

Space and stairs

Sequence of spaces

Layering of spaces

House's exterior

Whole form

Body of house and roof

Forms of the roof

Exterior walls windows bay balcony—roof surfaces."

Theory of building forms II.

"Theory of building forms II. Part: architectonic Forms

art forms

creation of objectively given building masses with formation and artistic organization.

the partitioning of the building masses

the interiors

unified

ceilings and vaulting

partitioned

supports columns pillars

grouped

flow of spaces (sequence)

building from the outside

whole form the distribution of masses

artistic forms of roofs

façades

melodic partitioning

movement partitioning

rhythmical partitioning

the artistic tools

their essence

scale effect and emergence

their formation

elements of the wall (members)

profiles bands fillings tracery
 crowning parts
 pointed top branches pediment
 elements of halls
 pillars columns entablature arches ribs of vaults
 mixed elements (elements of halls used as elements of walls)
 engaged columns pilasters blind elements[.]

In 1908, Endell's school had been in existence for four years. This was a time during which, in some ways, the direction of state policies and the yearnings of many people for the old days seemed to converge. In this context, Endell critiqued the most recent modern schools of art:

As long as modern artists and their students fail to provide an art that, in agility and richness, can keep up with the force of electricity, industrial producers must perpetuate their labors along old tracks. The public wants to live, wants joy, and [it] will always choose the old over that dull, virtuous new, even if [the old] is diluted with copying and only suits the melody of our life in a limited way.⁶⁹

This statement speaks indirectly to what were evidently Endell's aims in the school. His lessons in the art of form, in terms of harmony and aesthetic geometry, come to mind as exhortations to "an art that, in agility and richness, can keep up with the force of electricity." Not only is this to be understood in terms of the need to keep up with the beat of new technology, but with regard to Endell's pedagogy of form's based in feeling, electricity in this context might even be understood simultaneously in terms of the effect modern form would exercise upon its observer—the effect of electrifying the body and the mind, actuating processes of consciousness.

⁶⁹ August Endell, "Kunstschulen," *Kunst und Künstler* 5, no. 5 (January 1907): 210. "Solange die modernen Künstler und ihre Schulen nicht eine Kunst bringen, die sich an Biagsamkeit und Reichtum mit dem Elektrizismus messen kann, muss der Fabrikant in alten Gleisen weiter arbeiten. Das Publikum will leben, will Freude und wird dem trübselig tüchtigen Neuen immer das Alte vorziehen, auch wenn es durch Nachahmung verwässert ist und nur bedingt zur Melodie unseres Lebens passt."

To conclude, if one were to think of a single image that might serve to capture the spirit of the kind of school Endell conceived, an image of a medieval cathedral might come to mind. Endell's school can be seen as a secularized version of a cathedral, in fact: a workshop of modernity that focused on form as both formation and symbol. The image capturing Endell's school would therefore perhaps be no outright copy of a cathedral, but a crystalline version of it. Endell's notion of a drawn, modeled, designed, and built form as a transformative space continued the idea of a modern collective organization of work modeled on the concept of craft that he had contemplated as a student. The image of a crystalline medieval cathedral as a transformative space and as a product of a society unified through common beliefs would demonstrate Endell's concept of modulated and modulating form. As a symbol of the visibility of unity in diversity (in God), the image of a cathedral would be an embodiment of the principle of seeing interchangeably: form and society, on the one hand, and oneself and God, on the other. The image of a crystalline cathedral would both embody and express Endell's idea of the principle of elasticity as common to nature and culture—of the processes of an autonomously developing form.

There is already one such image associated with a school of design in Germany. This is Lyonel Feininger's famous woodcut of a crystalline medieval cathedral on the cover of Walter Gropius' *Bauhaus* manifesto.⁷⁰ By choosing the image of a cathedral, Gropius evoked a connection between that school and the medieval masons' lodges.⁷¹ This image is suggestive with regard to the orientation of that school toward principles of design that expressed a universal principle of harmony. In his pedagogy symbolized through the image of a Gothic

⁷⁰ See Walter Gropius, *Manifest des Staatlichen Bauhauses in Weimar* (Weimar, 1919).

⁷¹ Gropius symbolically suggested the Bauhaus with Feininger's woodcut of the "Cathedral of the Future," a cathedral of socialism. See Naylor, *Bauhaus Reassessed*, chapter 2, "The Cathedral of Socialism," 57-66.

cathedral, Gropius credited neither history generally speaking, nor examples of pedagogy that immediately predated the Bauhaus.⁷² Ironically, Feininger's image might even be taken as a kind of false trail, a choice that, inadvertently or otherwise, tended to conceal the actual origins of the Bauhaus in the strivings for new kinds of schools in applied arts in Wilhelmine Germany that immediately pre-dated it, Endell's included.

⁷² This is a major contribution in Maciuika's book on Bauhaus, where he noted the importance of the schools and pedagogic approaches prior to Bauhaus. Endell does not factor in that account, however. See Maciuika, *Before Bauhaus*.

For me [strange forms] are formations that evoke a strong feeling, nothing further. To know pure form is my aim. Every association must go. Confirmation by various people has proven to me that this art is neither abstract nor unpopular. The art of form as parallel to music....¹

—August Endell, 1897

[I seek] a theory of harmony and counterpoint of forms, an aesthetic geometry.²

—August Endell, 1904

CHAPTER THREE

Designing Harmony: Music for the Eye, and the Brain, in the Hackesche Höfe

In 1892, Endell wrote to Breysig that he considered it "timely and historically justified, precisely now in Germany, to discuss ethical questions."³ The question of "what should we do?" was, to Endell's developing thought, present "daily and hourly."⁴ I have already shown that, in his early student days, Endell's wide-ranging studies generated excitement and emboldened him to propose a way of inquiry built on ethics, aesthetics, and theory of knowledge. His statements regarding this direction for his research was also a reflection of his sense of urgency arising from certain troubling implications of conditions in contemporary society. Between 1905 and 1906, Endell experimented in a design of a built form based in ethical relations in a public place in

¹ Endell to Breysig, 1897. "Für mich sind [seltsame Formen] Formgebilde, und weiter nichts. Reine Formen kennen is mein Ziel. Fort mit jeder Assoziation. Dass diese Art weder abstrakt noch unpopulär ist, hat mir die Bestätigung verschiedener Leute bewiesen. Formkunst als Parallell der Musik... Es wird natürlich eine Weile dauern, bis man mit diesen Ideen durchdringt. Nicht beim Publikum, da unterscheidet die Wirkung... aber die Kritiker."

² Endell, "Kunstgewerbliche Erziehung," in Endell, *Vom Sehen*, ed. David, 111.

³ Endell to Breysig, April 18, 1892, from Stettin. "...zeitgemäss und historisch berechtigt, gerade jetzt ethische Fragen zu diskutieren."

⁴ Ibid. "Was sollen wir tun? Diese Frage ist aber da, täglich, stündlich."

Berlin—in the first courtyard of Hackesche Höfe.⁵ Endell thus asserted the necessity of design and architecture that facilitate social harmony. Moreover, akin to a textbook elaborating lessons in the construction and perception of a designed harmonious form, the courtyard gave appropriate expression to Endell's design pedagogy and ambitions for the School of the Art of Form (discussed in the previous chapter).⁶ In fact, Endell's teaching principles and the integrated design at Hackesche Höfe reflected each other both symbolically and literally. They were what I have interpreted as forms of instruction in a shift in consciousness, facilitated through the visibility of processes of an artistically conceived built form, synchronized with what Endell evidently took to be organizing principles in nature and music.

Turning now briefly to the commission at Hackesche Höfe, in 1905 a building company led by the architect and property developer Kurt Berndt commissioned Endell to design the first courtyard of the building complex Hackesche Höfe in Berlin.⁷ This was a unique site. It featured a highly ambitious project with an innovative mixed social program.⁸ With both its architecture and function, the complex was an experiment in interpenetration and mobility of society. First, the complex's architecture facilitates movement in multiple directions on all the complex's

⁵ Helge David cites the years 1905-06, commenting that Endell was commissioned by the property developer and architect Kurt Berndt. My analysis of Endell's work suggests involvement with the project from early on, possibly from its inception. See Endell, *Vom Sehen*, ed. David.

⁶ The school's new address at the Hackesche Höfe was Rosenthaler Strasse 40-41. Its previous location had been Endell's Berlin office in Fasanenstrasse 53/54.

⁷ With its program, such a project was innovative. In Munich, the southern German architect Theodor Fischer had designed a project for the so-called Kohleninsel (1899-1902) that was similarly oriented. That one, however, remained unrealized and is relatively unknown. Maciuka has claimed that its aim was to "marry architectural, cultural, artistic, and economic goals." The author has further asserted that Fischer and the Applied Arts Association described the Kohleninsel as "enabl[ing] ... crafts producers to maintain their outstanding position in the German economy in the face of the increasing demands of coming times." See Maciuka, *Before the Bauhaus*, 32.

⁸ This is also the case today, as the complex is among the most visited sites (and sights) in Berlin after its renovation in the mid-1990s.

interrelated levels. The complex consists of five-story buildings interconnecting eight courtyards of varying sizes and shapes through nine passageways. Second, the program combined low-income apartments, craft production and retail,⁹ and entertainment. This diversity in function suggested the possibility for intermingling of various social strata. With the focus on craft production and sale, moreover, the complex was representative of a type of work that facilitated relations between workers, products, and their buyers. Finally, the complex was located in a predominately Jewish area of Berlin, and was a site where Jewish people, Christians, and others intermingled. Instantiating all of these relations, the complex was the locus of a vision for society that rendered its structure visible as constituted out of multifaceted, ethical relations.

The outline of the chapter is as follows. After first setting forth some relevant aspects of Endell's thought in the immediate foreground to the project, I will turn to a discussion of investigations in scientific philosophy into the question of perception of tonal complexes through examples of the work and thought of two former students of the "founder" of empirical psychology, Franz Brentano: Carl Stumpf and Christian von Ehrenfels. This section contextualizes Endell's designing principles in the courtyard in ways that suggest continuity with the pre-Gestalt investigations in the theory of music of these philosophers—Stumpf's explorations into processes of perceptual fusion (*Verschmelzung*) in perception of musical complexes, and Ehrenfels' concept of Gestalt in regard to melody. I emphasize that, in the context of these investigations, Endell insisted on designing form's processes in ways that necessitated architecture as a form constituted out of relations: namely, as a form of synthesis that would enable the visibility of its structure and nature in interrelation.

⁹ I translate *Stockwerksfabriken* as craft production/workshops within the building complex. The German term indicates that they were located on several floors of the buildings. Information regarding the specifics about the mixed program of the complex, together with the size of the complex, comes from the materials included in a proposal for preservation by the architect Frank Augustin in Berlin. Private possession of Frank Augustin.

Next in the chapter, I analyze the designing principles in the courtyard with which, I suggest, Endell raised the question of visibility of ethical relations as the core question of a designed and built experiential form. I interpret the courtyard as Endell's effort at a designed metaphor for a human-centered, ever-expandable cosmos constructed by means of continual interrelated sets of reciprocal mirrorings. Endell's design in the courtyard exhibits concern with visibility of varying scales of elements in relations, within which all parts of the courtyard would emerge in experience as the same, yet different. Interpreting what I take to be Endell's attempt at a synthesis poses a challenge: Endell's wide-ranging concern with the relationship between form and observer in the courtyard occasions many references to various areas of knowledge such as science, theory of music and geometry, as well as history. Also, in analyzing a design that, as I maintain, harbors the aspiration to make visible a synthesis in which everything resonates, one faces the difficulty of relating, in pedestrian prose, the multiple layers of thought involved in such an ambitious design, not to mention the danger of sounding repetitive and long-winded.

I decided to analyze the courtyard by walking the reader through its exterior and through selected interiors, beginning with a discussion of the façade of the western wing. I interpret this part of the courtyard as Endell's choreographed entryway to his designed notion of experiential form's capacity to impel both individual and shared experience. I show that, in this first instance of the observer's encounter with the courtyard, Endell made visible the foundations in science of his theory of experiential designed and built form. Specifically, I begin the tour at the street level of the east-facing façade of the western transversing wing in the courtyard, which is an instance in Endell's design that stresses the foundations of the courtyard in the mechanism of accommodation in vision. I then interpret the façade as a display of Endell's notion of the processes of an inherently transitional form based in processes of elasticity in vision. In various

sections within the discussion, I suggest that Endell designed the façade on multiple interrelated levels as a process and a result: on the levels of both fragmentation and synthesizing, reflective of the dynamics of accommodation in vision; surface and depth; interior and exterior; movement symbolized in the façade by waves and parts; and principles of non-Euclidian and Euclidian geometry.

Within the discussion of the façade, moreover, I discuss how Endell experimented in the façade in showing a relation between a design based in a principle of elasticity in vision and principles of harmony in music. I interpret the array of forms and colors in the façade as a design akin to a musical composition based in a tripartite structure, modulated throughout—a choreography of ceaseless variations on its initial triad. I suggest that Endell in this way emphasized the question of a design of harmonious form as simultaneously a question of the processes associated with a triad—the module of harmony in western music. In experience, Endell's tripartite form of the module suggests processes that were simultaneously parallel and interrelated, revealing a module of a multidimensional elastic form.

Overall, I follow a concept of rhythm in the façade by means of counterpoint.

My discussion of the remaining façades in the courtyard and their relationship, with one another and with the whole, addresses how Endell aimed to achieve continuity in the experience of the courtyard by using the same designing principles as are deployed in the east-facing façade, however introduced on a different scale. Within Endell's play with scales, I discuss, for example, Endell's designed concept of harmonious form based in continuity in vision with (what at the scale of the façades becomes visible as) an irregular pattern. Overall, I discuss Endell's design of continuity of boundaries as taking place on the level of the relations between the individual façades, between their elements evocative of trabeation and arcuation as references to

architecture and ornament of both western and eastern cultures, and finally, between the courtyard and its framing of the view of nature.

Finally, I discuss Endell's interior design of the dance hall, located on the third floor and abutting the façade of the western wing, as a reflection of the designing processes on the exterior: as a transitional form that reflects the rhythms on the outside, both literally and symbolically. I end my discussion of Endell's design of individual and shared experience in the courtyard with a fragment of an antique frieze with dancers and musicians in the stairway leading to the dance hall. This is an ensemble that evokes the origins of Endell's notion of artistically conceived form that, for all its innovativeness, feeds on many traditions, in this case stemming above all from the ancient Greeks. I thereby suggest that this detail in the courtyard reflects the courtyard's concept as a whole: namely, it evokes architecture and dance as sharing a sacred space—a space of conscious experience—within which people relate to each other. I also take the view that the fragment epitomizes the courtyard as a laboratory, an experimental milieu that was geared to people getting in touch with their humanity—their ability to see, think and feel in interrelation.

Endell's critique of contemporary society and its ramifications for his design

With his effort towards designing a new kind of synthesis, Endell explored patterns of visual rhythms that entailed a construction of experience that was simultaneously continuous and discontinuous. Just like in an experiment involving optical illusion, this kind of experience would involve both form and the observer. But now, illusion would be made to stand in the service of ethically inflected awareness: Endell aimed to empower the observer, making him or her an agent of change. The ambition that the courtyard instruct in creative seeing reflected

Endell's social critique published in popular journals: in *Die Neue Woche*, a journal of the revisionist wing of Social Democracy, where Endell was a regular contributor to a section concerned with art and society; in *Die Neue Gesellschaft*; and in Maximilian Harden's journal *Die Zukunft*. Especially his articles "Kunstgewerbliche Erziehung" (1904) and "Kunst und Volk" (1905) have a bearing on the theories and practices informing Endell's design at Hackesche Höfe. In general, in these articles Endell addressed the current mode of work, economy, and production in Germany as an abstract and impersonal mechanism in which the artist-designer with his work was pitted, not against the people, but against the system.¹⁰

The seeds of Endell's critique of the organization of work as a "system" and "mechanism," on the one hand, and his contemporaneous teachings regarding form (and ornament) as a complex formation, on the other hand, formed the framework of his work at the Hackesche Höfe. Specifically, "Kunstgewerbliche Erziehung" critiqued any system conceived as a functioning whole at the expense of the visibility of its parts—individual workers. At the same time, Endell guided his students in ornament as a web of relations, a force field, whose every part would become visible in relation to the others as well as to the whole, thereby enabling a form of multiple foci. It can be inferred that Endell was critiquing contemporary ways' of seeing because they impeded the potentiality of vision. Indeed, precisely the lack of possibilities to engage in the ever-renewing dynamics of accommodation seems to be what informed Endell's concern with the implications of immobilized vision, which could render vision in his sense all but impossible.

With the courtyard, Endell essentially critiqued contemporary built and designed forms for their failure to reveal their processes of both coordination and subordination. No continuity in vision was thus required. In that case, it would be as if people's natural ability to accommodate

¹⁰ Endell, "Kunstgewerbliche Erziehung," 105. The piece was first published in *Der Zeitgeist*. Also, August Endell, "Kunst und Volk," *Neue Gesellschaft* 1 (April 5, 1905): 8-9. The latter was a weekly magazine published by the revisionist wing of the Social Democrats. Both pieces are reprinted in Endell, *Vom Sehen*, ed. David.

was being subverted, perhaps even to the point of atrophy, with the result that current, mechanical seeing clashed with reason, and feeling. Endell's design showed the contemporary way of (passive) seeing, and his own approach to conscious seeing, to be polar opposites. What is more, he demonstrated a possibility of attaining to such "consciousness" by supplying an experience that would reflect the rhythm inherent in processes of accommodation. Endell's advocacy of an embodied architecture based in elasticity of vision was his call for *reason* in contemporary society.

Endell's formula for experiential form involved a reversal of what he diagnosed as the mechanics of the contemporary system. This meant a reversal of immobility into elasticity, mediated by experience of harmony. Endell located the origins of contemporary crisis, manifested especially through the feeling of fragmentation in life, on the one hand, and the diminishing visibility of the individual (as a dire consequence of the prioritization of the whole), on the other, in what was at heart an unnecessary clash between culture and nature. It was not the complex forms in modern life that Endell found problematic, but the fact that contemporary forms no longer possessed creative power and stifled autonomy. With a design based in coordination and subordination of elements, Endell aspired both to redress the loss and to activate the potential that inhered in the experience of modern life. Fragmentation and complexity in a design were shown to yield the form, and the space, for a human-centered cosmos.

Investigations in scientific philosophy into the perception of tonal complexes

Endell first expressed thoughts on the relationship of visual form and music in 1897, the year of his debut architectural work at the Photoatelier Elvira in Munich. In a letter to Breysig,

Endell referred to his inventing of forms as "the art of form in parallel to music," and he reported that others had commented on his work as "neither abstract nor unpopular."¹¹ In another instance, Endell propagated his approach to design as "theory of harmony and counterpoint of forms, an aesthetic geometry" in his 1904 article "Kunstgewerbliche Erziehung," the publication of which coincided with the opening of his school.¹² Endell thus indicated that he had been working with a concept of form that escaped easy definition. This was taking shape from within a continuum of processes of reason and feeling. When Endell further referred to Elvira's ornaments as configurations by which, experimentally, he had sought to come to know pure form, he asserted this continuum as generative of transitional form.

His description of ornament as pure form must have seemed farfetched in Elvira. But this became explicit in the courtyard of Hackesche Höfe. Here, Endell appropriated the compositional principle of counterpoint as a technique of visibility of form, a reconciliation of processes of abstraction and empathy. Counterpoint is the most basic compositional principle in music. Endell's design and his teachings of *aesthetic geometry—harmony to a certain extent—*were replete with concepts derived from musical theory, in fact. For him, tones and lines were interchangeable agents of direct experience—constituents of autonomous forms.

This kind of a parallel engagement with perception in music and vision was typical in the work and thought of scientific philosophers in Germany and Central Europe at that time. Lipps' two-volume work on *Aesthetics* (1903 and 1906), concerned with descriptions of the behavior of aesthetic particulars, was one such example of the proliferation of concepts from musical theory in scientific philosophy. Lipps' predecessor as chair of the department of philosophy in Munich,

¹¹ Endell to Breysig, 1897. "Dass diese Art weder abstrakt noch unpopulär ist, hat mir die Bestätigung verschiedener Leute bewiesen. Formkunst als Parallell der Musik...."

¹² Endell, "Kunstgewerbliche Erziehung," 111. "...eine Harmonielehre und Kontrapunkt der Formen, eine ästhetische Geometrie."

the philosopher Carl Stumpf, theorized music according to the principles of Franz Brentano's descriptive psychology and his concept of sensation as an act. Stumpf coined the concept of *Tonpsychologie* (psychology of tone) in 1883 and was the first to treat this area systematically. In his main work on this subject, Stumpf continued to explore the physical-physiological research of Helmholtz, the German scientist and philosopher, but from the vantage point of psychology.¹³ He shifted the focus from the hearing organ to the experienced perception of tone (phenomenology) and their functions.¹⁴ Later on in Berlin, Stumpf founded a laboratory for acoustics.

In addition to connections to Stumpf's contributions to musical theory, Endell's work exhibits affinities with the work of another of Brentano's students, Christian von Ehrenfels, who

¹³ In the planned publication based on this doctoral thesis, I will include a discussion of Helmholtz's theories of musical hearing and musical harmony in regard to Endell's designing for harmony in the first courtyard. I plan to discuss the ways in which Endell's "scientific" investigations into the structure and nature of a module of conscious experience (discussed further below in this chapter) can be evaluated in continuity with Helmholtz's investigations in the physiology of musical hearing, empirical acoustics, and the scientific foundations of harmonic practice, as well as Helmholtz's focus on tone as a physical, physiological, and psychological phenomenon. Particularly relevant to a discussion of Helmholtz's contributions to musical theory is his most famous treatise in the area of music perception, *Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik* [On the Sensation of Tone as a Physiological Basis for the Theory of Music] (1863), which was dedicated to scientific investigations of elementary sensations of tones and was addressed to a popular audience. However, Helmholtz had developed an interest in physiological acoustics already in the 1850s, as is evidenced by his essay "Ueber Combinationstöne" [On Tonal Combinations] (1856), and his lecture "Ueber die physiologischen Ursachen der musikalischen Harmonie" (1857) [On the Physiological Causes of Musical Harmony]. Jonathan Crary, who has examined how "new truths and new uncertainties about perception have been contested and reconstructed, within both visual modernism and a modernizing mass visual culture," has identified Helmholtz's scientific work as participating in the defining of "the contours of a general epistemological uncertainty in which perceptual experience had lost the primal guarantees that once upheld its privileged relation to the foundation of knowledge." See Crary, *Suspensions of Perception*, 12. For a recent discussion of Helmholtz in regard to his work in theory of music, see Benjamin Steege, *Helmholtz and the Modern Listener* (New York: Cambridge University Press, 2012). Steege has sought to recalibrate scholarship that heroizes Helmholtz as "modern" and as a "straightforward emblem of bourgeois socio-economic progress," for instance when he asserts that, "at the heart of Helmholtz's inquiry... lies the question of how a self-possessed listening is possible at all." *Ibid.*, 10-13. For essays in English that give a general sense of Helmholtz as a physiologist, physicist, and philosopher, including the essay by Stephan Vogel, "Sensation of Tone, Perception of Sound, and Empiricism: Helmholtz's Physiological Acoustics," see David Cahan, ed., *Hermann von Helmholtz and the Foundations of Nineteenth-Century Science*, California Studies in the History of Science (Berkeley: University of California Press, 1993), 259-87.

¹⁴ Carl Stumpf, "Die Musik in Geschichte und Gegenwart," *Allgemeine Enzyklopädie der Musik*, founded by Friedrich Blume, 2nd rev. ed, ed. Ludwig Finscher (Stuttgart: Bärenreiter-Verlag, 2006), 228-31.

was known especially for coining the term "Gestalt" in relation to musical complexes. Both Stumpf's and Ehrenfels' respective work pertained to the broader question of the exploration of the structure and nature of synthesis.¹⁵ Ehrenfels explored the problem of synthesis in the relationship between harmony and melody as one concerning Gestalt constituted by relations. Stumpf was especially preoccupied with the perception of the relationship of groupings of tones in chords and triads.

Endell's design of a time-based elastic architecture originated within this broad theoretical framework of experiments with sensation as an act.¹⁶ Both Stumpf's *Tonpsychologie* of 1883-90 (Psychology of Tone),¹⁷ and Ehrenfels' 1890 essay "Über 'Gestaltqualitäten'" (On Gestalt Qualities),¹⁸ were concerned with transitions between elements in perception that pointed in the direction of understanding perception as an essentially durative process. Stumpf prefaced

¹⁵ In recent years, studies have begun to appear that pay attention to these early investigations in musical theory concerned with perception of sounds. One such work that situates developments in musical theory at that time within the broader context of modern aurality is Veit Erlmann, *Reason and Resonance: A History of Modern Aurality* (Brooklyn, NY: Zone Books, 2010). His Chapter Seven, "Rhythm and Clues: Time and the Acoustic Unconscious, ca. 1900," is part of a brief but comprehensive overview that aims to situate concerns with knowledge as it relates to hearing. Idem, 271-342. Here, Erlman reveals the great extent to which rhythm was theorized around 1900. In the course of my research concerned with the scientific philosophers' involvement with musical theory, I investigated to what extent Endell's contemporaries (students in philosophy) worked on related topics in music, and I found evidence of dissertations that were conducted on the subject that involved issues of rhythm and melody. From around the turn of the century, examples include: Fritz Weinmann, *Zur Struktur der Melodie* (Ph.D. diss., LMU Munich, 1903); idem, *Zur Struktur der Melodie* (Leipzig: Verlag von Johann Ambrosius Barth, 1904); and Max Ettliger, *Zur Grundlegung einer Aesthetik des Rhythmus* (Ph.D. diss., LMU Munich); idem, *Zur Grundlegung einer Aesthetik des Rhythmus* (Leipzig: Verlag von Johann Ambrosius Barth, 1895). Weinmann was a member of the Akademischer Verein für Psychologie, and his main area of study put him together with Lipps. In regard to Carl Stumpf's work in this area, I found useful Marc Leman, ed., *Music, gestalt, and computing: studies in cognitive and systematic musicology* (Berlin: Springer, 1997), especially the chapter by Albrecht Schneider, "'Verschmelzung,' Tonal Fusion, and Consonance: Carl Stumpf Revisited," 117-43.

¹⁶ In all her works concerned with the nature of the research in scientific philosophy, Liliana Albertazzi traces their roots to Franz Brentano's work and his manifold influence on various psychological schools in Europe.

¹⁷ Carl Stumpf, *Tonpsychologie*, vol. 1 (Leipzig: S. Hirzel. 1883), and vol. 2 (1890). Essentially, both Stumpf and Ehrenfels took part in the formation of this newly established field.

¹⁸ For the work that pertains to this issue, see Christian Ehrenfels, "Über 'Gestaltqualitäten,'" *Vierteljahrsschrift für wissenschaftliche Philosophie* XIV, no. 3 (1890).

his *Tonpsychologie* as follows: "[The field] bears the name tone psychology because it aims to describe the psychic functions that are triggered by sounds. The following addresses the judgments that attach to simultaneous tones, as well as things relating to intervals, which is to say tonal feelings."¹⁹ Overall, in their investigations concerning origins in perception, the question of experience was concerned with rhythm. Scientific philosophers explored related issues of tonality, harmony, consonance, dissonance, chords, triads, intervals, melodies, pitch, rhythmic structures, and complexes of melodies and their transposability. Their search for origins in perception was consistent with the search for the origins of phenomena that was one of the trends in German and Central European philosophy at that time. The question of experience as based in rhythm related to the question of the visibility of form's origins.

Carl Stumpf focused on perception of compounds of tones in regard to consonance through a phenomenological description of processes of tonal groupings.²⁰ His main contribution to studies in perception was the concept of tonal fusion (*Verschmelzung*). This referred to the processes of a form that, while perceived as a whole, retains its visibility as a grouping of tones in relations. Stumpf thus attempted to describe a synthesis that was both a process and a result. The notion of *Verschmelzung* was one of "the fundamental *concepts* of a scientific analysis of the time of presentness,"²¹ meaning a temporally extended act of consciousness. Involving this

¹⁹ "Introduction" to Carl Stumpf, *Tonpsychologie*, vol. 1. "Tonpsychologie nennt es sich weil es die psychischen Functionen beschreiben will, welche durch Töne angeregt werden. Das Folgende wird die Urteile behandeln, welche sich an gleichzeitige Töne knüpfen, und die auf Intervale bezüglichen, endlich die Tongefühle."

²⁰ Stumpf's contribution to musical theory has yet to be fully recognized. His term *Verschmelzung* got lost in translation as "fusion," and it is therefore a term that changes entirely the point of Stumpf's argument based in explorations of tones in relations and the role of intervals in the perception of composed sounds. What is also little known is Stumpf's preoccupation with acoustics in his laboratories of sound.

²¹ Albertazzi, "The Time of Presentness. A Chapter in Positivistic and Descriptive Psychology," *Axiomathes*, nos. 1-3 (1999), 49. Her article is concerned with an exploration of the history and theory of the concept of a time of presentness that originated as "the temporally extended acts in consciousness." I use the term "duration" in perception.

"new" dimension of time, Stumpf's concept of perceptual fusion was therefore different from what is currently understood by the term. In contrast to a process by which synthesized parts are no longer visible within a synthesized whole, Stumpf conceived of fusion as representing a way of seeing that guards against a one-sided theory of form—whether elemental or holistic.

Stumpf thought of what Gestalt theory ("the newer Gestalt psychology") was to become in the twentieth century as precisely that which he (and others at that time) had hoped to resist: a one-sided concept of form as a whole. Stumpf commented in his work *Erkenntnislehre* (Theory of Knowledge), published in 1939: "Indisputably, early on not enough attention was being paid to the laws of Gestalt perception...But, as it so happens in these cases, one fell out of one kind of one-sidedness into another. In the representations of the theorists of Gestalt, it looks as if there were no longer colors and tones...in our sense of perceptions, but solely Gestalts."²²

Albrecht Schneider, with regard to Stumpf's concept of *Verschmelzung*, has asserted that the term was part of Stumpf's philosophical and psychological theories of consonance.²³ Consonance, he explains, was for Stumpf a matter of immediate sensation and concordance.²⁴ Stumpf's planned third and fourth volumes of his *Tonpsychologie*—"Consonance" and "Concordance"—possibly would have completed his systematic musicological theory. With that, he may have made explicit the concept of consonance's situation in perception. In the published volumes and elsewhere, Stumpf emphasized the theme of interval perception in tonal groupings. He also explored interval as a structural element in musical complexes.²⁵

²² Carl Stumpf, *Erkenntnislehre* (1939), 242. Cited in Sprung, "Modern Psychology," 25.

²³ Schneider addresses this issue of *Verschmelzung* in idem, "Carl Stumpf Revisited," in Leman, ed., *Music*.

²⁴ *Ibid.*, 123.

²⁵ See especially, Stumpf, *Tonpsychologie*, vol. 1.

Christian von Ehrenfels was preoccupied with similar issues regarding qualities of form in perception.²⁶ Already in 1890, he pioneered research into Gestalt theory with investigations of melody as a form synthesized in perception. In his 1890 essay "Über Gestaltqualitäten," he explored "melody in itself," asking: "[Is it] a mere sum of elements, or something new in regard to this, which even if existing with that sum, is nevertheless distinguishable from it?"²⁷ Ehrenfels investigated melody as a form consisting in transitions.²⁸ As Jonathan Crary has stated, Ehrenfels explored melody as something new, and more than the sum of its parts.²⁹

Ehrenfels thus addressed a new quality of form in perception. He defined it as facilitated by transition from one musical tone to another in the following way: "[P]recisely how the transition from one tone to another in the fixed order makes a melody...is something other than the sum of tones, that one can call *Tongestalt*."³⁰ His "discovery" of a transitioning phase as the building block of Gestalt, and Endell's examination of the relation between formal elements in perception, share a concern with the perceptibility of transitions. Just as Ehrenfels and Stumpf explored musical complexes in theory, Endell explored visual complexes through a designed theory. He explored a design of transitional forms. He, too, constructed forms that evoked an added quality in perception, referring to this quality as form's life and movement.

²⁶ Jonathan Crary discusses Ehrenfels' concept of Gestalt qualities in *Suspensions of Perception: Attention, Spectacle, and Modern Culture*, October Books (Cambridge, MA: MIT Press, 2000), 157.

²⁷ Ehrenfels, "Über 'Gestaltqualitäten,'" 12.

²⁸ Ibid. Barry Smith, an authority on issues in Central European philosophy and on the notion of Gestalt, suggests that Ehrenfels' philosophy was shaped by his principal teacher, Franz Brentano. Barry Smith, "Gestalt Theory: An Essay in Philosophy," 11.

²⁹ Crary, *Suspensions of Perception*, 157.

³⁰ The reprinted text is in Ferdinand Weinhandl, ed., *Gestalthaftes Sehen. Ergebnisse und Aufgaben der Morphologie. Zum hundertjährigen Geburtstag von Christian von Ehrenfels* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1960), 19.

As soon as both Ehrenfels and Endell "discovered" the potential of transitions for cognition, they realized the impossibility of fixating upon the transient moment in perception. Both recognized this, in fact, as the foremost quality of conscious experience. In their respective efforts to formulate this, with Ehrenfels' theory and Endell's design, they therefore asserted the significance of transitions. Ehrenfels formulated the transitional phases in form's perception as what makes one *see*. Endell designed relations as constituents of awareness. The time of these formulations, written or designed, was an interesting moment in the history of formulations of Gestalt theory. With their investigations into what could be termed pre-Gestalt qualities of form, Stumpf, Ehrenfels and Endell pre-dated the Gestalt-theoretical thinking that had its peak in the 1920s and 1930s in Germany. In pioneering the concept of Gestalt, they emphasized it as consisting of and in relations, and they therefore had a focus contrary to the later holistically-oriented concept of Gestalt that, in many ways, framed the conceptual paradigm of the first half of the 20th century.

When Endell claimed in "Originality and Tradition" that it was "necessary to work with complex forms first before much can be expressed with simple forms,"³¹ he pointed to the necessity to understand precisely the processes of synthesis that make relations visible as complex form's basis. He thereby stressed the dangerous implications of any such efforts at shaping the question of inquiry as one concerned with meaning. Instead, he insisted on form as process. His choice to work with design and architecture as media of visibility was motivated by this notion of form.

³¹ August Endell, "Originalität und Tradition," *Deutsche Kunst und Dekoration* 9, no. 6 (March 1902): 289-96. Reprinted in idem, *Vom Sehen*, ed. David, 97. "Es ist eben gar nicht leicht, einfache Formen zu erfinden, und solche Formen können nicht Anfang, sondern nur Frucht langer und intensiver Bemühungen sein. Erst müssen wir lernen durch komplizierte Gebilde zu wirken, bis wir sicher genug sind, auch mit einfachen Mitteln auch viel zu sagen."

Endell's lesson(s) in revealing a module of consciousness in the east-facing façade—

Entry through the passageway

When one leaves the street behind and enters the complex, one encounters an explosion of colors and shapes. Endell's courtyard advertised the possibility of a discovery, and rediscovery, of vision. The first view to be gradually encountered upon entering the courtyard was of the western transversing wing and its facade. Every one of the façade's details was meaningful in the perception of the façade as a whole. Endell utilized this façade as a space for a kind of non-commercial advertisement. Here, he displayed a module of harmonious form as a module of conscious experience. He thereby defined a new quality of modern form, and one that could be shared by the observer—elasticity.

The visitor enters the first courtyard through a passageway that connects the building complex and the city.³² **[Fig. 11]** At the moment of a visitor's entry into this transitional space, an adventure of discovery, even a simultaneous self-discovery, may begin to unfold. Walking through, a view of the partial lower portion of the façade emerges, a view framed by the passageway's opening. Seen through the framed view of the passageway, the most visible part of the distant façade is two diamond-shaped forms. **[Fig. 12]** As if these were eyes gazing out from the other end of this passage, they return the visitor's gaze, turning him or her into an observer. Placed upon a façade framed by the passage, they announce both an embodied form and space. This would then be a design based in processes of reciprocity of vision and the observer's awareness of those operations, making this public place a transitional space. The observer would be on the cusp of experiencing what Endell discussed in "The Beauty of Forms and the Decorative Arts I," namely, "the power of form over [his or her] mood, a thoroughly unmediated

³² When viewing Fig. 11, please take into account that the photograph is taken from inside the courtyard, looking back at the first passageway through which the complex is entered from the street.

influence without any connecting elements," as consisting in "a certain parallelism between essence and appearance."³³

Endell playfully reversed the logic of advertising by placing the 'eyes' within two adjacent glassy surfaces reminiscent of the display windows along Berlin's commercial streets. Contrary to employing vision as handmaiden to the growing consumerism in society, at the entry to the courtyard Endell emphasized vision (both literally and metaphorically) as both *the* object and subject of desire. With every step closer to the façade, the diamond-shaped eyes crystallize as composed of many individual elements, and they reveal an articulation in their middle. With the distance relative to the façade decreasing, pupils emerge, reflecting those processes of dynamicity in vision that the observer might experience at that moment.

The eyes instantiate processes of accommodation in vision. Not only do the pupils emerge as the result of the changing distance in vision, they would keep emerging and receding depending on the observer's focus at a given moment. Endell thus explored the emergence of processes of accommodation in vision as facilitated by a changing distance to the viewed object, as well as changes in perceptual groupings of elements, depending on the scale of visibility. In addition to the pupil, there were other lines in relations that required a similar act of focus. Here, Endell's design of forms, as both wholes and parts in relations, resonates with the mechanism of the zooming processes of the accommodating eye.

This experience makes evident the presence of an almost magnetic force. Owing to that force, the observer would become caught up in the dynamics of the processes of form's becoming, on the one hand, and caught up in the coming of conscious vision, on the other hand. This experience of, essentially, elasticity in vision is, at the same time, an experience of

³³ Endell, "Formenschönheit und dekorative Kunst" (November 1987), reprinted in idem, *Vom Sehen*, ed. David, 149, 151. "Das ist die Macht der Form über unser Gemüt, ein direkter unmittelbarer Einfluss ohne alle Zwischenglieder...."; "Allerdings besteht ein gewisser Parallelismus zwischen Wesen und Schein."

interchangeability of varying scales of visibility. Choosing to embody his architecture through the processes of elasticity in vision, Endell literally presented a vision based on two moving eyes whose crystalline lens continually convexes and flattens—a vision that facilitates the emergence of (a) space based in a reconciliation of form's flat and curved surfaces. Endell experimented in construction of a space of both individual and shared experience, in which the mechanism of accommodation in vision would serve as a support for the design Endell's psychology: a design of a "science" of consciousness based in ethical relations. By taking physiology of the eye as a support in the construction of his "science" of consciousness, Endell continued the physico-physiological work of Helmholtz. Endell did so in a way that bore similarities also to Stumpf's research.

Helmholtz formulated a theory of accommodation that he subsequently published in the first of the three volumes of his *Handbuch der Physiologischen Optik* (Handbook of Physiological Optics), written between 1856-67.³⁴ Here, Helmholtz essentially described accommodation as a feature of the curvature of the crystalline lens. He described how the lens either flattens or becomes more convex according to the distance of the observed object, and he stressed that the actual movement was caused by specific muscles. Endell's design of the "eyes" announced that this phenomenon would be the foundation of the experience that the observer would have in the courtyard. The courtyard conveys principles of a ceaselessly elastic form (based in feeling) constituted by elements in relations in ways both parallel and related to the eyes' ceaseless state of accommodating to the varying scales of visibility.

³⁴ See the entry "Mechanismus der Accommodation" in Hermann Helmholtz, *Handbuch der Physiologischen Optik*, vol. 1 (Leipzig: L. Voss, 1866), 103-25. For a discussion of phenomena in Helmholtzian physiological optics in the context of the analysis of an artwork (Seurat's painting *Parade de Cirque*), see Crary, *Suspension of Perception*, 215-18.

Already in 1897-98 in "Formenschönheit und Dekorative Kunst I," Endell essentially described form's emerging quality of movement while discussing line's behavior. He implied line's velocity and direction as the constituents of experience. Endell explored form in experience as a pattern of movement that consists of a reconciliation of form's, and line's, qualities: of rhythm (*Tempo*) and tension (*Spannung*), or, in parallel terms, of velocity (*Schnelligkeit*) and direction (*Richtung*). Moreover, with his terminology used interchangeably, Endell signaled that he was basing his experiments, in line and form as movement, both in music and in science.³⁵ Finally, in the same article Endell defined line as change, and he investigated its most nuanced instances through the connection to changes in feeling.

This became obvious in the courtyard, where Endell showed form as both rhythms of consciousness and as a display of a dissection. Here, Endell designed a continual form in relation to changes in feeling.³⁶ The contours of the eyes (and pupils) reveal such processes. They make the observer attentive to the velocity and direction of lines in relation to processes of perception—to form as a pattern of interrelated rhythms. The experience of the eyes could be described in a similar way to how Endell taught the art of form at his school: "dissecting the given form, breaking it up into simple elements, comparing, rearranging the form via systematic changes of its elements."³⁷ In the courtyard, Endell propagated design concerned with the morphogenesis of the rhythms of experience.

³⁵ Ibid. For Endell's discussion of these qualities in relation to feelings, see Endell, "Formenschönheit und dekorative Kunst. II. Die gerade Linie," in Endell, *Vom Sehen*, ed. David, 151-55.

³⁶ For a discussion of Lipps' research into the aesthetics of particulars, see Albertazzi, "The Aesthetics of Particulars," 169-96.

³⁷ From the document cited in Chapter Two, "Schule für Formkunst" (1904). "Zergliedern der gegebenen Form, auflösen in einfache Elemente, sammeln ähnlicher Formen, Vergleichen, Umgestalten einer Form durch systematisches Verändern ihrer Elemente."

By placing the eyes at ground level, Endell made physiology visible literally as one of the supports in the foundation of what he considered was the ultimate "science" – the science of both individual and shared consciousness. The façade above shows the principles of Endell's "science" of form based in feeling. Growing out of a concern with a theory of knowledge based in a theory of feeling, like a "cathedral of metaphysics" in which sciences such as physiology and physics execute the plan, the façade advertises for an ordering principle of an "ethical" universe based in the reciprocal relationship of vision and visibility.³⁸ The full passage in which these ideas are articulated reads as follows:

Theory of knowledge is the master builder who, at one and the same time, designs the plan for the great cathedral of metaphysics; investigates decline; sets forth the way in which to build. The sciences implement the plan. They move forward unevenly, some portions [of the larger structure] collapse, because they rest on insecure foundations, on false philosophical considerations. But the master builder has at times erred, as experience teaches. Thus alchemy and astrology collapsed. [Yet:] A philosophical assessment would have laid bare their meaninglessness from the very start.³⁹

Full frontal view of the east-facing façade

As soon as the observer reaches the courtyard's open space, an almost dizzying, breath-taking place opens up: an array of vividly colorful and playful geometries adorning the enclosing façades becomes visible. And yet, the journey towards the courtyard's discovery is also determined by the foregoing experience. The visitor begins in the passageway and encounters a

³⁸ Endell to Breysig, April 2, 1892. "Die Erkenntnistheorie ist gleichsam der Baumeister, der den Plan zu dem grossen Dome der Metaphysik entwürft, den Untergang untersucht, den Weg angibt, wie gebaut werden soll. Die Wissenschaften führen den Plan aus. Sie kommen ungleich vorwärts, mancher Teil stürzt ein, weil er auf unsicheren Fundamenten, auf falschen philosophischen Erwägungen ruhte. Der Baumeister hatte sich geirrt[,] die Erfahrung lehrte es. So sind Alchemie and Astrologie gestürzt. Eine philosophische Erwägung hätte ihre Bedeutungslosigkeit von vornherein aufzeigen können."

³⁹ Ibid.

design based in processes of perceptual grouping and regrouping. This demands that the observer continually accommodate to the varying scales of elements. Upon the criterion of similarity in shape, the observer would turn his or her attention away from the two glassy surfaces previously disclosed in experience, and towards an adjacent element. This is a passageway. With its shape and placement, it is a mirror image of the passage the observer just left behind. Endell choreographed an experience of seeing and memory in interrelation—a space—that enables the two to become interchangeable. He thus suggested that experience of memory was also an origin of elastic vision. That is, he evoked processes of vision that ensure continuity of experience. Moreover, the view of the transitional space of the passageway symbolizes form's capacity to extend beyond its boundaries.

The passageway completes the street level of the façade, constituting it as a grouping of three similar elements. These three elements constitute a tripartite composition based in different "forms" yet similar functions, like a triad consisting of three different sounding tones in the same key. They are similar in shape and size. Moreover, all three are transitional elements. They differ, however, in their specific function: on the left is a window, in the middle is an entry (to the Oriental Restaurant), and finally, there is a passageway. The glassy surfaces and the passageway are transitional elements, both literally and symbolically. This portion of the façade advertised processes of vision as an experience emanating from a musical triad. This visual entry to the façade parallels the initial triad of a composition that reveals the origin of experience, while at the same time revealing processes of interrelation of the three "entries." In perception, the tripartite composition is a form of ceaseless movement facilitated by constantly changing relations on all of its interrelated levels. As a modulation essentially of space (as the essence of

its three transitional forms), the composition generates form, modulated by an interval, in ways that parallel Stumpf's definition of a musical triad.

As discussed above, Stumpf considered the triad in experience to be facilitated by the intervals among its tones' combination, rather than the tones themselves. Endell's window-entry-passageway section is a literalized example of a composition in which intervals—both spaces of transparency and transitory spaces—become meaningful for the experience of the façade as a whole, symbolizing the need to consider form as an interrelation of surface and depth. Through emphasizing the intervals of which it consists, such a form exhibits the quality of mobility. Both symbolically and literally, in perception the three parts of the façade operate in parallel and in interrelation: they facilitate a form of movement evoking a triad as a dynamic system constituted by ceaseless change. The "techniques" of such a form are processes of reciprocal reflections.

Throughout the façade and the courtyard, this triad-like form is ever-present in variations and permutations—it is the compositional module. This initial experience reveals the complex origins of the façade (and its geometry) in a ceaselessly changing pattern of a form consisting of interrelated intervals. Endell's module of consciousness emerges out of interval space. Moreover, the three transparent and transitional elements in relations emphasize a kind of synthesis in which both form as a whole and its processes retain their visibility, evoking a phenomenon parallel to Stumpf's concept of tonal fusion (*Verschmelzung*). With an interval space—a void—as the origin of form and conscious experience, Endell asserted a technique of visibility in form's reversal. This consisted in the interrelation of the three visual "entries" in the tri-partite form. A space/experience emerged as a result constructed by processes of diverse "structures" of time in relations. Endell's construction of conscious experience therefore consisted in processes of a specifically structured time-space.

As a minimal unit of harmony, the triad-like composition embodies a module of experience. It is based in a relational form of an Isosceles triangle. In experience, the processes of subordination and coordination of the triad reflects a triangular form consisting of form, observer, and idea. This construction of a process of reflection through form's reversal instructs in an experience of cognition taking place in a symmetrical relationship to both form and observer. This notion asserted a form constructed along an invisible axis whose two sides are equal. Endell based his design in a form of synthesis generated through reflection. Within it, thought emerges as an element that is both parallel to and interrelated with form and observer. It can be inferred that, through such a construction of ceaselessly changing relations, Endell sought to reveal a module of form as cognitive space. No matter the combination of elements in the façade, the emerging space would endow form with feeling and meaning.

Decades later, the architect Adolf Rading, Endell's former assistant and a proponent of *Neues Bauen* (New Building) in Germany, continued this research into the processes of visibility. Although Endell's role in this legacy has not yet been recognized, Rading did in fact address issues of construction of harmony as a form of visibility in his 1928 essay "An die 'Form'" (About Form). There, he explained the processing of perception in the following way:

If we let a painting consist of not more than two points or two circles... the painting can be nothing more than precisely these two points. It can, however, also be composed in a way that develops a relation between these two points, which can be called tension or whatever one wants to call it. That is to say, in addition there is a third (*ein Drittes*), an invisible visible (*unsichtbar Sichtbares*), which is at least as important as the visibly visible (*das Sichtbar Sichtbares*).⁴⁰

In this description of a relation between two elements as a triangular relationship in perception, Rading appropriated a language of visibility, and invisibility, that was grounded in terminology

⁴⁰ "An die 'Form,'" Berlin, 14 July 1928. Nachlass Rading, Abteilung Baukunst, Akademie der Künste Archiv, Berlin. On Rading, see also my conclusion.

already common to famous architects and painters by that later time, like Paul Klee. Rading's idea, however, resonates with the early precedent of Endell's explorations of visibility. Endell never explicitly described this phenomenon. Given that Endell was evidently a believer in the power of form, I take the view that he hoped to address people through experience. In a time of growing interest in the explanatory paradigm of abstraction, it would perhaps not even have been all that feasible to do otherwise. Endell proposed a module of harmony based in the interrelation of an ideal form and an act of observation: an explanatory principle that aimed to bridge the question of idealism and materialism. He did so in a way that evoked the origins of experience in both music and visual form.

Endell next choreographed an experience that helped keep in mind that these common origins were also shared by natural form: that is, he designed an experience consisting at the same time in the processes of elasticity of vision in continuity with the observer's initial experience in the courtyard. He designed the triad-like form of straight geometries in reciprocity to a form based in a geometry of curvature. The placement of the Oriental Restaurant [**Fig. 13**] behind the glassy surfaces seems no mere coincidence. Endell designed its interior in the tradition of curvilinear ornaments of the East. Its interior is precisely the "space" that needed to be discovered in relation to the straight geometries of its exterior. It is literally accessed through the diamond-shaped eyes, symbolizing this notion of discovery, and self-discovery, as vision based in curvature. At the same time, Endell choreographed experience as a discovery of "the Orient" (and its form based in curvature) in relation to the concept of form in the West. Endell thus emphasized that both curved and straight surfaces are the related origins of a form—constitutive of a feeling of harmony.

In the restaurant's interior, Endell designed abstracted forms based on the architecture of the Near East. The Moorish arch in a large niche is the foremost example.⁴¹ The design of the restaurant emphasized features that mimic the non-figurative, interlaced ornament of the Near East. By abstracting these features in his design, it is as if Endell sought to express ambiguity with regard to the perception of abstraction as a western phenomenon. Endell's concept of experience now included the cultures of the Near East. Symbolically, Endell expressed both the conceptually and geographically related origin of his aesthetic geometry. He revealed the form that ultimately guides the eye into the interior as based in a geometry that reconciles principles of Euclidian and non-Euclidian space (non-Euclidian geometry was first codified in the Near East).

Endell was familiar with the latter from his studies in Munich. It is little known that, as Albertazzi notes, the thrust of his professor Lipps' efforts was essentially

an aesthetics of particulars [which] is primarily an aesthetics of a space which does not yet possess the defining features of Euclidean space, but...is a space which comprises, for example, tactile and kinesthetic qualities, movement, direction, velocity, and therefore has the essentially dynamic structure of aesthetic phenomena of vision.⁴²

Endell translated the qualities of such (non-Euclidian) space into a design of elasticity. In his school, Endell guided the students to the understanding of a façade as a spatial form, an experience of an entirely new moment. With his term of a *new* movement, Endell essentially announced a concept of elastic form—a four-dimensional continuum structured through processes of vision and memory, interrelated. Endell explained: "In some ways the impression

⁴¹ In a report in the Landesdenkmalamt in Berlin, it was noted that photographs suggest that the walls of the restaurant were either covered with fabric or with wallpaper. It is stated, however, that there is no further evidence to support this claim.

⁴² For a discussion of concerns on the part of the scientific philosophers with the mechanics of perception as displaying features of non-Euclidean space, see Albertazzi, "The Aesthetics of Particulars," 170.

made by the completed façade undergoes a shift; also, entirely new instances enter in, ones that we will only come to recognize in light of the spatial forms."⁴³

Behavior of forms—diamonds and squares

Next, Endell guided the observer in a "discovery" of the ways in which harmonious feeling is modulated. He symbolized this with the shape of a diamond, which he frequently used also in its variation as a square. Pairs comprised of diamonds and squares in fact were among the shapes with which perceptual psychology at that time most frequently studied forms' behaviors.⁴⁴ It was the proximity of the two in perception that made the observer aware of their relatedness. Endell constructed continuity in the façade also by means of exercises in perceptual groupings based in the elements' proximity.

The direction and velocity of the diamond played a central role for instilling continuity in the façade's main movement upward, as well as in its auxiliary movements. Endell stressed the façade—and a design of harmony—as an interrelation of height, surface, and depth. He choreographed groupings of elements in ways that conveyed the horizontal direction of the façade as well as its main upward direction. In order to ensure continuity in vision based in reconciliation of opposing directions and speed of the eye in taking the facade, Endell used a limited repertoire of forms. He presented them in varying combinations and permutations, facilitating the experience of a chain of causality similar to the ways he guided his students to see causality in nature.

⁴³ From a documented course in Endell's school, cited in Chapter Two: "Bei der ausgeführten Fassade verschiebt sich manches im Eindruck, auch kommen ganz neue Momente hinein die wir erst bei den Raumformen kennen lernen werden."

⁴⁴ Albertazzi, "Towards a neo-Aristotelian theory of continua," 29-79. The author gives an overview of basic exercises in optical illusions as constitutive features of forms of perceptual continua whose origins she traces to Aristotle's theory of continua in his *Physics*. Endell studied Aristotelianism, along with Kant's work, in Munich.

In this way, Endell structured experience recursively through specific relations among elements: that is, he based new views in past ones by letting new elements continually "grow" out of previously encountered ones. In a structure that indexed a module as its origin, he stressed experience based in interrelation of memory, vision, and future vision. The façade is a form of changing symmetries. It is constructed through processes of reflection along invisible axes. In experience, the façade becomes an array of interrelated rhythms on varying scales of visibility.

Above the street level: Endell's graphic description of the experience of a triad

The diamonds direct attention up to a staccato rhythm of nine concentrically grouped, colorful squares. This portion of the façade especially resonates with Stumpf's analysis of a triad as a form of a concord of consonances consisting of eight consonant, ordered subintervals. **[Fig. 12]** It is Endell's grouping of nine squares and eight spaces that parallels such consonances and is thus a graphic description of the experience of a triad as a module of harmony. Moreover, this grouping seems to be a microcosm of the complex as a whole. The numerical relations here reflect (show in reverse) the relations of the complex's built form: eight courtyards and nine passageways. They thus represent the complex itself as a consonance of buildings as intervals, with courtyards as forms creating meaning. That is, they represent a structure of architecture as cognitive space. Schneider has highlighted precisely the example of a triad's analysis in experience, taken from Stumpf, as a phenomenon indicating the philosopher's concept of sensation as cognition.⁴⁵

In this part of the façade, it becomes evident that Endell worked with colors in parallel to lines. The squares consist of elements of white, black, light blue, and orange, in relations. Here,

⁴⁵ I am drawing here on Albrecht Schneider's views on Stumpf's philosophy. Schneider, "Carl Stumpf Revisited," in Leman, ed., *Music*.

Endell introduced most of the color-repertoire of the façade (with the exception of red). Despite this limited repertoire, the façade is extremely vivid. Endell achieved this effect by combining colors in constantly new variations, subordinating and coordinating their varying rhythms. A display of the principle of consonances in perception is evident: here, as variations on a configuration of color relations. The colors in individual squares are arranged in groupings of diminishing squares laid one upon another, generating the interrelation of contrasting and complementary colors. This causes the attention continuously to shift, stirring movement that facilitates form as both surface and depth. The observer groups the complementary colors, on the one hand, and the contrasting colors, on the other, shifting focus while accommodating to the varying scales of the squares. In the façade, Endell experimented with shapes and colors in a way that became typical of the later modernists' works.⁴⁶

As in a modern musical composition, dissonance stands out as the core constructive principle of harmony. One of the orange squares was slightly above the center of the black square, disrupting the overall rhythm of the grouping's spacing. The smallest detail thus turned into a powerful "sound," becoming an active agent in the emergence of form as change. This moment emphasized the façade as a form composed of varying scales of interrelated rhythms: of the staccato rhythm of the nine squares, each of which itself was a rhythmic unit based in counterpoint between series of sets of relations. Now with help of colors in relations, Endell constructed a perceptual continuum of a simultaneous movement in both the vertical and horizontal directions, as well as in depth.

⁴⁶ Endell's colorful squares in particular call to mind works by Joseph Albers. His series *Homage to the Square*, 1949-1976, involves an experience of the visual effects of opposing colors in concentric sets of squares (in series) in a way strikingly similar to Endell's. In a series of paintings of squares, Albers explored spatial relationships that, I suggest, Endell had explored in a publicly accessible medium almost fifty years prior. Moreover, I propose that what Albers seems to have aimed at through producing a series of changing effects, Endell undertook in the façade by way of variation.

The displaced orange square simultaneously leads the eye upwards, in keeping with the continuity of the façade's main direction. At the same time, its positioning balances the grouping. Endell established a focus within that part that, at the same time, serves the construction of the façade's balance, making both the part and the façade as a whole interchangeable in experience. This orange square is dissonant with the rest of the consonant intervals. While the quality of this dissonance, as in music, "is its sense of movement,"⁴⁷ it provides the eye with a resting place at the same time. Zooming in on such a small detail, the process of vision extends in time. Endell thus stressed experience of balanced form as an act of duration. The dissonance therefore becomes interchangeable with a dissonant interval space, however, one different to the others in the grouping of the squares. In this way, Endell stressed this differential—a differing interval—as the central ingredient of a form of interrelated rhythms of consciousness.

Endell already showed interest in form as rhythmic movement in 1898, when he discussed perception of form as movement: "When I take in a line bit by bit, I am doing something that, while not identical, is similar to [what happens] when I track an object in motion with my eye. The objective juxtapositionality of the form is actually perceived by the observer as sequential, and this is well characterized by the image of 'movement.'"⁴⁸ This demonstrated Endell's preoccupation with the mechanics of time in perception. Endell explored line and form as succession, a durative process. It can be argued that Endell thus introduced a concept of rhythm as a structure of simultaneity of sameness and difference, designing it by means of

⁴⁷ Mark De Voto, in *The New Harvard Dictionary of Music*, ed. Don Michael Randel (Cambridge, MA: The Belknap Press, 1986), 205-08. Cited in the entry is Walter Piston, *Counterpoint* (New York: Norton, 1947), s.v. "counterpoint." Here, it is stressed that, "the essential quality of dissonance is movement as opposed to the erroneously assumed degree of unpleasantness to the ear." See De Voto, *Music*, 205.

⁴⁸ Endell, "Formenschönheit und dekorative Kunst," 159. "Indem ich eine Linie sukzessiv aufnehme, tue ich zwar nicht dasselbe, aber etwas Ähnliches, als wenn ich einen bewegten Körper mit dem Auge verfolge. Das objektive nebeneinander der Form wird in der Tat für den Betrachter ein Nacheinander, das durch das Bild 'Bewegung' sehr gut charakterisiert wird."

counterpoint. In music, counterpoint is defined as a contrasting but parallel element, and thereby a basis for all tonal harmony:

The perception of the simultaneity of the relationships involved is the perception of counterpoint. Counterpoint emphasizes the linear or horizontal aspect of music, and it is sometimes contrasted with harmony, which concerns primarily the vertical aspect of music embodied in the nature of the simultaneously sounding combinations of pitches employed...Counterpoint and harmony are fundamentally inseparable.⁴⁹

Endell instructed in a construction of elastic form (and space) in which time, as its foremost constructive category, was specifically structured.

Windows as intervals

With a design that is both material and dematerialized, Endell continued the façade's origin in a transitional form and space of the triad-like unit at its street level. At first sight, it is evident that windows in the façade take a great amount of space—perhaps equal to its solid surface. These windows are larger than the rest in the courtyard. They facilitate the amount of light needed for the two-story-high representative rooms of the interior. The large windows also give the façade the feel of a public place. They modulate the initial triad of the façade's composition also numerically and structurally: there are three rows of tri-partite windows.⁵⁰ By making the void and solid parts of the façade equal in perception, Endell emphasized windows as a main form. As both a form and a symbol of transition, windows symbolized a concept of an artistic form as a transitional form. They are thus microcosms of the façade as a whole. They enable transition between the interior and the exterior, on the one hand, and between the

⁴⁹ De Voto, *Music*, 205.

⁵⁰ This moment calls to mind instances in the architecture of Karl Friedrich Schinkel. It may be an instance of Endell directly quoting the man who was probably the most famous Prussian architect, K. F. Schinkel.

vertical and horizontal directions of the façade, on the other hand. In this way, they contribute to the effect of movement in the façade, to its interrelation of surface and depth. At the same time, the windows' articulated upper portions emphasize the façade's main vertical direction.

In the article "Formenschönheit und Dekorative Kunst I" (1897/98), Endell referred to windows in terms of a "richer formation that is capable of captivating attention longer," implying window's function in structuring an experience that evinces a temporal dimension.⁵¹ Echoing Endell's theoretical explorations of line and form in variations, the windows in the courtyard come in various shapes and configurations. In the text, Endell included a diagram of elevations and examples of twelve windows, as variations on a window, as a literal interval space. **[Fig. 14]** These evolve gradually from the simplest to the most complex by modulating the line(s) according to the principle of counterpoint of form. With this diagram, Endell demonstrated the processes of design as straight line's modifications and combinations.⁵²

In yet another of his articles, Endell also addressed the role of windows in façades, asserting their role as elements in groupings perceived as rhythm:

In a façade, it can be the case that the windows are only like dark masses that float freely in the vicinity of one another, and yet together yield a rhythm that harmoniously adapts to the main lines: [that is,] the delimitations of the walls and the ceiling—[all this] is symmetrically balanced despite the irregular arrangement, when for instance the main form is symmetrical (as in the Elvira façade), and asymmetrical when the main form appears asymmetrical...If the windows do not suffice for this, ornaments are to be brought in. These [ornaments] are above all there in order to maintain attention [on the

⁵¹ Endell, "Formenschönheit und Dekorative Kunst I," 154-55. "...reichere Gebilde vermögen unsere Aufmerksamkeit länger zu fesseln."

⁵² Ibid., 154. Moreover, Endell pointed to tempo and tension (in varying degrees) as what underlies the emerging feeling of form in the process of observation, and he pronounced straight line to be the origin of all forms as its modifications and combinations.

part of viewer], to preoccupy and, in this way, to create points of repose, crossing points and main axes for the eye.⁵³

At the same time, for Endell, windows seem to have had the role of an interval in a composition. He thus paralleled contemporary investigations of those philosophers (discussed earlier in this chapter) who attempted to emancipate interval as a constituent part of composition. As with such investigations of intervals in music, Endell's windows become both the borders and agents of the façade's continuity in perception. To reiterate, in the section of "Special Formations" (*Besondere Formbildungen*) from his school's "practical theory" of art from 1906, Endell stressed windows as main forms.⁵⁴ Recognizing the centrality of the interval in perception, Endell essentially asserted that there is no silence in form. He designed the façade and the courtyard as spaces filled with resonance, instructing the observer in the necessity of forms based in processes of reciprocal reflections.

Harmony—a process enacted through a design of movement, visible as a wave and as parts in relation

Next to the characteristic windows in Endell's design, another feature representative of the concept of continuity in form stands out: a wave-form. It repeats throughout the façade in variations, one of which evokes a wave consisting of parts in relations. Endell's explorations in

⁵³ See Endell's schema of configurations of windows in idem, "Architektonische Erstlinge," reprinted in idem, *Vom Sehen*, ed. David, 64. "Es können in einer Fassade die Fenster nur als dunkle Massen frei nebeneinander schweben und doch zusammen einen Rhythmus ergeben, der sich den Hauptlinien: der Begrenzung der Wände und des Daches harmonisch einfügt—z. B. trotz unregelmässiger Anordnung symmetrisch ausbalanciert ist, wenn die Hauptform symmetrisch ist (Elvirafassade), und asymmetrisch, wenn die Hauptform asymmetrisch wirkt (Gartengebäude). Reichen die Fenster dazu nicht ein, so sind Ornamente eingefügt (Sanatorium von Nord-Ost). Diese sind überhaupt dazu da, den Blick aufzuhalten, ihn zu beschäftigen und auf diese Weise Ruhepunkte, Knoten und Hauptachsen für das Auge zu schaffen." The translation in the block quote above omits reference to two specific examples of built works, or projects, other than Elvira.

⁵⁴ In Jacob, "Versuch einer Wiedergabe," part 4.

the morphogenesis of experience in the façade are thereby highly suggestive of the explorations evocative of investigations into waves and particles in physics. Three variations on a wave-form are in evidence: two in the façade, and a third in the cornice. **[Fig. 12]** With these, Endell continued demonstrating experiential form based in counterpoint on a new scale of visibility: with rhythm shown as a wave in one instance, and as its elements in relations in another. The staccato rhythm of the lower-level wave shows elements in relations, while the upper wave is a form of continual flow, without any indication of the elements it consists of. These two examples in relation point to perception as a durative process that requires the interrelation of two different kinds of time. The two waves in the façade demonstrate how juxtaposed forms, in perception, become a succession in experience. According to the criterion of similarity in shape, the observer groups the waves together, letting them fuse in perception. As a result, the observer becomes aware of a form as both a process and a result. The first wave consists of a grouping of windows in tripartite divisions. It enables a transition from a modulation of a tri-partite form to a modulation in a waveform as the constituents of harmony in the façade.

Moreover, the window's middle part, placed slightly higher than the lateral divisions of the windows, guides in transitioning to a new set of emerging relations. It draws the eye upwards and, at the same time, towards the vertical articulation of the window that gives the impression of a modulated scalloped edge of an embroidered curtain framing the windows from above. This scallop-like pattern shows a wave as a staccato rhythm of undulation, a pattern constituted by parts in relations. Accommodated to this rhythm, the eye is drawn to another wavy articulation higher up in the façade, and to yet another in the cornice. The higher up, the more fluid the wave becomes, in fact. Overall, however, there are two wave variations—each other's reflection—that in perception constitute a formation out of parallel and interrelated layers. They constitute a

perceptual continuum of simultaneously fused and diffused parts—an experience of an elastic space. Endell superimposed the waves, thereby mimicking the perceptual process of their relation. This was a process whereby a space emerges that enables cognition of phenomena as based in a wave, on the one hand, and as parts in relation, on the other. Endell enacted a synthesis emphasizing the facade as a form of coordination and subordination. Endell was operating with this principle as one pertinent to both nature and culture.⁵⁵

Curvature as a boundary shared by culture and nature

The uppermost example of a wave literally guided toward an experience of the complementarity of nature and design. The façade's rhythm now becomes a part of a yet greater harmonious continuum—nature. As in an experiment involving optical illusion, the cornice becomes a shared boundary (between nature and culture) that brings up the question of certainty in perception. This cornice participates in framing a view of the sky and is the only curved part of that frame. **[Fig. 15]** It points to processes of visibility arising from the experience of curvature in relation to straight geometries. **[Fig. 16]**

The view frames clouds floating through and past, thereby showcasing change as the only constant in nature. **[Fig. 15]** The courtyard's ultimate interval space is on view! It can be argued that in the façade Endell staged experience so as to show that his principle of form as change is a reflection of a phenomenon in nature. The ever-new Gestalt of the clouds coming into view epitomizes Endell's concept of a change from within. As a perceptible, but immeasurable phenomenon, cloud formations serve here as the ultimate metaphor for feeling's constitutive role

⁵⁵ See Albertazzi, "The Time of Presentness," 53. In relation to the issue of subjective vs. objective, physical, chronological, numerical time etc., Albertazzi suggests that we need to rethink the relation between mind and matter, questions explored in quantum mechanics that are of concern for research in cognition. I have suggested, especially with my analyses, that Endell's concern with form bridged preoccupations of perceptual psychology and research in physics.

in cognition. It is impossible to fixate upon, yet it becomes visible through a continuous change, just as with the kind of a transitional element emphasized by Ehrenfels, Stumpf, and Endell himself. Implicitly, clouds are metaphors of both sameness and difference. This possibility of an infinite movement and change is, however, framed by a built form. This experience of infinity in finiteness propels a grasp of both nature and culture as interrelated layers of a human-centered cosmos based in a principle of diversity in unity.

Southern and northern façades: ultimate counterpoint—irregular pattern

In the middle southern and northern façades, Endell played both with scales and media in interrelation. In contrast to the immediately adjacent façades where he kept designing the pattern on the same scale, the middle façades of the northern and southern parts of the courtyard seem to display the same designing principle on a drastically different scale. [Fig. 17] This magnified scale no longer enables seeing of relations generated through the behavior of particulars. Instead, it reveals a semi-mechanical pattern in which every part seems the same, just as with wallpaper. The façades' semi-homogenous, burnt-reddish surfaces are interrupted only with a small-sized repetitive pattern of regularly-spaced green zigzags consisting only of a handful of tiles. With the dominating burnt red color, they evoke a brick wall, and with it, the kind of utilitarian architecture typically and historically encountered in Berlin. As such, these façades disrupt the flow to which the observer would have become accustomed so far. They themselves become dissonances in the overall flow of the interior of the courtyard.

The drastically opposing scale of pattern served to show a technique of repetition to be a dynamic rhythm. Endell presented a pattern representative of mechanical reproduction—one that, as noted, could be found in wallpaper. In contrast to a form of mechanical repetition,

however, these wallpaper-like façades pointed to an irregularity in the otherwise mechanical seeming rhythm of elements. Despite its repetitive pattern, accustomed to (and based in) elastic processes, the observer would keep roving the façades. The eyes would glide over the giant wallpaper until the observer may notice a subtle irregularity. One of the zigzags stands out! **[Fig. 18]** A seemingly mechanically repetitive pattern becomes visible now as a form that consists of relations. Endell thus continued to display a rhythm of consonances based in dissonance. One could be tempted to hypothesize that this is a magnified pattern of the east-facing façade, based in a module of harmony, to a point at which it would no longer be possible to grasp regularity in visibility.

The façades embodied the principle of repetition in nature, namely they represented the principle of regularity in irregularity. Here it can be argued that Endell addressed the growing danger of man's replacement by machine and the related problem of emergence of forms without the capacity to engage consciousness. With a design that was both regular and irregular, Endell asserted the necessity of artist and observer realizing their shared stake in industrial design. Specifically, Endell pointed to the necessity of interrelating exterior and interior: that is, with the interrelated themes of the wallpaper pattern and a brick-like façade typical of utilitarian architecture in Berlin, he asserted a common root to domestic design and (utilitarian) architecture in designing processes of experiential form. Endell now played with scales of visibility, mixing not only the scales of formal elements, but also playfully, and congruously, appropriating media of domestic and utilitarian architecture. He revealed an apparently insignificant particular, an object of the everyday, wallpaper, as a medium equal to architecture in its capacity to express the universal. Again, this bolsters the case that Endell was defining design as a new medium of visibility.

A façade of a public place that shows the building from inside out went against a concept of monumentality that was, in then current culture, predominantly associated with size and solidity. The façades pointed out the contrary: namely, that the greater the scale, the more difficult it is to see the mediating forces of shared form. Endell thereby revealed a misperception embedded in one of the contemporary values in society. Endell staged the discovery of the subtle irregularity in the design as almost a victory for awareness of the related processes of seeing, thinking, and feeling over rationality. Endell showed that there is indeed a possibility of modern form as an emergent quality in the increasingly quantified life in contemporary society. Having critiqued how the artist is pitted against the system, Endell now showed that anyone, in fact, could become an artist through processes of creating and re-creating form. Endell made artistically conceived designed and built form into a metaphor for creative seeing.

With his concept of design as a form of reconciliation of art and technology, Endell participated in a discourse on the issue of fragmentation in modern life. This was the subject of many debates that concerned conflicts within modernity at the beginning of the 20th century in Germany. Endell's design ran parallel with concerns regarding the central role of the artist in German industry—the question of a possibility of modern industrial design—that became central to the foundation of the Deutsches Werkbund (German Work Federation), 1907-1934, two years later. A year before that organization's founding, in 1906 Endell addressed this phenomenon in his revised document for the School of the Art of Form: "The goal is to render the student

capable of creating designs for factories and workshops producing in the applied arts."⁵⁶ A year later, Endell was among the founding members of the Werkbund.⁵⁷

A historian of the Werkbund, Frederic J. Schwartz, has identified concern with fragmentation in the attitudes of the German architect Hermann Muthesius (1861-1927), one of its initiators. In an "Unused Werkbund Proclamation," Muthesius commented that "the fragmentation and confusion that can, for the moment, still be observed in our economic life [is] only a reflection of the fragmentation of modern life in general."⁵⁸ While Muthesius ended up *not* being able to vocalize this proclamation, due to his absence from the founding meeting of the Werkbund, he indicated in it an attitude regarding the future orientation of the Werkbund. This was an attitude strikingly similar to Endell's concept of form as a means of visibility of relations.

In 1914, however, it was precisely this kind of attitude that divided the association into two opposing camps. Now, Muthesius stood in direct opposition to Endell and to others who kept insisting on the artist's role in the production of industrial design. Muthesius labeled them individualists and proposed collaboration with industry by standardizing forms (*Typisierung*). He now saw the so-called individualists as inhibitors of industrial design. He considered their attitude toward design to be negligent in light of contemporary needs and demands of society and economy. Schwartz has described the understanding of the core of the individualists' position in that debate as "rejection of lightness, impersonal rectilinear geometry and standardization of

⁵⁶ Endell, "Schule für Formkunst" (1906). "Das Ziel ist, den Schüler zu befähigen, für kunstgewerbliche Fabriken und Werkstätten Entwürfe zu machen".

⁵⁷ On the Werkbund debate (1914), see Joan Campbell, *The German Werkbund: The Politics of Reform in the Applied Arts* (Princeton: Princeton University Press, 1978). See also Frederic J. Schwartz, *The Werkbund: Design Theory and Mass Culture before the First World War* (New Haven and London: Yale University Press, 1996).

⁵⁸ Schwartz, *Werkbund*, fn. 8, p. 15.

forms expressive of new building materials and new technologies."⁵⁹ He pointed to the lack of willingness to question the individualists' work as a misunderstanding of the relation of art to economy and as an obsolete mode of design. Endell's ideas fell victim to this misunderstanding.

There was, however, a then powerful critic Kurt Behrendt, who emphasized the potential of Endell's work. In a review of "The German Werkbund exhibition in Koln" in the journal *Kunst und Künstler*, Behrendt highlighted Endell's talent on the eve of the association's dissolution, lauding his principles as precisely what the Werkbund needed.⁶⁰ Behrendt critiqued the Werkbund for not commissioning Endell to design any major exhibition installation at the event:

And how was it possible that an artist like Endell (who is distinguished at the exhibition with a few rooms and with the interior design of a railroad dining car, but really is not adequately represented) could be passed over at the allocation of the most important tasks at this exhibition? In this connection, the Werkbund in future could well view a part of its mission as precisely lending support to such original [*ursprünglichen*] talents and to put them right at the center of things at every important occasion.⁶¹

Endell's design of continuity of boundaries between the façades

Endell's construction of visibility, based in continuity of boundaries, took place also on the scale of the façades. The middle façades join their neighbors in a peculiar way. The façades' borders are constituted partially by jagged contours, and partially by a vertical articulation reminiscent of an engaged pilaster. **[Fig. 19]** The jagged contour represents a shared boundary. It looks like two substances spilling into each other. Here, Endell seems to have articulated a concept of boundary as a symbol of continuity in vision: that is, he literalized vision as processes

⁵⁹ Ibid., 3.

⁶⁰ Kurt Behrendt, "Die Deutsche Werkbundaussstellung in Köln," *Kunst und Künstler* 12 (1913): 626.

⁶¹ Ibid.

of views spilling over into another. In such a process, however, the origin of form in perception remains visible. It was yet another way of showing that memory was the origin of seeing. At the same time, Endell designed a border symbolic of form and forms' continuity in discontinuity. In his representation of visibility, he evoked the historical precedent of a design of modern public place. Namely, these jagged contours have a precedent in the interior walls of a medieval cathedral. They were signs of the changes in the building processes over time, and thereby a literal manifestation of form based in change. This reference, in the enclosing walls of the courtyard, to the interior of a medieval cathedral implied the public place as a transitional and transformative space.

Endell's modeling of a transition as change over time had an antecedent also in the concept of wear and tear. When remembering Endell in a letter to Anna Endell, the painter Margret Moll described a visual experience evoked by Endell: "[E]ven today I still observe a fire wall in the way he described: with breaks inscribed by weather, with cracks and with mortar and bricks that have transformed into many different colors, stirring the imagination and emanating its own beauty."⁶² In Endell's design, all these predecessors manifest themselves as sites of visibility—as forms in whose constitution time plays a central role. Moreover, the wear and tear that Endell described is literal in the courtyard. It is as if the wallpaper has been torn. On a related level, Endell evoked the courtyard as an interior space. This irregular contour symbolizes change as an act: that is, it evokes a concept of form as a tactile and sensory act. The irregularity of the contour contrasts sharply with the regularity of the mass-produced tiles. On the other hand,

⁶² Margret Moll to Anna Moll, in Nachlass Marg Moll. The painter Margret Moll, the wife of the painter Oscar Moll who after 1919 joined Endell at the Art Academy in Breslau, also stated the level of influence Endell exerted upon this couple, both of whom were modern painters. She claimed: Endell's article "Um die Schönheit" (1896) "propelled us to seeing anew" [regte uns zu neuem Sehen an]. "[N]och heute betrachte ich eine Brandmauer so wie er sie beschrieben hat: mit vom Wetter gezeichneten Aufbrüchen, mit Rissen und in viele Farben sich umwandelnden Mörtel oder Ziegeln die Fantasie anregend und eigene Schönheit ausstrahlend."

colored in the manner of burnt bricks, the material too symbolizes both continuity and discontinuity in the works of machine and man. Brick, representative of mass-produced goods and a utilitarian architecture, becomes visible as a medium of artistic form.

Endell's design of the interior spaces

Endell addressed the question of uncertainty in perception and the question of uncertainty regarding the historical origins of monumental form in relation. He evoked the origins of experiential design in the urban-historical context of the complex at Hackesche Höfe, thereby modeling a form based in a tradition shared with other nationalities, countries and worldviews. Referencing the tradition of a built and designed experiential form in both the east and the west, on the one hand, and tradition in music and performative dance, on the other hand—both as interior spaces of the restaurants, halls, and stairways, and the exterior façades too, reflect each other, revealing their function in referencing their origins in historical experiential forms.

Now on the scale of the relations between interiors and exteriors, the courtyard facilitates a continual experience of a historical continuum of forms that includes forms of both the west and east, domestic and utilitarian. Thus, besides interrelating scales and media in perception, Endell interrelated the points of the compass. He revealed the eastern constructive principles in the western wing of the courtyard, and vice-versa, placing the two in a reciprocal relationship continuous with the other parts of his design. This arrangement helped in dissolving any perceptual (and conceptual) boundaries in regard to claims of novelty in architecture. Western and eastern traditions of architecture became each other's reflection. Endell modeled a society of empathy in which the notion of the other no longer existed in architecture, nor in general.

With their quotations of historical examples of monumental architecture, the eastern and western façades display lessons in cultural history as movement, in a way parallel to nature. They reflect each other literally by displaying a design that interweaves features of trabeation and arcuation. In experience, the two opposing compass directions, and implicitly the two opposing traditions of built form in the west and east, become coexistent parts within a continuum of a built experiential form. **[Fig. 20]** Moreover, with their varying number of floors (three in the façade of the western wing and five in the façade of the eastern wing) they make evident the asymmetry in the overall structure of the courtyard.

With the evocations of arches and supports in its design, the façades of the eastern part recall formal elements of courtyards of prayer in the East—mosques. In this way, the façades reference a modern public place's origin in a place of prayer. Moreover, the blue-glazed tiles recall the decorative tiles typical of the so-called Moorish style. The façade of the eastern wing, moreover, has one distinctive feature—an abstracted, vertical, tower-like extension with a design emphasizing a pointed arch window. With its window, it is reminiscent of a campanile overlooking the public space of an Italian medieval plaza, and it thus could be taken as referencing a historical precedent from medieval Italy. One might say that, within the courtyard, Endell drew attention to the relatedness between arched and pointed window, and thereby to the notion of continuity in architecture.

Hovering over the roofs of the courtyard, moreover, the tower-like extension entered into a dialog with a nearby baroque spire of the Sophienkirche in Sophien Street (the church built in 1713, and a tower added in 1732-34), as well as with the New Synagogue (1859-1866) in Oranienburger Street, built in the Moorish style of the Alhambra Palace in Granada. This synagogue was located in the center of the Jewish community. (A Jewish cemetery was at one

point in close proximity to the synagogue.) Endell thereby referenced both the urban context and the historical origins of the courtyard's design of social harmony. The façade's extension expresses this notion through mirroring the two nearby standing towers. This suggests a new kind of relationship emerging between these three buildings that emphasized diverse cultural traditions as coexisting parts within a continuum based in a triangular relation (both physical and symbolic). The courtyard can be seen as a meeting point for diverse architectural styles, cultural traditions, and ethnicities, thus emphasizing architecture and design as media that should foster tolerance and ethical standpoints at a time when German society was beset by nationalistic and anti-Semitic currents.

Dance hall

Perhaps the most impressive of the interior spaces was the dance hall (one of the two venues, the Neumannsche Festsäle), located on the third floor of the western wing that can be accessed through the stairway in the southern part of the courtyard. [Fig. 21] The hall's most significant features—its design of undulation as well as its high ceiling reminiscent of the roof of a barn—echoed the undulations of the cornice continued in the roof. In the ceiling, this continuity was counterpointed by a design of a kind of ripple effect consisting, however, of straight geometries. On multiple levels, the interior design and the exterior design were related.

Also with its function, the hall reflected the design on the exterior. It was a place, and a space, of movement—dance. The hall itself was a transitional form: it reflected rhythmic movement literally as well as symbolically. People would have seen themselves reflected in multiple, oval, strategically placed mirrors, just as they would have experienced the surrounding design as one of movement. These two reflections in interrelation would have been symbolically

redolent of the core of Endell's theory of a continuum of individual and shared consciousness: namely, that the observer was creating, and re-creating, him- or herself as a reflection of the other form, whether animate or inanimate. In the course of the reciprocal reflection of the varying scales of rhythms in this room, feeling would have become evident as the binding ingredient in experience. Form, as well as the rhythmically moving dancer-observer, constitute and are constituted by this pattern of interrelated rhythms. The hall thus epitomized Endell's concept of public architecture as a multidimensional, elastic form based in visual, musical, and social harmony.

Fragment of an antique frieze with dancers and musicians

There is a detail with which Endell once again announced the dance hall as a form (and space) in which conscious experience would be attainable. This is a relatively small fragment of a relief on the upper part of the wall opposite the entrance to the hall, adorning it, in part, in the mode of a frieze in an antique temple. **[Fig. 22]** Despite its size, its gilded appearance makes it impossible to miss. Both, the gilded surface and its figurative representation stand out on the otherwise sparsely decorated wall. With its subject of a procession of dancers and musicians, the fragment references both the hall and its function involving a tradition concerned with experiential form based in processes of reciprocal reflection. The relief thus evokes the origins of Endell's concept of artistic form based in ethical relations in the interrelation of natural and cultural form.

The relief shows six figures dancing and performing music. Among the instruments represented is a double flute, an instrument known from representations of the ancient Greeks. The fragment's gilded surface, moreover, implies that the fragment is supposed to evoke a frieze

from a Greek temple. The musicians and performers are depicted in a procession typical of Greek festivities. They move in a direction from left to right, but their bodies convey a multidirectional movement representing a rhythm that conveys a pattern that is both regular and irregular. Their upright bodies show the pattern's, and the form's, main vertical direction. The auxiliary movements of the heads reflect the movement of the feet. There is, however, one exception. Two figures interrupt the regularity of the rhythm and face each other. Moreover, all six of the performers, while keeping up with the main rhythm, vary it individually at the same time. Irregularities stand out as what animates the dance as well as the fragment of frieze. As a microcosm of the courtyard, the fragment presents and represents music, a harmony to certain extent, for the eye. It consists of a grouping of figures and intervals in interrelation, making one interval stand out: namely, the differing interval of the space created by the two middle figures' arresting reciprocal gaze.

This moment represents, both literally and symbolically, reciprocal reflection as the principle of form's reversal. It epitomizes the idea of form based in feeling—through processes of empathy—achieved through a creative act. In experience, the fragment "describes" the module of harmonious society and its processes of modulation. The two figures stress this constructive moment of harmonious society as originating with sacred sounds. The relief therefore introduces Endell's concept of a module of harmony in an interrelation of ideal form and an act of observation in a new related way. The observer now returns the reciprocally reflected gazes, completing the Isosceles triangle. Moreover, when focused upon the differing interval that generates feeling, one does not find a void like the one in the façade, but a void into which projects the double flute played by one of the figures. Symbolically, the void that generates form and conscious experience is filled with sound, suggesting a space between form and observer

that resonates. There is still more to the double flute, however: by choosing it to represent music, Endell at the same time introduced a symbol of the principle of form's reversal that he conveyed in the courtyard. Specifically, the double flute was played with the hands reversed. The flute (in relation to the space of resonance) therefore represents a process of creation and, with it, a principle of visibility based in a construction of symmetry through processes of reciprocal reflection.

The design makes the design of this public place continuous with the traditions of the ancient Greeks. It evokes both architecture and dance as sharing a sacred "space"—a space of consciousness—within which people related to each other and to the divine at the same time. This adds yet another historical reference as an origin of the courtyard, namely as a sacred space in which humanity and divinity become visible interchangeably. Endell continued the tradition of dance (and form), as both an act of humanity and a divine act, through raising awareness of monumental architecture as an architecture of consciousness. Endell emphasized design as a continuation of society's origins in performative dance and music and as an attempt to connect with "divinity" through semi-scientific processes of consciousness: through humanity.

The segment of the reciprocity of gazes represents a fragment of the harmonious society of the ancients, in which ethical relations were thought to be society's foundation. Yet, whereas the double flute was an instrument used by the Greeks, according to myth it originated in the East. Endell placed this traditional instrument within a symbol of Greek society, thereby also stressing the culture of the ancient Greeks, to which people looked up as the pinnacle of harmony in history, as itself a continuation of a tradition. Endell thus emphasized experiential form, and implicitly symbol, as transitional forms in general.

Having chosen a fragment, moreover, Endell represented an experiential form literally as incomplete, waiting to be completed (and modulated in experience) by the observer.

The relief is a metaphor of a mirror in which a double reflection takes place: a reflection of designing principles based in counterpoint, and of their origins in the dance and music of the ancients. It is a form that interrelates surface and depth. Since it was placed so that it would be encountered on the way out of the dance hall, the relief may as well serve as an epigram to Endell's lessons in conscious seeing at the Hackesche Höfe. It epitomized Endell's effort in revealing the universal through processes of consciousness as processes of humanity.

Endell's courtyard setting forth a lesson in the design of a modern public place as a place of social harmony was imbued with movement that had its origins in memory and history. Its foremost lesson, one could say, was in the need to see both memory and history as fundamental to the emergence of a future vision of harmony.⁶³ Overall, in this socially-oriented experiment it can be inferred that Endell aimed for the observer to imagine the unimaginable—to reach for the sky or, to put it idiomatically, to elasticize the imagination—Endell's words at the foundation of his school. Based on the courtyard's analysis, it can be argued, Endell aspired to facilitate conscious experience, and thereby to show that harmony in modern society is indeed possible. He did so with a design based in art and science. Its almost magnetizing power, one that makes an observer keep looking, stems from a designed movement based in rhythms that make all of the courtyard's interrelated scales meaningful in experience.

The design aspired to demonstrate that these rhythms were common to nature and culture, music and architecture, and body and mind. By showing that both visual and musical

⁶³ Taking the courtyard as a metaphor for a school of design and architecture, the historical precedent of Karl Friedrich Schinkel's Building Academy comes to mind, and especially Schinkel's "technique of reciprocal vision in architecture and his lessons in history as movement and in knowing how to continue history." On Schinkel, see Bergdoll, *Schinkel*, 212.

compositions are continuations of the ordering principle in nature, Endell perhaps sought to instruct in a harmonious relationship between body and mind, one that would facilitate conscious experience. If this would be so, people among each other in the courtyard—from different social strata and of different ethnicities—experiencing themselves experiencing harmony, would become constituent parts of an alternative universe. Here, in a four-dimensional universe recursively structured through continual sets of reciprocal reflections, the harmony of its interrelated rhythms would mirror in conscious experience. Moreover, by its elastic structure and nature, this ever-expandable human centered cosmos would help constituting a society based in empathy. If the core of Endell's first courtyard was indeed an ambitious utopian project, it had a social change through a design based in ethical relations as its aim.

If ideas are to be productive, they must really be 'in the air'—in very many heads at the same time—even if in a distorted form. This became clear to me in 1893, or a little later. Franz Evers was editing the theosophist journal *Sphinx*, and in consequence was overwhelmed with theosophist, spiritualist, and other such literature; in this wilderness there was a lot to make one laugh. One gentleman, whose name escapes me, asserted that glass was the source of all salvation; that one must always have a glass crystal near one on the writing-table, and sleep in a room of mirrors, etc., etc. It all sounded crazy. But Aschinger's beer halls, with their frightful mirrors, seemed to me an echo of that theosophist publication about mirrored bedrooms. At any rate, some telepathic influence was at work....

I am convinced that every constructive idea will appear in many heads at the same time, and quite irrationally; one should therefore not speak carelessly about the seemingly confused and crazy; it generally contains the germ of reason.

In the East, the madman is left at liberty and honored as a prophet. But that is by the way.

—Paul Scheerbart,
"30 Aschinger buildings in Berlin" (1893)¹

[Form's] inner greatness has nothing at all in common with extension.

—August Endell, 1916

CHAPTER FOUR

Endell's World War I Warrior Cemeteries: Practical Theory of Memory

During World War I (1914-1918), Endell continued to set forth his ideas on the construction of experiential form based in feeling. As the numbers of German casualties grew, competitions were announced by the state and by associations that called for a new type of military cemetery. In this context of urgent awareness among the general public and in official circles, Endell proposed his two military cemeteries. Endell's projects were on display at the

¹ Paul Scheerbart, *Glasarchitektur* (1914), 50.

exhibition "Kunst im Kriege" (Art in War), held in the Secession House in Berlin in 1916.² In that same year, Endell published a booklet containing the essay "Zwei Kriegerfriedhöfe" [Two Warriors' Cemeteries], in which he notably referred to soldiers as "warriors."³ The essay included his exhibited drawings of a project for *a cemetery for a small city* [Fig. 24 and Fig. 25] and a project for *a cemetery for a large city* [Fig. 26 and Fig. 27].

By 1916, it had become evident to the populations of European combatant countries that this war was unlike any they had ever fought. The strains on civilian emotions and daily life brought on a brewing crisis that reached explosive proportions in many places. The war put on hold pre-war strivings for cultural reform, ultimately shattering many dreams and rendering visions of harmony in society problematic for generations to come. The historian Michael Stürmer has pointed out the great paradox of the simultaneity of Europe's unlimited faith in progress and the advent of the Great War, which he likened to a pan-European death wish: "...with self-sacrificing courage and lethal passion, Europe fought itself to death. What had begun as reasoned calculation ended in the bloody morass of industrial mass war, senseless in itself and utterly abnegating any meaning of past or future culture."⁴

² "Kriegsbilderausstellung in Berlin," *Die Kunst* 33 (1916): 314-15.

³ August Endell, "Zwei Kriegerfriedhöfe" (Berlin: Verlag Bruno Cassirer, 1916). B. Cassirer (1872-1941) was a famous and progressive Berlin publisher, a brother of the philosopher Paul Cassirer (1872-1941), who himself was an influential philosopher in his time. Endell moved in the circles of Bruno and Paul Cassirer, the draftsman Max Slevogt (who drew the equestrian sculpture for Endell's cemetery), and the critic and editor of the art journal *Kunst und Künstler*, Karl Scheffler. For a commemoration of their regular meeting place at the Romanisches Café in Berlin as the so-called "Slevogtcorner," see *Die Welt* (December 9, 1956): 13.

⁴ Stürmer, *Ruhelose Reich*, 372. See also Roger Chickering, *Imperial Germany and the Great War, 1914-1918*, New Approaches to European History, 2nd ed. (New York: Cambridge University Press, 2004).

The numbers of casualties offer a bewildering testimony: among the 9.8 million of war dead in the First World War, in Germany alone there were an estimated 2.4 million casualties.⁵ There was no escape from the ravages of the war. Only by forgetting could some peace be attained. Varieties of amnesia indeed took hold during, and after, the war. The historian George Mosse has asserted, "mourning was general and yet it did not dominate the memory of the war as it might have done."⁶ Instead, "the reality of the war experience came to be transformed into what one might call the Myth of the War Experience which looked back upon the war as a meaningful and even sacred event."⁷

Endell seems to have been concerned about the cultural and societal ramifications of retreat into private grief twinned with the distortions wrought by official appropriation of this serialized, mass national suffering. His projects emphasized both individual and shared memory. They demonstrated that he conceived of cemeteries whose physical and perceptual processes shared a common origin in memory. The projects theorized what would be elastic spatial forms based in relations grounded in continual processes of reciprocal mirroring of their elements. This required, first, a structure based in processes of linearity and curvature, and second, what Endell referred to as processes of form's leveling.

⁵ Berghahn, *Modern Germany*, 44.

⁶ George L. Mosse, *Fallen Soldiers: Reshaping the Memory of the World Wars* (New York and Oxford: Oxford University Press, 1990), 6. On the subject of memory in culture and society, see also, Jay Winter and Jean-Louis Robert, eds., *Capital Cities at War: Paris, London, Berlin 1914-1919*, Vol. 2: *A Cultural History* (Cambridge and New York: Cambridge University Press, 2007), esp. the chapter by Carine Trevisan and Elise Julien, "Cemeteries," 428-67; and Jay Winter, *Sites of Memory, Sites of Mourning: The Great War in European Cultural History* (Cambridge: Cambridge University Press, 1995), esp. ch. 4, "War memorials and the mourning process," 78-116.

⁷ *Ibid.*, 7. Mosse has provided an engaging account of specific processes in the construction of war experience throughout modern history in Germany and in other countries. In the context of the analyses of Endell's projects, Mosse's discussion of the refashioning of the war into a sacred experience with a new depth of religious feeling in Germany is especially valuable.

The basis of the experiential forms of the cemeteries arguably lay in the interrelation of philosophy and science. If that is so, Endell's projects would have been experiments in modeling a multidimensional form consisting of ever-changing relations, in which metaphorical and literal vision, memory, and future vision were to become visible interchangeably. The projects indicate that Endell sought to explore design of memory in a way that would help shift people's consciousness, in terms of reversing the seemingly irreversible illusory way of memory in contemporary society.

By modeling Endell's theory of experiential form based in interrelated processes of seeing, feeling, and thinking, it can be argued that the projects were geared to reveal the ways in which the amnesia accompanying the emergence of this sacred experience of the war—along with notions suggestive of Germany's immutability—played a central role in the construction of limiting and misleading vision in contemporary society. The projects militated against the contemporary institutional concept of a built and designed form that is devoid of movement due to the invisibility of its mediating forces, and in fact suggests that these kinds of flawed ways of building and seeing in some way contribute to war. This relation consisted in the ways by which origins were rendered invisible in the experience of contemporary forms and of the current war. It could be claimed that the projects demonstrated that contemporary forms and war were processes and results of contemporary falsely constructed ways of seeing.

In contrast to contemporary designing processes that fashioned forms and symbols that inhibited conscious experience, Endell's projects aspired to facilitate a possibility of seeing form and symbol interchangeably. As such, they were important sites of cultural critique. They critiqued current institutional practices of memory as inhibitory of conscious experience as well as of the related notion of future vision, and they demonstrated a concept of war cemeteries'

forms as simultaneously symbols of both seeing based in memory and future vision. Specifically, the projects militated against a conception of designed and built form in its aspects of solidity and extension: rather, they are interwoven patterns that generate spatial dynamicity and continuity, revealing the origins of experiential form in processes of modulation. Involving all of their elements on varying scales in interrelation, Endell drew on pre-Gestalt exercises in perceptual grouping he had studied in Munich.

As can be argued from the analysis of the projects, in experience the module of Endell's cemeteries would seem to emerge as consisting of an ideal form and an act of seeing, which is to say: an Isosceles triangle and processes of elasticity in vision. By experimenting in construction of a continual relation of reciprocal reflection between design and nature, Endell sought to conceive spatial forms that aimed to generate and regenerate experience in patterns of their forms' iterations, and re-iterations, in multiple dimensions. As spatial forms, the cemetery projects exhibited Endell's ambition to make memory the foundation of a society based in empathy. It might be inferred that Endell's projects had the ambition to "theorize" a kind of experience owing to which wars, like the disastrous one then being fought, indeed could no longer take place.

To a certain degree, Endell's constructive principles could be investigated in relation to the principles of the recently discovered mathematical curve—one of the earliest mathematical curves ever described (by the Swedish mathematician Helge von Koch)—the so-called *Koch's Snowflake* (1904).⁸ This mathematical curve demonstrates a continual pattern based in iterations

⁸ While there were various mathematicians looking into what we today refer to as fractals, the term fractal was coined only in 1975 (in French), by the mathematician Benoit Mandelbrot, with the English translation appearing in 1977. Idem, *Fractals: Form, Chance, and Dimension* (San Francisco: W.H. Freeman, 1977). Since then, attention to and interest in fractals has grown. Endell's ideas on experiential design—constructed as both finite and infinite

and re-iterations of a triangle. Its infinite perimeter encloses a finite area. Endell's modulations involved multiple dimensions: as forms of mathematics and feeling, they explored a unifying ordering principle of both symbolic and biological form.

Endell's projects seemingly mimicked built and designed forms and cemeteries based in mechanical repetition and symmetry. Using the strategy of illusion as the constructive principle of experience in contemporary culture and in nature, but simultaneously reversing it, his projects modeled forms of sameness and difference and symmetry and asymmetry. Endell stressed in this way that contemporary life essentially lacked a dimension of conscious thought. In a time of war—what might be thought of as society's total loss of empathy, and thus a loss of consciousness in the way that Endell understood it—Endell's graphic theory of experiential form, concerned with processes bearing on the action-potential of both form and observer, prompted to seeing the possibility of re-structuring, as an act, the conception of vision in modern society.

In his essay, Endell expressed the kind of action he thought was called for. He asserted that he considered the question of the construction of warriors' cemeteries

the most urgent concern for our very lives in the not-too-distant future, since today ever more loudly the admonishment arises that the limitless blind rape of people in the framework of the world economy, of the 'organization,' must be brought to a halt in a timely fashion, and that a timely reorientation of the economy must be achieved so that the individual regains his rights.⁹

structure in the context of his graphic formulations of the elastic architecture of the cemeteries—may strike one for its similarity to the kind of mathematical thinking that Koch's mathematical curve represented.

⁹ Endell, "Kreigerfriedhöfe," 53. "[Es ist] die brennende Sorge um unser Leben in nicht allzu ferner Zukunft, wenn immer lauter heute die Mahnung auftritt, rechtzeitig der schrankenlosen blinden Vergewaltigung der Menschen im Rahmen der Weltwirtschaft, der 'Organisation' Einhalt zu tun und rechtzeitig für eine solche Umstellung der Wirtschaft zu sorgen, daß dem Einzelnen wieder sein Recht wird."

Provocatively, he mused: "Or is there indeed a way to rescue mankind from the hell of the gargantuan economy and of money?"¹⁰

On the occasion of a "Kriegsbilderausstellung in Berlin" (War Paintings Exhibition), a reviewer commented on the evidently concurrent exhibition "Art in War." Overall, the tone was unfavorable. The only works mentioned positively as "making the best impression" were Endell's projects of warrior cemeteries.¹¹ In the opening paragraphs of his essay, however, Endell conveyed that he had met with misunderstanding in the reception of his projects: "when the proposals came to be exhibited, I wondered at the questions and misunderstandings of the viewers."¹² The viewers' reactions in fact motivated Endell to publish his projects and seek to reveal the reasons underlying his choices.¹³ In continuity with his projects, he still elected not simply to explain his designs, but he sought to make the reader *see* in what ways his or her expectations of modern form were institutionally constructed.

¹⁰ Ibid. "Oder gibt es doch einen Weg, den Menschen aus der Hölle der Riesenwirtschaft und des Geldes zu erretten?"

¹¹ "Kriegsbilderausstellung in Berlin," 315. The review comments positively on the "Kriegsbilderausstellung der Königl. Akademie der Künste." In its closing paragraphs, it critiques the exhibition "Kunst im Kriege" for failing to extend the most favorable aspects of the "Kriegsbilderausstellung" through the representation of the most modern directions in art. It explains that in a small space, it tried to do too much, exhibiting convalescent homes and veterans homes, proposals for cemeteries and monuments, and the like. In the end, "here less would have been more."

¹² "Als dann die Entwürfe ausgestellt wurden, verwirrten mich die Fragen und Missverständnisse der Betrachter...." As Germany during World War I was in need of a new type of a military cemetery, competitions for the design of such cemeteries took place. In 1915, competitions were organized by the Central Institution for Cemeteries, and also by the Werkbund. From the available Werkbund publications—especially *Kriegs-Wahrzeichen zum Benageln*. 69 *Entwürfe aus einem Preiswettbewerb des Deutschen Werkbundes* (Munich: Verlag von F. Bruckmann A.-G. München, [December] 1915)—Endell's participation is not evident. Out of 172 proposals, 51 were rejected. It further states that the publications grew out of a need to display these proposals since the Nationalgalerie accepted only a few and published them in their advertising leaflets together with drawings that it itself had procured. These drawings "represent exactly [the sort of production] that the Werkbund had sought to combat and prevent." ["...stellen genau das dar, was der Deutsche Werkbund zu bekämpfen und zu verhindern beabsichtigt hatte."]

¹³ In the essay Endell published his cemetery projects' plans, perspectives, partial drawings, and an image of a partial model.

From both his drawings and his essay, it is evident that Endell did not conceive the projects with any expectation that they might be realized. Rather, he composed model plans and perspectives of an alternative kind of modern experience: one that made contemporary cemeteries visible as "places of death," apt metaphors for contemporary built forms, for their conception and perception.¹⁴ Endell's projects of cemeteries—graphic representations of elastic forms that consisted of processes of coordination and subordination—aspired to propagate designs that would commemorate the individual soldier and that would also stand as public monuments. Such a notion of a cemetery competed especially with the then popular type of so-called row grave cemetery in Germany—and it competed also with ideas about monuments to war. With their uniform design, the row grave cemeteries emphasized the ideal of equality. Moreover, contemporary war monuments stressed the collective effort with a design glorifying war and emphasizing that individual sacrifice was for the sake of the nation.¹⁵

By contrast to such designs enshrining uniformity and collectivity, designs that sought to stress the value of equality and with it the immutability and strength of modern German nation, Endell's proposed sites of memory stressed relations among people. They critiqued the falsely constructed cultural values in contemporary society and the related ways of conceptualizing form and symbol in the service of a German nation unified really only by exhortation. Unlike a row grave cemetery based in a mechanically conceived pattern—a symbol of clarity and immutability, Endell proposed the cemetery as a symbol of ceaseless change, promoting an alternative ideal of a designed form that consisted of processes of unity in diversity. Opposed to any liturgy of nationalism, it can be argued that Endell sought to choreograph an experience of

¹⁴ Endell, "Kriegerfriedhöfe," 13. "Stätte des Todes."

¹⁵ Mosse, *Fallen Soldiers*.

humanity, and humaneness. He asserted both forms and symbols consistent with a universal ordering principle that grew out of the necessity of visibility of memory.

A debate over the form of war cemeteries in Germany during World War I

The main question surrounding the debate over war cemeteries concerned the design of a suitable form for honoring fallen soldiers. Endell's projects emerged in the context of these debates over the burial and commemoration of the war dead that Mosse stressed as "analogous to [debates over] the construction of a church for the nation."¹⁶ Ironically, with his projects and his essay, Endell did not participate in this search for a proper form of *war* cemeteries. On the contrary, in his essay Endell asserted that beyond "inscription [and] a couple of canons at the gate," he did not consider that there was any difference between a civil and a military cemetery.¹⁷ He went so far as to suggest that, if any good designs of cemeteries were available, there would be no need for proposals for war cemeteries: war cemeteries would grow out of contemporary forms. For Endell, the issue at stake was not how to construct a new type of cemetery, but how to revise the contemporary concept of built and designed form and, implicitly, memory—its construction and perception.

Nevertheless, the debate focused precisely on the question of the form of a new type of military cemetery instead of illuminating the ways in which contemporary built forms had participated in the emergence of society's crisis. Before World War I, fallen soldiers tended to

¹⁶ Ibid., 32-33. For a discussion on the subject of war cemeteries and images of proposals for World War I cemeteries, see Peter Jessen, *Kriegergräber im Felde und daheim. Hrsg. im Einvernehmen mit der Heeresverwaltung* (Munich: F. Bruckmann, 1917), 11-12. As the title indicates, this was published with the assent of the Army Command. This text appeared in volume 5 of the *Jahrbuch des Deutschen Werkbundes*, and included "Guidelines for War Graves" (*Leitsätze über Kriegergräber*) issued by a state advisory board.

¹⁷ Endell, "Kriegerfriedhöfe," 37. "Eine Inschrift, ein paar Kanonen am Tore würde ihn hinreichend in seiner Eigenart bezeichnen."

remain in distant locales, often buried in a mass-type grave.¹⁸ Although there were instances of military cemeteries prior to the Great War, "it was only during the First World War that these attempts were systematized," Mosse surmised.¹⁹ The debate was related to pronounced nationalistic tendencies in the recently created German Empire. Mosse has claimed that in 1914, discussion took place about "how the war dead should be honored and buried, what symbolism war monuments should project, and how both nature and Christianity might be used to assert the legitimacy of death and sacrifice in war."²⁰ As a result of these debates, in September 1915 "the German Ministry of War issued regulations for the permanent care of war graves."²¹

Advocates of patriotism paid special attention to the issue of military cemeteries. They hoped to stoke feelings of national pride by honoring dead German soldiers on German soil. Throughout the long years of war, there were frequent calls for the evocation of Germanness, such as the following: "At least the German who, today or at some future time, approaches such a place of rest should sense: this is a German grave."²² Especially the patriotic artistic association known as the *Dürerbund* (Dürer League) asserted nationalistic sentiment as the main message of this new type of cemetery. In May 1915, one year before the publication of Endell's essay, that organization published a "Flugschrift zur Ausdruckskunst" (Pamphlet on Expressive Art) with an

¹⁸ Up to that point, the mass graves of soldiers were often located elsewhere, near the battlefields. See A. Hüppi, *Kunst und Kult der Grabstätten*, 430, fn. 190. "Soldaten Friedhöfe stellten früher in der Regel Massengrabfelder dar. Erst mit den grossen Kriegen des 20. Jahrhundert suchte man immer mehr den Tod jedes einzelnen Mannes auch durch die Beisetzung in einem besonderen Grabe zu ehren."

¹⁹ Mosse, *Fallen Soldiers*, 46.

²⁰ *Ibid.*, 10.

²¹ *Ibid.*, 81.

²² Walter H. Dammann, "Deutsche Kriegerfriedhöfe," *Bau-Rundschau* 8 (1917): 41-43; see also "Über Friedhofsanlagen," *op. cit.*: 45-47. "Wenigstens der Deutsche, der jetzt und später an eine solche Ruhestätte herantritt, soll spüren: dies ist ein deutsches Grab."

article by its director and spokesperson, Werner Lindner. In "Denkmäler für unsere Krieger" (Memorials for Our Warriors), Lindner focused on the sacrifices on the part of German soldiers in light of Arnold Böcklin's painting *Heilige Heim* (Sacred Grove, 1882). Lindner thus evoked a relation between war, sacrifice, and sacredness symbolized by nature. The patriots aimed to fashion the military cemeteries as shrines of nationalism in whose constitution nature and Christianity played a central role as the symbols of stability and immutability. Moreover, Lindner proposed both "domestic art and domestic materials" as fundamental to what would be peculiarly German in the design of military cemeteries in Germany.²³ To have a site for the remembrance and honor of Germany's soldiers on German soil meant, first of all, the establishment of a visible national token. A burning question in the debate over the military cemetery therefore concerned its form. Was its form going to honor individual soldiers, or would a unitary communal memorial express a reciprocal loyalty between the nation and the fallen German soldiers?

The aesthetics of these new cemeteries were at the heart of the debate. In the 1916 article "Heldenehrung und Kriegsdenkmäler" (The Honoring of Heroes and War Memorials), the Ministry of War together with the Ministry of Culture brought up this issue in their efforts to address the projected needs of the country once the war was over.²⁴ Moreover, the ministries insisted that German artists should be the ones to engage in the task of building tombs. One kind of commemorative site that began to appear in Germany during, and after, World War I were the

²³ Werner Lindner, "Denkmäler für unsere Krieger," *Dürerbund* 19, Flugschrift zur Ausdruckskunst (May 1915): 139.

²⁴ "Heldenehrung und Kriegsdenkmäler," *Deutsche Bauhütte* 20 (1916): 121-22.

so-called *Heldenhaine* (heroes' groves).²⁵ Willi Lange, the author of a 1915 article on the topic, proposed that such "heroes' groves be planted in every German city, with an oak tree for every fallen soldier."²⁶ The oak was considered the German national symbol, and the inclusion of nature in cemeteries, with a focus on contemplation, was a specifically German phenomenon that reflected the efforts at reforming cemetery design and burial practices in Germany in general. Mosse has claimed that, although these types of natural cemeteries were considered innovative in Germany, in their symbolism they in fact followed the French cemetery at Père Lachaise (1804), "in which such groves were thought especially uplifting."²⁷ The 1907 Waldfriedhof (Forest Cemetery) in Munich by Hans Gräsel also served as a model for the *Heldenhaine*.²⁸ The Waldfriedhof subordinated the individual to the whole for the sake of turning a place of death

²⁵ For a brief account of ideas for a design of World War I cemeteries in Germany, see Herman van Bergeijk, "Necropolis, metropolis. Development of funerary institutions in Germany 1871-1918," *Lotus International* 38, no. 2 (1983): 79-81. In the closing paragraphs of this article dedicated to the subject of war cemeteries, the author commented that examples of cemetery building during the war years were available "in the Werkbund annual publication dedicated to the topic and the original proposals put forward by August Endell and Leberecht Migge." Bergeijk, "Necropolis," 81. The author published one of Endell's drawings (the view of the cemetery for a large city), but did not mention Endell's 1916 essay, and the article provided neither references nor footnotes. Marco de Michelis discussed Migge's works in an article, including Migge's proposals for cemeteries in Wilhelmshaven and Brussels (1915/16) that grew out of his conception of city parks. Marco de Michelis, "The Green Revolution: Leberecht Migge and the Reform of the Garden in Modernist Germany," in *The Architecture of Western Gardens: A Design History from the Renaissance to the Present*, eds. Monique Mosser and Georges Teyssot (Cambridge, MA: MIT Press, 1991), 409-20.

²⁶ De Michelis, "Green Revolution," 415, fn. 11. For the complete text, see Willi Lange, *Deutsche Heldenhaine* (Leipzig, 1915).

²⁷ Mosse, *Fallen Soldiers*, 43.

²⁸ For a brief discussion of the Waldfriedhof, see Caroline Constant, *The Woodland Cemetery: Toward a Spiritual Landscape* (Stockholm: Byggförlaget 1994), 14-15. See esp. Chapter 1, "The Woodland Cemetery and the movement for burial reform." Her monograph, about Erik Asplund's and Sigurd Lewerentz's *Woodland Cemetery* (1915-40), located outside of Stockholm, contributed to making visible architects of cemeteries as partaking in modernist debates. In her analysis, the author emphasized "the cemetery" as a spiritual landscape and contextualized its emergence within the reform movement involving cemetery design in general. One German example that Constant named as an antecedent is the Munich Waldfriedhof (1907). Her publication yielded an understanding of the emergence of this particular trend (of a spiritualized landscape cemetery) and the ways in which nature took on a central role in cemetery design, in opposition to the urban cemetery of the nineteenth century.

into one of contemplative rest.²⁹ Caroline Constant has noted that in the Waldfriedhof, "the forest serves to obscure the presence of a cemetery."³⁰

Endell's projects of artistic cemeteries were a response to these developments. With his attempts to render the cemeteries as forms of both individual and shared memory, Endell bridged the gap between the two opposing views in the debate. He suggested the alternative solution of a form that honored individual soldiers in addition to serving as a public monument. With his alternative, Endell interrogated the values espoused by nationalists and made those values visible as leading attention away from the centrality of the question of visibility (of relations) in contemporary society, and towards a construction of identity subordinated to exigencies of nation and state.

Endell designed projects of landscaped cemeteries, participating in a reform movement in the cemetery design in Germany at that time in a specific way, as already noted.³¹ By contrast to the reformers' forest-type of cemeteries, Endell proposed two kinds of landscaped cemeteries: one in the countryside adjacent to a small city, and the other an urban cemetery and a recognizable element within the city's *Stadtbild*, continuing and varying the current trend in secularization of cemeteries. Endell revised the notion of removing cemeteries from city churches on the outskirts of towns by proposing an urban cemetery—a public monument and a nodal point of modern life.

Both of the proposed landscaped cemeteries were based in synthesizing processes of a designed and natural form. Endell's concern lay with the cemeteries' capacity to continue the

²⁹ Mosse, *Fallen Soldiers*, 43.

³⁰ Constant, *Woodland Cemetery*, 15.

³¹ *Ibid.*

urban experience in the one case, and the experience of nature in the other case. As forms of reconciliation of design and nature, Endell's cemeteries were symbols of both modulated and modulating form: both forms and symbols of life. Moreover, together the two projects demonstrate a concept of a reciprocal relationship between the city and nature, consisting in both continuity and discontinuity. Their particular structure enabled Endell to reverse the processes of a then popular type of cemetery—the row grave cemetery— while adopting and adapting precisely those symbols that served in the sanctification and glorification of the current war. The projects incorporated nature, medieval and ancient symbolism, and also the symbolism of Christianity (of sacrifice and resurrection, especially): everything that played a major role in the construction of contemporary war cemeteries and war monuments—only in reversal.

Through processes of reversal of the contemporary row grave cemetery, Endell designed continua in which both a form and a symbol of change could coexist. Specifically, Endell reversed the contemporary concept of form and symbol as having the capacity to instill stability by generating a sense of continuity in immutability. Instead, he utilized form and feeling in ways that indicated stability in the construction and perception of ceaseless change. Far from promoting transcendent death, his projects promoted transcendent life. As attempts to render visible the myth of the war experience³² and, implicitly, the row grave cemetery as a central symbol in the fashioning of that myth, Endell's projects sought to stress memory that entailed suffering, on the one hand, and liberation, on the other. By continuing the symbolism of Christ's passion in this way, Endell elevated human experience—the related processes of seeing,

³² It is noteworthy how Mosse's deconstruction of the "myth of the war experience" explores connections and implications that resonate with Endell's own concern with what might be called the "myth of modern experience" that I have explicated with respect to Endell's own exposé of the misleading and limiting results of contemporary form and thinking.

thinking, and feeling—to an act of divinity. In that sense, Endell evoked cemeteries (and built and designed forms in general) as "sacred sites": he desired forms of "animated art" and "animated diversity."³³

Part One: Plans of Endell's Warrior Cemeteries

Overall, Endell's plans of a cemetery for a small city [Fig. 24] and a cemetery for a large city [Fig. 26] show forms of movement and change. At first, they appear as symmetrical forms based in the repetition of their elements. In experience, however, they dissolve into networks of changing relations. By demonstrating in this way the constructive processes of illusion's visibility, Endell aimed to compose forms of visibility. The two plans show similarly shaped longitudinal forms containing repetitive sets of elements.³⁴ From their entry, a straight path leads to an apsidal space with an element in its center that appears to be the cemeteries' focal point. Along the path are two rows of, for the most part, rectangular units containing groupings of gravestones and trees arranged in sets of repetitive patterns. Narrow paths separate the units from each other, as well as from the surrounding continuous wall. In the aisles, the units repeat seven times. In the cemetery for a small city, the shape of the units nearest the focal element, however, is adjusted so as to accommodate the semi-circular focal unit within the apse. A similar arrangement is evident in the cemetery for a large city. The outer rows' units differ from the inner rows' in both their shape and arrangement. They show rectangular units with a concave,

³³ Endell, "Kriegerfriedhöfe," 54. "Wer aber das Einzelwollen nicht missen mag, im einzelnen Fühlen und Denken den einzig lebenswerten Zweck des Daseins sieht, der wird mit mir wünschen, dass lebendige Kunst, lebendige Mannigfaltigkeit den Friedhof zu einem heiligen Orte mache...."

³⁴ Endell gave the size here of approximately 61 x 88 m² for the cemetery for a small city, and 65 x 90 m² for the cemetery for a large city. Throughout the first part of the essay, Endell emphasized the possibility of small, enclosed cemeteries in cities and villages, suggesting that urns be placed within the surrounding wall, the monuments, and most importantly in underground catacombs. Ibid., 19.

cutout space reminiscent of the shape of the main apse, whereas the inner rows consist of rectangles. Moreover, the inner rows' units are arranged in a way that allows a look through from the main path into the outer units. The paths between the units of the inner rows lead to an element within the concave space of the outer row's units. This arrangement reflects the arrangement of the main path within the cemeteries. Finally, all of the paths are continuous, making the cemetery apparent as a web of interconnected paths.

The gravestones within the inner row's units are arranged continuously so as to circumscribe their rectangular shape. Within this semi-outlined shape are four patches of bushes arranged in a way that lets the unit emerge as a pattern of two interlocking shapes—a rectangle and an oval. Within this pattern, the gravestones alternate with bushes, both arranged at equal distances. Gravestones within the outer aisle's units are distributed also in a way that circumscribes the shape of the unit. They have two bushes placed in each of the corners near the first aisle. In the center of the inner aisle's units is an element composed of alternating bushes and gravestones surrounding a tree. In the center of the outer aisle's units, bushes are arranged in a semi-circular way. In the middle of this semi-circle is a gravestone with a tree growing directly behind it. A continuous wall surrounds both cemeteries. The wall of the cemetery for a small city displays engaged columns along its length. At the entry are two pillars. The wall of the cemetery for a large city shows a continuous row of columns, with the exception of its apse, however.³⁵

Endell's construction of experiential forms in the cemeteries: cemetery as curved space

Endell's cemeteries, it can be suggested, "theorize" a relation between the constructive processes of designed form and curved space due to the arrangement of their elements in a way

³⁵ Endell's drawings of the close-up views show continual blind arches throughout the length of the wall of the cemetery for a small city, and profiles of the cemetery for a large city.

that facilitates a continual mirroring effect. This effect results from the construction of elements in a series of sets in changing relations that facilitates the cemeteries as a continuum of interlocking oblique views.

Moving through the cemetery, an observer would become aware of its defining feature—the composition of central aisle and apsidal space—reflected multiple times in the auxiliary paths. This effect is due to the designing principle of perceptual grouping upon the criterion of elements' similarity. The semi-circular spaces of the outer aisles would draw the attention with their accentuated, semi-circular compositions of bushes and a gravestone in the adjacent units, despite their smaller scale. The compositional principle of the counterpoint of linear path and curved shape repeats throughout, as if in a reflection manipulated through sets of mirrors. As the observer would accommodate to this new scale of the main compositional principle, he or she would notice small-sized elements placed in the concave spaces as reflections of the cemeteries' focal point in their main apses. Next, the observer would continue grouping in perception the semicircular compositions of bushes near the unit's concave spaces, according to the principle of proximity and similarity in shape and scale with respect to the inner aisles' compositions. Now, these perceptual processes would take place on the even greater scale of the pattern of their arrangement within the rows opposite the main aisle.

An oblique shape would become visible, made out of the grouped elements unfolding within a row of self-similar shapes. The eye would re-group, now on a yet greater scale, seeing a continual pattern of interlocked oblique shapes. Once accustomed to seeing on this greater scale, the eye would be drawn to two adjacent circular central compositions and their reversal on the main aisle's other side. It follows a parallel pattern that is, however, spatially interrelated with the previously encountered one. As a result, the observer would perceive two patterns of varying

scales simultaneously. These run continuously through the cemetery except for the apse and entry. Here, the oblique shapes remain halfway visible. While the pattern appears disrupted, the eye continues searching for ways of completing the pattern within the arrangement of the main apse. Finally, it locates two outer bushes of the apse that continue the pattern, albeit on a different scale. It is a scale that mediates between the scales of the natural compositions and of the gravestones.

The eye now continues grouping the bushes of the adjacent units of the inner aisle. There is a numerical relationship among the four bushes, in addition to which there is a relationship in the shape they help create. The observer now continues the route all the way through the cemetery, circumscribing a double outlined oval shape that extends beyond the length of the aisles: to the (double) row of columns in the cemetery for a large city. (In the cemetery for a small city, this is a single shape continuing a different arrangement of its focal point.) Arriving back at the apsidal space, the route of the extended oval is completed. The pattern now becomes visible in the units' arrangement: in a grouping of four bushes spaced symmetrically around a central composition. It is an arrangement that mirrors the composition of the cemetery's main apsidal space. Adjusting to seeing on the scale of the bushes again, the eye distinguishes the bushes of the units as parts of a yet greater oblique shape that continues in the units of the outer aisles. As it circumscribes the semicircle, the observer searches for a way to complete it, finding this in its mirror image on the other side of the main aisle.

The moving eye continues circumscribing in a pattern that echoes the oval pattern consisting of the cemetery's most visible compositional elements. The observer encounters the pattern therefore both on parallel and interrelated levels of the cemetery: on the scale of its gravestones. Equally spaced, the gravestones fill an outline of an oval shape within each unit.

Arising from this encounter, yet another shape crystallizes, this one rectangular. Attention oscillates now between the two shapes. Moreover, the central composition too becomes visible as consisting of alternating bushes and gravestones surrounding a tree-trunk. In perception, this composition becomes a pattern of two interchangeable shapes: curved and linear—of bushes and gravestones arranged interchangeably. This construction reflects the main constructive principle of counterpoint of linearity and curvature. The eye groups it with the semi-circular composition consisting of the same elements on a different scale in the outer aisles. The semi-circular shape continues by the alternating gravestones and bushes of the inner aisle's two adjacent units. The route through the cemetery does not seem to stop. The observer could continue the grouping and regrouping of the cemetery's elements, perceptual processes that facilitate the experience of the cemetery as a continuum of interrelated sets of parallel and interrelated oblique views.

The cemeteries are continua of their main compositional principle on all scales of their design—manifestations of Endell's principle of visibility based in relations. This main constructive principle consists of a construction of counterpoint of form. In experience, a counterpoint of linearity and curvature becomes interchangeable with a counterpoint of a design and natural form, depending on the scale of visibility at a given moment. By way of continuous counterpoint, the cemetery becomes visible as a matrix of ever-changing relations on the cemetery's multiple parallel and interrelated levels: as a spatial form of interrelated rhythms.

At each moment, the observer engages in the parallel and interrelated processes of seeing, feeling and knowing. As continua of sets of mirroring effects, the cemeteries are geared to activate memory continuously. The projects show the architecture of experience as, at the same time, the architecture of memory, consistent with Endell's efforts in other works at designing a theory of experiential built and designed form, based in time structured recursively. Due to their

continual forms of mirroring effects, the attention oscillates while the observer constantly tries to reestablish a continuity of present view with the past view. A continually sequential view, structured in this way, moreover, would generate an experience of self-similar views. As a landscaped design consisting of self-similar parts structured recursively, the cemetery is inherently dynamic. It aspires, in experience, to generate a space that curves onto itself and whose shape would depend on the speed of the shifts in views. The central circular composition within the units of the inner aisle makes this phenomenon evident. Here, the "speed" of the curve changes, depending on the speed of the coming changes in direction of the movement of the eye, which would result in the emergence of an ever-curved shape in perception.³⁶

With a growing frequency of modulated, and modulating, views constructed through series of parallel and interrelated mirroring relations, the space within the cemetery would become ever curved. The eye would experience the tree's composition as a set of interrelated, partial, sequential views. This moment emphasizes a crucial phenomenon in the perception of the cemetery. Namely, this shows that, while space curves faster onto itself due to the greater speed of changes in perception, in experience, this curvature becomes invisible, and with it so does *time* as experience's fundament. In other words, the greater the speed of changing views, the more the space curves and the less visible and the less possible it would become to be aware of form as space. The cemeteries' continuity results in countless possibilities of changes in direction: in an endless variation of their space's curvature. One might hypothesize that the cemetery projects model processes of a construction of a designed form of sustainable movement—processes of movement from within.

³⁶ Here, it is evident that Endell was drawing on the scientific philosophy rooted in Franz Brentano's philosophy that he had studied in Munich. Franz Brentano, *Philosophical Investigation on Space, Time and Continuum*, trans. Barry Smith (London: Croom Helm, 1988). Albertazzi has claimed that Brentano theorized "the more intense the sensory quality, the denser the relative temporal series." See Albertazzi, "Towards a neo-Aristotelian theory," 72.

Endell's plans show carefully choreographed continuous forms that, in the course of observation, become ever-new variations on their origins, an attempt at a theoretical model of an autonomously developing form. They make memory, and *time*, visible as the origin as well as the mediating force of conscious experience, a view that makes possible a future. The cemeteries would be based in recursively-structured patterns of *time* through which past, present, and future (views) become interrelated. They would consist of multidimensional patterns of interrelated spatial and temporal rhythms that express recursivity and self-similarity as the emerging qualities of sustainable forms of movement. They posit a possibility of awareness of the leading role of memory in the construction of experience in the cemeteries.

The plans, however, are simultaneously forms of shared memory. I would assert that they continue the building principles of medieval cathedrals. If this is the case, then Endell appropriated a building principle from a period whose forms had come to symbolize German unity, turning them into symbols that illustrated a form of synthesis that made visible both its parts and the form as a whole: a warriors' cemetery as a form of both individual and shared consciousness. As forms both parallel and interrelated with the structures of medieval cathedrals, the cemeteries could be said to continue the constructive principle of a historical form. In this way, the cemeteries' origins become visible as an interrelation of two sets of relations: on the physical level, a relation of the cemeteries' structure and nature, and on the metaphorical level, a relation between memory and history, experienced as a relation involving perception and time.

Endell's adoption and adaptation of the constructive principles of medieval cathedrals

Gothic form was widely considered a symbol of German unity. Based on an analysis of the projects, one could argue that Endell's motivation for continuing the building principles of

medieval cathedrals was otherwise inflected. Referencing the medieval cathedrals in his plans, Endell introduced a form of synthesis that continued historical form as based in relations facilitated through the coordinating and subordinating processes of vision. First, the plans show iterations of the following principles of medieval cathedrals: the longitudinal shape and an apse located opposite the entry; placement of a focal element (cross) in the apse; the (physical and numerical) arrangement of the aisles and their units; and finally, the articulations of tree-trunks by alternating curved and linear elements.³⁷ Second, the plans emphasize the symbolic meaning of medieval constructive principles: the numerical relations of the units' sevenfold repetition recall the numerical symbolism of medieval cathedrals. Overall, Endell's attempt at form as unified transformative space in the cemeteries recalls the cathedrals' effect of dematerialization. Endell's projects show an aspiration to continue the experience of union with God in a secular variation.

The cemeteries' main constructive principle of a counterpoint of linearity versus curvature continues a historical compositional principle of a cathedral's main aisle and apse. The central composition of the aisles' units, moreover, continues its origins in the modulated surface of a medieval composite pier. The bushes and gravestones articulating the tree-trunk resemble the alternating curved and rectangular colonnettes that attach to a medieval pier. The outer aisles' units are arranged in a way similar to cathedral chapels located in outer aisles. The enclosing wall and the cemeteries' "enclosure" from above create a feeling of a semi-enclosed space similar to that of the nave of a medieval cathedral. The trees in the cemetery are spaced in a calculated pattern, whereby their crowns would be able to spread continuously and create the effect of a

³⁷ Scheffler, "Architektur der Grosstadt." When Scheffler celebrated Endell as a modern architect, he described his work and provided sparse biographical information. The author remarked on Endell's trip through northern France and his visits to medieval cathedrals there. He also implied that Endell possessed considerable expertise in that area.

vaulted ceiling.³⁸ It can be argued that Endell sought to both literalize and symbolize the constructive principle of a cathedral's vaulting, thereby making it visible as a historical example of a continuation of formative principle in nature.

Endell's notion of history, evident in the projects, is one of movement and change, in a rhythm evocative of a form-making pattern in nature. The proposed cemeteries exhibit their origin in historical form that, however, becomes visible as itself a continuation of the structure and nature of natural formation. In his attempt at demonstrating a universal ordering principle, Endell kept continually reversing the processes that evoke the cemeteries as interchangeably physical and experiential forms. Finally, the cemeteries both continue and vary the symbolic meaning of a cathedral by employing the numerical symbol of the number seven. They thereby adopt (and adapt) a biblical symbol used in cathedrals to express the all-unifying experience of God. In cathedrals, the number seven refers to God's creation of the world in seven days as told in the *Book of Genesis*.³⁹ In this way, Endell implied the warriors' cemeteries as secular symbols of creation—as a transformative form of all-unifying experience of consciousness intending to shape their visitor into an observer—a modern co-creator of visibility.

Cemeteries and leaves: common patterns of rhythms

Showing patterns of changing directions and speed of movement, the plans recall yet another familiar pattern: the veining of a leaf. **[Fig. 29]** With every new view constructed as continuous with the previous one, the plans reveal their origins in a veining pattern. Namely, they display a branching pattern whose parts reflect each other, even as they continue "to grow"

³⁸ Later in his essay, Endell described the intended effect of the lightness of the tree crowns. I will discuss this point later in this chapter.

³⁹ Six days of creation, followed by a day of rest, for a total of seven.

in a new direction. Each branch, therefore, reveals its origins in the previous branch, at the same time as it constitutes a new branch. All of the parts of such a form are both the same and different: they reveal their common origins while they indicate a change in speed and direction. The designing pattern points to memory as simultaneously parallel and interrelated with processes of seeing and, moreover, with the possibility of a future view.

As in nature, on all their scales the cemeteries exhibit repetitions, resulting in simultaneity of sameness and difference, on the one hand, and symmetry and asymmetry, on the other. Just like a leaf's contour, the wall and the "vaults" unify the diversity of each cemetery's elements, rendering them spatial form, semi-enclosed by a walled-off and semi-vaulted space. They facilitate an experience of change of form from within, generated by an experience of a multidimensional recursively structured continuum. The cemeteries are essentially experiments in both infinity and finitude—a landscaped design in which nothing is random. As with a leaf's central vein, the central paths of the cemeteries too seem straight at first. In experience, however, a curvilinear pattern crystallizes, resembling a curvilinear pattern of the veining of a leaf, within which the cemeteries' main direction dissolves into multiple interrelated auxiliary curved lines.

[Fig. 30]

The cemeteries' continuous walls unify the movement within. The wall relates to the diversity of directions within the cemetery, just as melody relates to the diversity of variations within harmony: namely, they evoke the endless variations of the compositional principle of counterpoint (of linearity and curvature) within as a harmony. In a later essay, Endell viewed the relationship of veining and the outline of a leaf as a relationship analogous to that of harmony and melody in music: "I experience a leaf as a movement along the axis and a simultaneous spreading out to both sides, and hovering over this fundamental harmony [*Grundharmonie*] is the

melody of the outline, the edge, the web of ribbing and the flecks of color."⁴⁰ Here, Endell implied a relation between concepts of musical theory and branched natural form. As already noted in Chapter Two, Endell taught design and building in this synthesizing mode already at his School of the Art of Form, where examples of compositional principles in nature and music stood side by side in his theory of artistically conceived crafted and built form.

In the statement, Endell referred to a leaf's form essentially as a musical composition: namely, as based in a relation analogous to that of harmonic and melodic orders. In keeping with the notion of a leaf as music, with their processes of movement based in modulation, Endell's cemeteries are forms of subordination and coordination parts—both layered and interrelated forms. Various scales of their elements would become visible interchangeably as operating on both interrelated and parallel levels, resulting in a perception of their physical and perceptual space as interrelated with physical and perceptual time. The relationship of the cemeteries' layout and their natural "ceiling" would demonstrate such a construction in a principle of architecture of superimposition that would enable the cemeteries' physical and symbolic origins to emerge in experience as interchangeable.

The tree crowns literalize the branching principle of nature as their origins, on the one hand, whereas they also mirror the principle of the layout of the cemetery based in a branching pattern. In reverse, with their constructive principle, the layouts mirror the constructive principle in nature displayed in the 'vaulting' above. Through this reciprocal mirroring, the layout and the designed form, on the one hand, and the vaulting and the natural form, on the other, become self-similar related forms of the form's multidimensional continuum. With the experience of the

⁴⁰ August Endell, "Raum und Körper," *Kunst und Künstler* 23, no. 8 (April 1925): 302-06. Reprinted in idem, *Vom Sehen*, ed. David, 213. "Ein Blatt erlebe ich als ein Fortgehen in der Achse und gleichzeitiges Ausbreiten nach beiden Seiten und über dieser Grundharmonie schwebt die Melodie des Umrisses, des Randes, des Rippenetzes und der Farbenflecke."

cemeteries as both the illusion of visibility and its reversal—into visibility—Endell evoked the experience of nature. The construction of creative memory in the cemeteries relates to experience of nature.

Endell's perspectives: prioritizing relations

Like the plans, Endell's perspectives also posed alternatives to their traditional conceptualization. They emphasized a view that lay bare the cemeteries' module. Endell refused to provide views of cemeteries' focal points that would facilitate a beautiful perspective, as required by the Graveyard Administration. He thus opposed the most widely established concept of representation of form—one based in extension.

In the view of a cemetery for a small city, Endell focused on displaying the relations between the trees as the module of an equilateral triangular shape that modulates throughout the cemetery. **[Fig. 25]** The cemetery thereby becomes visible as a continual pattern of triangles whose module is the distance of one tree to another. Endell thus presented a view of a dynamic form. In the view of a cemetery for a large city, Endell emphasized a module generated by the relation between the cemetery's focal point (of an equestrian warrior sculpture) and the observer looking at the perspective.⁴¹ **[Fig. 27]** The "distance" between the sculpture and the observer becomes one side of a triangle whose remaining angle is occupied by the absent observer in the

⁴¹ In his essay, Endell mentioned that the sculpture had been drawn by the German artist Max Slevogt. Endell, "Kriegerfriedhöfe," 40. "Max Slevogt hat in die Apsis einen Reiter hineingezeichnet." In 1914, for a few weeks Max Slevogt was (voluntarily) one of the war artists officially sanctioned by the German government. He documented the experience of war in a collection of 21 lithographs titled "Visions." Biographical information was retrieved from *The Grove Dictionary of Art*, vol. 28, ed. Jane Turner (New York: Macmillan Publishers Limited, 1996), 839-41. Endell too was recruited as an artist working for the Ministry of War in 1917, where he was tasked with the design of a model for a German War Museum. This model is lost today, but there are photographs available.

cemetery suggested by the empty bench.⁴² This triangular arrangement of a relational structure generates the cemetery as a dynamic form based in an interrelation of three centers of energy: form, observer, and idea. By including the observer of the perspective, it becomes an expression of reciprocal mirroring—construction of empathy—as the module of a society based in ethical relations.

Ultimately, the empty bench can be taken to symbolize the observer of this perspective as a warrior for values of humanity. Moreover, the absence of the observer inside the drawing symbolizes memory, a conscious process that enables future vision embodied by the present observer of the perspective. The focal point of this perspective is the module of the relation between the mounted warrior and the observer—an act of creative seeing based in memory. The branching structure of the modulating processes in the perspective of the cemetery for a large city is symbolized through the relations among the sculpture, the absent observer, and the observer outside the perspective.

Their relationship symbolizes the interrelation of seeing, memory and future vision (present, past, and future) in Endell's cemetery. It is a module of a cemetery as a form of unity of consciousness. It is repeated throughout the cemetery in its choreography of conscious experience generated by the reciprocal mirroring of elements. Finally, Endell proposed the two views themselves in a way that shows experiential form's modulating physical and metaphorical processes in a relation of reciprocal mirroring. At the same time, the branching pattern of the tree-crowns generated by the arrangement of the trees becomes the vaulting of the cemetery. The

⁴² For Endell, it was a rare (yet not unique) instance of inclusion of a figurative work of art in his architecturally conceived cemetery or other work. Later in the text, Endell explained that the sculpture should not be conceived architecturally since the surrounding architecture has strong architectonic expression. In this context, Mies van der Rohe's inclusion of a sculpted work in his Barcelona Pavilion (1928-29) in regard to the mirroring effect of form comes to mind.

branching pattern literalizes the notion of modulation as both a process and a result:

symbolically, it shows the branching structure of modulated form, and it also shows the cemetery as a spatial form.

With the placement and features of the mounted warrior, Endell continued and varied the location and symbolism of Christ on the cross as a focal point of medieval cathedrals—the symbolism of Christ's suffering and liberation. At the same time, however, he desacralized the experience of war by not choosing to make Christ and the subject of the Passion the focus of his cemetery. Instead, he presented a modern warrior-observer in a state of realization of his part in the horror of death that surrounds him—in a state of suffering and liberation. Moreover, Endell provided an alternative on the contemporarily favored representations of soldiers in the fashion of ancient equestrian monuments. By contrast to war monuments that aimed to evoke manliness and pride with equestrian sculptures modeled after ancient examples, thereby fashioning the war experience as one of glory, Endell's warrior is in a state of pain. However, this is simultaneously an expression of him becoming a seeing, feeling, and thinking individual. Endell's modern-day warrior in this way becomes both continuous and discontinuous with historical precedents.

The warrior seems to observe the gravestones that surround him. His body reveals the emotions he is experiencing at that moment. One might say that he is in a posture of transitioning—from a vertical direction to a horizontal one—by lowering his gaze down to the gravestones. This posture could symbolize a transformation from being a mounted warrior to being an observer. By lowering his gaze, then, the warrior is becoming a part of the surrounding image of death. At the moment of becoming a part of the cemetery's coherent pattern, the warrior accesses his memories of war. His transitional posture, expressive of a counterpoint of horizontality and verticality, symbolizes a process of awareness as one involving the interrelation

of memory and seeing, individual experience with the experience of others. One could surmise that Endell represented awareness as a passage. The present view of death at the cemetery becomes continuous with past ones—his memories—in a parallel to his emerging awareness of war as a form of death, both in its processes and in its result. According to this interpretation, the warrior-observer is in a state of becoming aware of the ways in which the structure and nature of war are interrelated, implicitly becoming aware of his own constitutive role in its processes. In experience, past and present cease to be parts of one-directional time. They coexist. In the course of re-living a tormenting experience, a new kind of seeing emerges that generates a possibility of a future vision of a time with no wars.

The mounted warrior reflects the structure, and nature, of the cemetery as a whole. He is a transitional element between the individual gravestone and a common monument, as well as between the observer and the cemetery, between individual and shared consciousness. It is a transitory form that enables a relationship of reciprocal mirroring of seeing and memory through processes of empathy. The observer and the warrior would be in a relationship of reciprocal mirroring. While the warrior makes visible the cemetery's structure and nature, it makes the architectonically conceived cemetery into a mirror image of the observer's conscious processes. In Endell's cemeteries, architectonic and figurative forms can be said to coexist as constituent parts of conscious experience, emphasizing both abstraction as well as empathy as meaningful to the emergence of consciousness.

The action potential of form is experienced through the mounted warrior's ability to make the observer re-live the expressed feelings. In the moment of the observer's own passage, there arises an awareness of being a constituent part of what she sees, and remembers: death. Following the mounted warrior's gaze down to the soldiers' graves, the observer immerses him-

or herself in the physical and the metaphorical form of the cemetery, in both the view of the cemetery and his or her memory of the devastating reality of war. Through these mirroring processes, awareness rises that the observer, too, has become a part of the cemetery and war. The observer observes the observing mounted warrior, empathizing with his suffering while becoming aware of the causes of his or her own suffering and, implicitly, aware of the origins of society's current crises. This awareness would liberate the tormented observer, reflecting his or her in experience as a modern secular symbol of Christ the savior.

The relation between the warrior and the observer is, in the interpretation presented here, constructed as an experience of form constituted of ethical relations constituted by mirroring and mirrored feeling. The observer would become aware of his or her own loss, and society's loss, of humanity, yet, at the same time, also aware of the ways in which memory becomes essential for the construction of feeling, humanity, and vision of a change. In the perspective with the mounted warrior, Endell made nature and culture visible in relationship to the constructive principle of consciousness as simultaneously a principle of artistically conceived cemeteries: memory as a creative process in the emergence of a new kind of visibility. Endell's cemeteries' projects theorized processes by which form's elastic quality, based in reciprocal mirroring of feeling, would extend beyond form's boundaries. Namely, they evoked their form's further modulation in the experience of the observer's own action potential—an ability to become a warrior for values of humanity.

Endell further "theorized" designed form's capacity of infinite modulation by placing the two perspectival drawings of the cemeteries in a reciprocal relation. The mounted warrior is a symbol of Christ on the cross, and it is also a reflection of Christ on the cross of the cemetery for a small city. The cross's recession from view, on the other hand, is a reflection of the emerging

active observer. The presentation of the cemeteries' plans in a reverse orientation would serve to make a parallel point. Endell oriented the cemetery for a small city toward the east, and thus along the orientation of medieval cathedrals, and the cemetery for a large city toward the west. While the observer first encounters the cemetery for a small city that he "enters" from the west and continues to the east as in a cathedral, in the cemetery for a large city, the observer enters from the place of god and light to proceed to the west to meet the mounted warrior. His location is symbolic. The warrior-observer unifies all form in perception, and becomes the creator of visibility as opposed to illusory experience. The observer's encounter with a form based in ethical relations results in awareness of the necessity of action leading to an ethical society. A theorized modern observer potentially stands forth as a warrior for new ways of seeing—the savior of humanity.

Part Two: "Two Warriors' Cemeteries"

In 1916, after Endell's projects had been exhibited, he wrote an essay "Two Warriors' Cemeteries," in which he began a discussion on the relevance of his ideas as follows:

I publish these pages not without hesitation. When I was making the enclosed projects, I followed my feelings and views without letting them coalesce into unmistakably clear thoughts. I only attempted to give form to the mood content that for me lay within the task, and I desired nothing more than to give my yearning a concrete, effective form. When the projects were then exhibited, I was baffled by the questions and misunderstandings on the part of the viewers, [and] I was forced to explicate with words the ideas informing my work. It was then I realized with horror that with these assertions I had gotten caught up in disputes going beyond architecture, and I could not avoid taking a position on them. The artistic questions here are almost inextricably entangled with questions of religion, church, morality, and indeed ideology.⁴³

⁴³ Ibid. 3. "Nicht ohne Zögern gebe ich diese Blätter heraus. Als ich die vorliegenden Entwürfe machte, folgte ich meinen Empfindungen und Anschauungen, ohne sie zu vergrifflich klaren Gedanken zu verdichten. Ich versuchte nur den Stimmungsgehalt, der für mich in der Aufgabe lag, zu gestalten und begehrte nichts weiter, als meiner Sehnsucht eine greifbare, wirkende Form zu geben. Als dann die Entwürfe ausgestellt wurden, verwirrten mich die

Here, Endell attempted to explicate his ideas by critiquing contemporary cemeteries as a metaphor for society's illusory ways of seeing. At first, Endell critiqued the civil cemeteries built "up to that point," in ways that made implicit his critique of the modern military row grave cemeteries. What he ultimately seems to have targeted were the contemporary institutional demands on the artist/architect that lead to a conception of a form devoid of movement: that is, Endell critiqued contemporary processes of form as inhibiting the emergence of awareness. The essay is constituted by both a critique and a proposal of a solution to the lack of sites of creative seeing, making it a work of creative vision that instills hope in the possibility of social change. Endell described this hope when he asserted: "The cemetery elicits such thoughts, thoughts that not only bring consolation but also energy for new undertakings. The cemeteries signify not the abnegation of the will to life, but the most emphatic affirmation—affirmation even in a place in which keen foresight can discern no way forward and despairs."⁴⁴ Endell indicated a war cemetery as a possible site of future vision, asserting at the same time that they would be "enclosed sites of peace and memory, and thereby also monuments to the current war."⁴⁵

The essay is relatively short, yet it is complex. It consists of multiple interrelated layers of meaning, permanently shifting attention from present issues to a discussion of historical concepts of form. It is replete with metaphors that help the reader to become an observer. Its first

Fragen und Missverständnisse der Betrachter, ich war genötigt, mit Worten die Gründe meiner Arbeit aufzuzeigen. Und da merkte ich mit Schrecken, dass ich mit dieser Erörterung mitten in ausserarchitectonische Streitfragen hineingeriet und dass ich es nicht umgehen konnte, zu ihnen Stellung zu nehmen. Die künstlerischen Fragen verknüpfen sich hier fast unentwirrt mit religiösen, kirchlichen, sittlichen, ja Weltanschauungsfragen."

⁴⁴ Ibid., 9. "Solche Gedanken gibt der Friedhof, Gedanken, die nicht nur Trost bringen, sondern auch Kraft zu neuem Tun. Sie bedeuten keine Verneinung des Lebenswillens, sondern die allerstärkste Bejahung, eine Bejahung auch dort, wo kluge Voraussicht keinen Ausweg mehr sieht und verzweifelt."

⁴⁵ Ibid., 10. "... abgeschlossene Stätten des Friedens und der Erinnerung, und ebendamit auch Denkmäler des jetzigen Krieges."

half is rather practical with regard to Endell's analysis of contemporary row grave cemeteries. In the latter, more theoretical part, Endell discusses his cemetery projects' historical origins. At the end of the essay, Endell directly critiques contemporary society by stressing its one-sided focus on economy as raising questions about the possible visibility of a solution that could help change existing conditions.

Essay, Part A:

Endell's critique of institutional conceptions of cemeteries

In the first part of the essay, in the section called "Formation of Cemeteries in General," Endell equated modern cemeteries with labyrinths. He discussed the faults of the contemporary civil cemeteries, and at the same time he targeted the design of the military row grave cemeteries that grew out of the design of civil cemeteries. Salient features that Endell chose repeatedly to stress in his critique, such as "perfectly straight rows" and "the thick rows of stones...lacking, moreover, the calming [effect of] any sort of actual border,"⁴⁶ all suggest Endell's rejection of a form constituted by an endlessly extendable, mechanically repetitive pattern. Endell asserted that "the cemetery has become a *labyrinth* [and] its ceaseless hindrance of any overview clearly mirrors the restlessness of today's life."⁴⁷ Using this metaphor, Endell emphasized the modern cemetery, and implicitly contemporary forms, as reflections of contemporary quantified and monetized life devoid of a possibility of visibility of relations.

⁴⁶ Ibid., 12. "...schnurgeraden Reihen, dichten Reihen der Steine...ohne doch eine beruhigende, wirkliche Abgrenzung zu bieten...und so wird der ganze Friedhof in schmale Streifen...zerlegt."

⁴⁷ Endell, "Kriegerfriedhöfe," 12. "...der Friedhof wird zum Labyrinth, seine endlose Unübersichtlichkeit spiegelt deutlich die Unruhe des heutigen Lebens."

Endell's point about modern cemeteries' capacity to inhibit any overview implied their capacity to inhibit mobility—both physical and mental mobility—and to cause confusion in people as a result. Endell's evocation of a form whose origin is kept secret, a labyrinth, calls to mind his views on the too complex contemporary forms that, during his studies as discussed in Chapter One, he had recognized as incapable of revealing their ethical foundations. Now in the essay, Endell argued that the row grave cemeteries were constructed in a way that made an inquiry about their conceptual origins accessible solely to the commissioner—the Graveyard Administration. (In the course of the essay's first part, Endell stressed the contemporary form's origins through a discussion of the processes of their conception in traditional plans and perspectives.)

Endell critiqued the row grave cemeteries as forms of illusion with regard to what they could only claim to represent: equality and clarity.⁴⁸ He characterized such views acerbically: "to want so much to emphasize the equality of people—today of all times—seems a kind of derision or self-deception since precisely in these days we are seeing differences in income and wealth such as have hardly ever been witnessed."⁴⁹ In this context, Endell raised a concern about processes of form's conception, asking essentially about the relation of plans and perspectives to conscious processes. Along with what was evidently his concept of forms as both continuations and variations of their origins, he argued against traditional plans and perspectives concerned

⁴⁸ Johannes Schweizer discusses the idea of equality (in death) according to which modern row cemeteries were built as a trend in the design of cemeteries that had begun in the 19th century. According to this view broadly stated, the Enlightenment, the French Revolution and the doctrines of Liberalism had given rise to the establishment of the row grave as an alternative to the family grave. Johannes Schweizer, *Kirchhof und Friedhof. Eine Darstellung der beiden Haupttypen europäischer Begräbnisstätten* (Vienna: Klischees Graphische Kunstanstalt C. Angerer & Göschl. 1956), 153.

⁴⁹ Endell, "Kriegerfriedhöfe," 35-36. "Gerade heute die Gleichheit der Menschen derart betonen zu wollen, scheint beinahe Hohn or Selbstbetrug da wir gerade in dieser Zeit eine Verschiedenheit der Einkommen und der Vermögen erleben, wie kaum je eine Zeit sie gekannt hat."

with form as solidity and extension. He remarked: "even the most splendid perspective, the most superbly nuanced plan, is in fact worthless when the realization of [that layout] can only be lifeless and without effect."⁵⁰ Endell implied that, by contrast to his own cemeteries, the row grave cemeteries, as extended solid forms, were by the nature of their origins lifeless forms. Following his view, one can say that such forms were for Endell not concerned with experience—the living—but with inattentive seeing—the dead.

Endell pointed out the paradoxical nature and structure of the row grave cemeteries. Namely, he indicated that, while they aimed to evoke the principle of equality, the row grave cemeteries reduced man to a number. He referred to them as cemeteries of numbers (*Nummernfriedhöfe*).⁵¹ Their forms revealed a mechanically repetitive visual pattern and its implicit lack of visibility of relations on all scales. Endell thus raised the alert, with regard to the row grave cemeteries, and to contemporary forms in general, rejecting these as forms bereft of the dimension of time, and thereby of the capacity to constitute relations between seeing and memory, present and past, as the fundamentals of conscious experience.

Endell further critiqued the conception of the row grave cemetery "from above, from a bird's-eye-view," as a view self-evidently "unavailable to a cemetery visitor."⁵² He evoked the metaphor of the labyrinth again. It is highly suggestive how the institution, with its commissioned artist, and the mythical creator of a labyrinth become visible interchangeably as the ones who obscure form's mediating forces. Endell claimed that the row grave cemeteries'

⁵⁰ Ibid., 14. "Die herrlichste Perspektive, der köstlichst getönte Grundriss, ist eben wertlos, wenn die Ausführung danach tot wirkungslos bleiben muss."

⁵¹ Ibid., 54.

⁵² Ibid., 13. "Im Grundriss aus der Vogelschau gesehen hat das Ganze freilich einen symmetrisch klaren Aufbau in grossen Formen, aber der Besucher bemerkt natürlich nichts davon[.]"

forms resulted in feelings of "confusing agitation and *non-clarity*."⁵³ He called them "endless and without arrangement," and he attempted to make visible the origin of their forms in the processes of their conception. Having called to mind the image of a labyrinth, Endell, one might say, intended for the reader to *see* that forms conceived on a plane, when experienced, facilitate partial and disjointed views. He implied that this conventional concept of plan, while claiming to be generative of form's clarity, was an illusion, and that the relations in which form consists become opaque in experience. Thus, these aspects conduce to a totalizing form, lacking expression of continuity. Endell took issue with the design elements that he thought "confused and suppressed, denying any overview," and he commented further that the resulting "endless inaccessibility of a view [*Unübersichtlichkeit*] clearly mirrors the disquiet of life today."⁵⁴ One can see how Endell used the metaphor of the labyrinth in ways that signaled a form that denies a view of parts in relations.

Next, Endell critiqued form's conception in perspectives. Specifically, he argued against the institutional requirement that cemeteries be conceived in "splendid perspectives," and he offered the diagnosis that people's current feelings of fragmentation that resulted from the perception in movement of a form that predicated a stationary eye.⁵⁵ In this way, it could be argued that Endell emphasized the emerging feeling as a result of the disagreement of the structure of conscious processes and designed form: a disagreement between the mobility and

⁵³ Ibid., 12-13. "...ein Gang und zwei Gräberreihen[...] die bedrücken und verwirren..."; "[e]ndlos, planlos breiten sich die Hügelreihen und das wirre Geflecht der Kreuze"; "[e]r empfindet nur hoffnungslos verwirrende Unruhe und Unklarheit."

⁵⁴ Ibid., 12. "...und so wird der ganze Friedhof in schmale Streifen—ein Gang und zwei Gräberreihen—zerlegt, die bedrücken und verwirren, jede Übersicht wird unmöglich, der Friedhof wird zum Labyrinth, seine endlose Unübersichtlichkeit spiegelt deutlich die Unruhe des heutigen Lebens."

⁵⁵ Ibid., 14. "...die herrlichste Perspektive...."

elasticity of consciousness and the solidity and fixity of form. For Endell, traditional plans and perspectives, one can infer, impeded the possibility of conscious experience, which to him was a condition for the emergence of an ethical society.

Construction of difference as promoting a sense of community

Next, Endell proposed that cemeteries should be conceived as mobile representations of diversity in unity: "The more individuals work on [the form], the better and richer the overall impression will be.... [T]he whole will become an animated image of the *diversity* of the destinies of mankind that found their common end here."⁵⁶ By proposing to continue the organizational principle of a medieval workshop in this way, in contrast to the centralizing tendencies in contemporary society, Endell now focused on differences as the foundation of experience, not as a measure of wealth in society but as a celebration of diversity. At the same time, Endell made sure that his principle of a unified form based in differences was not mistaken for separateness. He continued to discuss elements of contemporary cemeteries that, in his view, promoted separateness instead of a sense of community, especially the enclosure, by lattice, of individual graves. Endell implied that separating elements in cemetery designs was inhibitory to the construction and perception of a coherent mobile and elastic form.

⁵⁶ Ibid., 35. "Je mehr Einzelne daran arbeiten, um so besser, um so reicher, warmer und eindrucksvoller wird der Gesamteindruck werden. Jedes blosse Schema ist auf dem Friedhof verletzend; je mehr Gedanken dort verwirklicht werden, um so besser. Und je mehr verschiedene Besteller und je mehr verschiedene Ausföhrer daran arbeiten, um so reicher und mannigfaltiger wird das Ganze werden, ein lebendiges Abbild der Mannigfaltigkeit der menschlichen Geschicke, die hier ein gemeinsames Ende gefunden haben."

Border over overview; wall over wire

While Endell kept emphasizing the need of an enclosed form of a cemetery throughout the text, now, he advocated border over overview, suggesting enclosing cemeteries with a wall instead of the wire used in modern row grave cemeteries. He critiqued this institutional requirement for an easy overview of cemeteries, just as he critiqued the concept of "the appeal of form's opening" (*den Glanz der Aufmachung*). One could infer that Endell was thereby pointing out that the premise of contemporary form's easy overview engendered an illusion of visibility.

Endell stressed that the enclosing wire in contemporary cemeteries had an effect tantamount to "redemption [*Erlösung*] after all the artificially accumulating agitation and distraction."⁵⁷ (His use of a term known from the biblical context might not be accidental here. In a way, Endell evoked the wire as a symbol parallel to that of the Passion of Christ.) Endell emphasized that the wire in its current use enabled vision beyond the cemetery, thereby creating the possibility of its endless extension. Endell argued in this way on behalf of a concept of visibility generated by elasticity and, implicitly, emerging as "a force of new action."⁵⁸ He showed that, in cases where form lacked a border, it also lacked artistic value. Its resulting effect was one of "an overview without offering a calming, real delimitation."⁵⁹ Epistemologically, such an open form allowed for a relativistic mode of inquiry that did not exhibit any relation to form's (natural and symbolic) origins. One could take the view that, for Endell, the enclosing wire did not liberate the eye; rather, it epitomized the contrary: an observer's vision suffering

⁵⁷ Ibid., 14 "[Und dieser unerfreuliche Ausblick wirkt fast] wie eine Erlösung nach all der künstlichen anmassenden Unruhe und Zerrissenheit [hinter ihm]."

⁵⁸ Ibid., 34. Later on in his essay, in the context of his discussion of a cemetery for a small city, Endell spelled out his objection to *Gesetzlosigkeit* or "lawlessness": "...randomness is always better than lawlessness" (*Willkür ist immer besser als Gesetzlosigkeit*).

⁵⁹ Ibid., 12. "...Übersicht, ohne doch eine beruhigende, wirkliche Abgrenzung zu bieten[.]"

when faced with a symbol of the possibility of the cemeteries' and death's endless extension. By implication, paradoxically the wire prompted a future vision contrary to what people would hope for.

Endell proposed alternative cemeteries as both outlined and liberating forms, symbolic of experience consisting of both suffering and redemption—coexisting aspects of life that operated relatively within a form of permanent movement and change. It could be argued that Endell therefore intended to show that, in the row grave cemeteries constructed as illusory forms of liberation, the wire's symbolic meaning as of a transitional form was no longer visible. The wired fence was thus a paradox, symptomatic of contemporary ways of seeing. Originally a symbol of a transition, here it became a symbol of extension, a conceptually opposed phenomenon. It no longer signified a relation, but a linear projection. Endell implied that liberation was not possible without suffering, thereby pointing out in what ways Christian concepts were used in construction of an illusion of visibility in cemeteries. Endell stressed the need of cemeteries as both forms and symbols of war's memory, and with it the necessity of continuation of symbolic forms in variation.

"Memory belongs to the living"

Next, Endell sought to stress soldiers as individuals—meaningful constituents of society. He rejected existing burial practices and advocated cremation instead, claiming: "all healthful commemoration at the cemetery revolves around the person, not the corpse."⁶⁰ Endell saw the loss of a dead body as society's least loss, showing no concern with the patriotic demand that

⁶⁰ Ibid., 17. "Alles erinnern auf dem Friedhof gilt gesunderweise dem Menschen, nicht der Leiche." Cremation was a relatively new practice in the history of burial in Germany. The practice had started with crematoria in Milan in Italy 1876, followed by Gotha in Germany in 1878.

fallen German soldiers be interred on German soil, and that they be relocated if necessary. "Our time is cut off from all tradition anyway," he claimed, implying that any search for a sense of continuity through the presence of corpses was a false attempt at evoking tradition.⁶¹ One could say that he identified it as a symptom of society's concern with form as content, rather than the experience that he held to be essential in the construction of life's continuity. Prioritizing visibility of relations over any kind of concern with authenticity in the construction of identity, Endell continued instead putting forth a concept of a design of both individual and shared memory, implicating the issue of identity in processes of visibility of the interrelated nature and structure of experience.

Empty gravestones as nodal points of Endell's cemeteries

Endell argued for gravestones instead of graves, advocating for the foci of visibility to be empty forms. In this way, the cemeteries would become, symbolically, monuments to form as space. Through the absence of physical remains, the entire cemetery would in fact become an empty form that had the structure and nature of a symbol—a form of cognitive process. Here Endell's idea of artistically conceived cemeteries crystallized: that is, Endell considered the cemeteries to be nodal point[s] within the city and within society's arteries—public monuments. It might be asserted that Endell sought to construct memory by balancing attention to the individual and to society. Having fought form's aspect of solidity, Endell further attempted to fight its force of gravity. The presence of the bodies would have disturbed that balance, causing attention to gravitate—toward individuals. In order to operate creatively, memory and attention had to eschew gravity.

⁶¹ Ibid., 17. "Unsere Zeit ist ohnehin zu sehr von aller Überlieferung abgeschnitten."

Endell's historical explanation of the custom of cenotaphs from the beginning of his essay now resonated at a point in which he was discussing the concept of the artistic cemetery.⁶² Expecting the reader to question why "artistic", why not a common monument that could embody our victory, Endell now stressed that it was necessary to continue the tradition of the ancients in regard to cemeteries (and public monuments) as sites of memory that emphasized cognitive processes rather than the presence of dead bodies. He referred to the kind of memory required as "a soothing remembering," and he asserted that "this kind of remembering is the only thing that remains to us from the death cult of earlier times, yet it is no empty, incomprehensible custom, but a vital necessity."⁶³ Finally, he argued against the multiple crosses that marked individual graves in contemporary cemeteries, suggesting that they fragmented the idea of unified space.⁶⁴

Cemeteries as nodal points within the *Stadtbild*

After a discussion of the flawed institutional requirements, Endell took issue with the Graveyard Administration and with the contemporary push to centralize cemeteries. Endell essentially proposed the administration's dissolution and espoused a solution that went against

⁶² Ibid. 6.

⁶³ Ibid., 7. "...beruhigte Erinnerung....Solche Erinnerung ist das Einzige, was uns von dem Totenkult früheren Zeiten geblieben ist, aber sie ist kein leerer, unbegreiflicher Brauch, sondern eine lebendige Notwendigkeit."

⁶⁴ Ibid., 15. Endell also critiqued a new set of rules for modern cemeteries that consisted in restrictions on materials and repetition of certain forms. He pointed out the flaw of the institutional rejection of an artificial stone as "inauthentic" and of the use of granite as "too showy and expensive." He argued that artificial stone was in fact "natural" in a land of sandy soil like Germany." He stated further, "the beauty of the stone has to substitute the misery of the forms." He critiqued thereby the mistaken prioritized value of simplicity for classicistic forms in contemporary society and supported his view with the example of the Egyptians' granite monuments. Next, he disputed the institutional prohibition on the repetition of a *certain* form, responding, "some forms are suited to repetition, others need to stand by themselves." On that occasion, he pointed out that identical forms were used in the past but that they differed in ornamentation. Arguing for repetition yet inclusive of subtle variations, he cited the example of a cemetery in Nürnberg from the beginning of the 16th century.

the idea of centralizing cemeteries. He suggested an organizing system that would allow cemeteries to become constituent parts of the overall coherent image of the city, of the city's characteristic appearance—the *Stadtbild*.⁶⁵ According to his new organizing system, no overly large cemeteries would be located nearby cities, rather they would be part of a city, organized under municipal districts. It can be inferred that Endell imagined cemeteries as urban sites and public monuments. Thus arguing for their autonomy, Endell proposed that they should be city units under their own management and should provide a dwelling for an overseer. Evidently, Endell was toying with the idea of applying his concept of form consisting in parts and relations, now on the scale of the urban context. His suggestion of the dissolution of the central organ was symptomatic of his overall concept of branched and branching formation, an organizing system that had to have no center and that exhibited no gravity, it was to be a system of balance.

Endell suggested that cemeteries needed to be taken into consideration at the stage of city planning. As an independent unit, yet at the same time part of the city as a unified whole, the cemetery would become a nodal point within the city fabric. Cemeteries would thus cease to be places of peace and solitude, turning into spaces filled with resonance, with the rhythm of city life. Endell's thinking on cemeteries suggests they would both modulate the city and would themselves be modulations of the city's *Stadtbild*. He evidently considered *Stadtbild* as a city's artistically conceived form, a form of visibility structured along form's aspects of recursivity and self-similarity. In this way, the walled off cemeteries would be both continuous and

⁶⁵ Ibid., 19. "Jeder neuangelegte Stadtteil würde von vornherein in Bestattungsbezirke zerlegt, die Friedhöfe schon im Bebauungsplan vorgesehen und in das Stadtbild eingezogen." The term *Stadtbild* was used by other German architects in regard to urban planning in Germany, especially those architects associated with the movement of Abstract Expressionism, such as Bruno Taut, but also by Camillo Sitte. The term does not have an equivalent in English. In Endell's usage it indicates a city as an artistic form, according to his concept of it. In regard to Endell's concern with the processes of modulation on the scale of the city. I would suggest that Endell's discussion of the cemetery in the context of the city may deserve to be included in discussions on the modern city in early twentieth-century Germany.

discontinuous with urban experience. In the case of the cemetery for a small city, Endell proposed that the wall should be lowered, while the lawn too sloped down toward the apse, enabling a view of the surroundings, and with it a continuity of the cemeteries' branching pattern with that of nature.

Tree: form-making element and symbol

After establishing his criterion of the cemetery as a coherent image, reminiscent of Endell's notion of the *Stadtbild*, Endell discussed the processes of conversion of this 'image' into a spatial form. Framing elements of the cemetery—natural vaulted ceiling, common lawn, and enclosing wall—stood at the center of his discussion. First, Endell addressed the use and choice of trees in his cemeteries, indicating the subject as the foremost case in point within his discussion of processes of spatial elastic form. Now in the essay, he argued what he could only sketchily convey with plans and perspectives: namely, that he considered trees to be both form-making elements and symbols of spatial form. Endell introduced himself at this point as a landscape designer.

First of all, Endell engaged in a provocative discussion of trees as symbols of national unity, making clear that his interest in trees was divorced from the ideals of patriotic Germans. Trees had their place in debates at that time regarding the design of military cemeteries in Germany. The patriots especially advocated the oak as the paramount German national symbol. Endell, however, argued that the oak was a universal symbol, describing in the essay how its significance was shared by Jews, Persians, Greeks and Romans. His pointing out this continuity of a symbol was yet another example of his critique of the creation of symbols and myths of unity, in this case national unity. He challenged in this way the construction of national identity

based in myths of the nation's origins, implying that the concept of immutable form (and symbol) was wrong, and that by implication Germany as its own nation needed to be considered as an emergent part—a nodal point—within the continuum of universal history.

Next, Endell focused on discussing the trees' branching pattern, for the sake of illuminating their ability either to part or to unify space. He proposed to plant trees at wide distances, so as to allow for a full spreading of their crowns. Further, he proposed "tall trees with not too thick branches" for the unifying effect on the space of a "light roof," because low trees with thick branches would not provide a coherent form, in his opinion.⁶⁶ Instead, he asserted that such trees parted.⁶⁷ He considered low trees, with their thickly branching crowns, useful for enhancing the effect of the frame of the cemetery. For Endell, "the wall and the crowns of trees provide the common frame" to the unified space of the cemetery.⁶⁸ As soon as Endell conveyed to the reader the possibility of a cemetery as a unified form, he introduced techniques for loosening its form, instantiating its form's elasticity, through the relative "lowering" both of elements in the cemetery and of the observer.

First, Endell specified the height of the surrounding wall (of the cemetery for a small city) as 1.2 meters, calling it the sightline and proposing that all the elements within have to be below or at the wall's height. This entailed proportioning all elements within the cemetery according to the position of the eyes, relating the form and its parts to human scale. The

⁶⁶ Ibid., 21. "Under the trees with tall trunks, the not too thickly branched trees, emerges a unified space"; "...ein lichtetes Dach[.]" Thus Endell makes an allusion to the structure of the roof of a Gothic cathedral. He suggested poplars (*Platane*) as the most suitable arboreal variety.

⁶⁷ Endell mentioned an old cemetery from Schwäbisch Hall as an example of a German cemetery that continued and varied that idea.

⁶⁸ Ibid., 23. "Aber Mauer und Baumkronen bilden nur den gemeinsamen Rahmen."

calculation of this height would ensure the experience of a variety of elements in relations that would change relative to the position of the observer. No element in such an arrangement would become a false focal point disruptive of the experience of unity in diversity in the cemetery's coherent and balanced form. Lowering everything proportionally also meant lowering of the gravestones, Endell emphasized that the gravestones needed to be seen from above, implying that they need to foster a frame: "consideration of perception from above would lead to voluminous forms that would be effective from all sides."⁶⁹ Endell conveyed lowering, moreover, as a constructive principle of monumental form on the base of its relation to consciousness. In this way, one can infer, Endell imagined the gravestones would attain individuality while constituting the cemetery as a whole.

Endell seems to have asserted cemeteries as monuments owing to their elastic structure and nature, as opposed to extended size and solidity. He asserted: "Whoever is unable to generate monumental effects in a small space is truly unable to do so at all."⁷⁰ With his concept of monumentality in form's processes of modulation based in human scale that he was introducing in the essay, one might claim that Endell sought to challenge the contemporary idealized value of monumentality in architecture. The most recent manifestation of this was the architect Paul Wallot's Reichstag (1894) in Berlin.

Endell critiqued this national symbol for its false conflation of visibility with size and solidity. Endell's skepticism with regard to what can be interpreted as such forms' illusory qualities seems to have encompassed the superficial assertion of the unity of the nation. Furthermore,

⁶⁹ Ibid., 25. "Die Berücksichtigung der Betrachtung von oben würde zu körperhaften von allen Seiten wirksamen Formen führen."

⁷⁰ Ibid., 24. "Wer nicht auf kleinem Raum monumental wirken kann, kann es überhaupt nicht."

Endell's admonition that an experience of monumentality per se was no guarantee of greatness was evident when he averred, "One should not say that...all serious monumental effect is dissipated. Inner greatness has nothing to do with extension."⁷¹ It is evident that Endell strove to evoke an alternative solution to monumentality, implying that any form constructed in a way that makes its parts in relations visible would be monumental.

Endell explained the process of lowering of form with reference to the observer. Asserting that people need "to appear inferior to destiny," he indicated the symbolic reason of this process of "lowering" of form. This required, in Endell's view, eliminating any elevation within the cemetery's lawn so that a visitor would have to bow down to the grounds—bowing, symbolically, to form's origins. Even the traditional grave mound had to be leveled. Within these processes of lowering, it can be argued, Endell sought to challenge the perception of the direction of man's aspiration.

Evidently, he sought to shift the vertical axis of perception into a horizontal one, symbolically reversing man's aspiration—from God towards nature, and implicitly consciousness—as the focus of inquiry. While Endell in this way continued the concept of the spatial unity of a cathedral in his cemeteries, he simultaneously reversed its perception's main upward direction into a horizontal one, impelling the observer to bow down to the gravestone, Endell made the observer participate in an act of humility towards nature while becoming both an element in and the creator of the cemetery's all-unifying coherent form. At the same time, Endell made the observer bow down to the gravestone's empty form, and therefore to the principle of a form as space—an art form.

⁷¹ Ibid. "Man sage nicht," he defended his forms, "dass dadurch alle ernste monumentale Wirkung verlorenginge. Innere Grösse hat mit Ausdehnung nichts zu tun."

Finally, Endell proposed that the process of lowering should result in a "new leveling."⁷²

Overall, Endell's project consisted in processes of flattening of form, while emphasizing its emergence as cognitive space. The gravestones were to be leveled units, "not separate repetitive units" but parts of the unifying common lawn. Endell's concept of new leveling, it can be argued, stood for a process of the cemetery lawn's modulation into compartments in relations. Rejecting artificial partitioning, Endell asserted the necessity of "modulating the giant grounds into smaller parts that would make the cemetery easy to view in its entirety."⁷³ He related the constructive processes of lowering and modulating of form to processes of the emergence of form as a coherent dynamic space.

Essay, Part B: Endell's discussion of the historical continuity of elastic form

In what can be taken as the "theoretical" part of his essay, Endell revealed the historical origins of his concept of artistic cemeteries in the continuous effort at the construction and perception of transitory form that originated with the ancient Greeks and that continued in the Middle Ages. His discussion amounted to a sketch of an alternative history of an artistic form, through which his own efforts at artistic cemeteries would become visible as continuing a tradition. He pointed out the ability of the ancient Greeks to "[see] in nature daily new formations [Gestalten], because they actually saw it, always afresh with new eyes, not obscured by the blinders of conventional seeing und representing, and what one saw one strove to build."⁷⁴

⁷² Ibid., 25 "...neue Einebnung[.]"

⁷³ Ibid., 27.

⁷⁴ Ibid., 43. "Man griff unbekümmert zu, sah in der Natur täglich neue Gestalten, weil man eben sie immer frisch mit neuen Augen sah, nicht behelligt durch die Scheuklappen herkömmlichen Sehens und Darstellens, und was man sah, das strebte man zu bilden."

Endell discussed examples of their artistic techniques of form of visibility as processes of form making that paralleled nature's laws. He chose to emphasize qualities of past works, such as their individual liveliness, with the examples of the Greek Temples of Paestum and the Temple of Ceres. These implied autonomous artistic forms: works that made visible a possibility of new ways of seeing. When he turned to Gothic art forms, he emphasized their life-qualities of warmth, interiority (*Innerlichkeit*), and richness, establishing a historical continuum between the ancient Greeks and Gothic builders based on the criteria of liveliness and autonomy of their works. Endell evidently thought of evoking the need for modern, autonomous forms—which he exemplified with his projects of cemeteries—to become parts of that historical continuum.

Endell's processes of lowering of form now coalesced as attempts at becoming parts of an evolution of forms as processes of "flattening and desolation" (*Verflächung und Verödung*).⁷⁵ Here, Endell expressed yet another counterpoint with which he described the development of an autonomous form through history. On the other hand, his counterpoint applied to his cemeteries. He chose concepts that conveyed his cemeteries' origins in both art and science: they would be forms of a balance of energy and desolation, and abstraction and empathy. Endell evoked this counterpoint as a concept of an art form that consisted in visibility of an ever-new variation on its origins, and demonstrated this principle already with the temples when he referred to them as both processes and results of form's variation on its origins. This discussion revealed Endell's aspiration to autonomous form as simultaneously a process of form's reversal (into space).

In the context of the discussion of past efforts at forms of visibility, Endell turned attention to the present time. He especially critiqued the "production of sameness" in

⁷⁵ Ibid., 46.

contemporary architecture, critiquing the pervasive copying of the models of the ancients, on the one hand, and the mechanical reproduction of forms, on the other.⁷⁶ To him, in order to achieve rich and diverse forms, engagement in a collective form of work was a necessity. A case can be made that Endell thereby proposed a way of continuing the ideal of medieval workshops, and of medieval building practice and its pursuit of a form of the universal through processes of visibility. Only now, in this context, did Endell reveal his cemeteries' module: its "unit of the mass" as the distance between the trees [12 meters in the case of the cemetery for a small city and 9 meters in the cemetery for a large city]. Endell explained that he arrived at this module by calculating the tree-crowns' span that helped in creating the cemetery's continuous enclosure form above.⁷⁷ This suggests that Endell calculated a module with which he would be able to convey the cemeteries as a spatial form, both physical and experiential, as would be necessary for the construction of processes of memory. That would be to say that Endell attempted to continue and vary the medieval builders' principle: their efforts at simultaneity of visibility of both the universal through the particular and the particular through the universal.

Visibility of (military) organization vs. illusion of equality

Next, in regard to the conception of his cemeteries, Endell revealed a paradox, asserting that military's organizing principles were based in processes of "subordination and coordination," and therefore principles contrary to the constructive principles of row grave cemeteries based in the ideal of equality.⁷⁸ Even with the military, Endell emphasized that the idea of human

⁷⁶ Ibid., 35. "...grauenvollste Öde und Gleichmacherei."

⁷⁷ Ibid., 29. "Die Masse sind aus der Baumabständen entwickelt."

⁷⁸ Ibid., 37. "Überordnung and Unterordnung."

community that makes visible differences among people at the same time should come to the fore in the cemetery. Endell implied here that the visibility of contrasting elements conditioned the rise of a new way of seeing. He asserted: "to stamp soldiers in death as if there were no differences is wrong."⁷⁹ Here, Endell's conception sharply contrasted with Lindner's call for "clarity" and his demand to instantiate equality in death between the rich and the poor, representative of the kind of formulations of uniformity in war cemeteries discussed at that time: "The equal measurements of the individual graves, their identical features, the unity of similarity of the grave markers, [all] magnify the mood to one of symbolic clarity: a rich person is equal to a poor person in death."⁸⁰ This seems to indicate that Endell sought to combat the insinuation of clarity owing to the fact it was predicated on an illusory premise of equality.

Endell addressed precisely what was getting lost in contemporary military cemeteries: namely, the visibility of the organizational principle in the military. As previously noted, Endell stressed that at this time, people were experiencing great diversity also in socio-economic terms, witnessing "inequalities of income and wealth unknown in previous eras."⁸¹ It became evident that with his assertion of the need for visibility of relations in a military cemetery as an evocation of the military's organization, Endell implied that form needs to be a reflection of contemporary society. Metaphorically therefore, Endell stressed that there were, indeed, differences between

⁷⁹ Ibid. "Damit tötet man jede Möglichkeit der Erinnerung, damit auch jede Bedeutung des Friedhofs für das Leben."

⁸⁰ Lindner, "Das Sinnbild in der Grabmalkunst," in Jessen, *Kriegergräber*, 35. "Die gleichen Abmessungen der einzelnen Grabstätten, ihre gleichmässige Ausrichtung, die Einheitlichkeit oder Ähnlichkeit der Grabzeichen verstärken die Stimmung zur sinnbildlichen Klarheit: der Reiche ist dem Arme im Tode gleich[.]"

⁸¹ Endell, "Kriegerfriedhöfe," 36. "...da wir gerade in dieser Zeit eine Verschiedenheit der Einkommen und der Vermögen erleben, wie kaum je eine Zeit gekannt hat."

the poor and rich among people, and that the masking of these would lead only to an illusion of a society of equality.⁸²

Endell's discussion of his project of a cemetery for a large city

Toward the end of this part of the essay, and only after Endell had made sure that the reader had a chance to visualize his cemeteries as forms of hierarchical principles of organization, he continued discussing this principle on the scale of the relation of the cemetery and the city, the "*Stadtbild*."⁸³ He pointed out this cemetery's "entirely new character...in not letting the surroundings have an effect" on its form. A six-meter-high wall now entirely closed off the city from view. Yet, consistent with his concept of form as both a part and a whole—a perceptual continuum—Endell instead proposed a different kind of continuity of the cemetery. He showed the ways in which the cemetery would become a part of the *Stadtbild*. In the placement of gravestones "for the most deserving soldiers," and in its simultaneous contrivance as a common monument, the cemetery was a continuation of the hierarchical principle within the city, whereas it became a nodal point within the city fabric.

In the context of the *Stadtbild*, Endell attempted for this cemetery to have a "more monumental" character. It was to become a public monument. In order to enrich its form, Endell argued that the surroundings needed to be closed off from view, since they would undermine the

⁸² The historian Volker Berghahn analyzed this issue in Modern Germany, emphasizing that, indeed, "just as the home front was a 'class society'...soldiers were conscious of hierarchies at the front." Berghahn, *Modern Germany*, 45. Moreover, he asserted that "The emergency of total war failed to create genuine inter-class solidarity, but furthered group egotism." *Ibid.*, 51.

⁸³ Endell discussed the "arrangement of the cemetery" (*Einteilung des Friedhofs*) and its similar "order" as in the case of the previously discussed cemetery of the small city. Endell, "Kriegerfriedhöfe," 39.

cemetery's effect.⁸⁴ He enriched the cemetery with a colonnade at the entry and a wide gate with lattice for the passing observer to be able to look in.⁸⁵ From this it can be inferred that Endell aimed at shaping the experience of the cemetery as a part of the city, and with the inclusion of the columns at its gates, he made an allusion to the civic monuments of the ancients. In the essay, Endell included an image of a model of columns, variations on the columns of the ancients. **[Fig. 28]** Endell sought to convey the cemetery's historical origins also on the outside. The wall was stripped of unnecessary accessories, and as he described it in the essay, it was a place for inscriptions, implying the continuation of a further ancient custom. On the inside, the wall would be framed by a relief, and the blind columnar spaces would be left free. The apse would contain frames with profiles, but no columns, since Endell held this to be necessary, as he pointed out, in order to establish two main points that would frame and stress the apse, its sculpture, and implicitly its pedestal.

Endell now arrived at a point where he revealed further details about the mounted warrior, features that were not visible in his perspectival drawing. He indicated that the sculpture was to be executed in bronze, which would index the origins of celebrated Greek marble sculpture. In this way, he showed concern with the relation between techniques and sculpted form as a continuation of an artistic tradition. The bronze technique, moreover, would allow for a design of an outstretched form that reached into the space of the observer. Endell in fact described the warrior in the process of stripping away the attributes that make him recognizable as an ordinary soldier: "a simple soldier who removes his helmet and sets aside his lance,"

⁸⁴ Endell referred to the cemeteries' "richer solution," thereby continuing the notion of forms as rich configurations.

⁸⁵ He asserted that "it should be made of the available or artificial stone in front of a wall that was to consist of stone, or red brick," hoping in this way to construct yet another contrast of opposites.

dressed in an "up-to-date uniform typical of those worn in the current war."⁸⁶ Next, Endell described the warrior's expression of "fatigue, sadness, and commemoration," an embodiment of deep emotion and recollection.⁸⁷ One can argue that the reader would see his- or herself in the warrior image, a modern day hero preparing to fight for new ways of seeing by means of processes of construction of conscious experience.

When Endell described the simple pedestal, a new relationship crystallized: namely Endell's accentuating of the observer's action potential through processes of reciprocal mirroring. The pedestal's base and the shape of the elements within the auxiliary apsidal space would now become visible in a relationship of reciprocal mirroring. The elements that the reader would recognize as benches now would become visible as mirrors of the main pedestal. The benches, in fact, would beckon the observer to sit down and observe life in calm repose, making it so that she would experience consciously. This would be a reflection of a modern observer: his or her image in a state of transformation—a warrior sitting down, seeing, thinking, remembering, and feeling. In this way, it would be the last missing piece of the cemeteries' journey, one that would perhaps be experienced as culminating in a discovery of a cosmology based in processes of creative seeing.

"Violent combinations and entanglements of contemporary forms"

In the essay's concluding pages, Endell urged critical reflection concerning the contemporary "conventional shadow art," by which he meant its conformity with the pervasive

⁸⁶ Ibid., 40-41.

⁸⁷ Ibid., 41. "Müdigkeit, Trauer und Andacht."

economically determined forms, rather than a commitment to fostering visibility.⁸⁸ Strategically, he trained the reader to become an observer as a first step so she can *see* him- or herself now, when the discussion involved contemporary conditions, as a warrior for new ways of seeing, pressing for social change. Evidently aiming to make visible the relation between contemporary artistic and architectural practice and contemporary society, Endell took up a theme familiar from his other writings and one that has loomed large in the foregoing discussion. He emphasized that modern economy is leading towards "ever more violent combinations and entanglements," and he complained about how "organization seems to be everything. The individual, living, feeling, willing person sinks down to being a number, a cog."⁸⁹ Endell called the current organization of economy "an endless chain of work into which everyone is clamped and can see neither its beginning nor its end"; this supplied the reader with yet another possibility of visualizing contemporary society, namely as a one-directional form of single focus (on profit).⁹⁰ Thus Endell provoked the reader to seeing contemporary social and cultural forms as disjointed, which appertained also on the level of the processes of contemporary production that

⁸⁸ Ibid., 45. "Eine konventionelle Schattenkunst hat heute weniger denn je Berechtigung." In this context, Endell pointed to the idea of form of visibility originating in wooden constructions that the Greeks had represented as their form's origins in the decoration of their temples. He therefore made the Greeks the origin and a part of the same continuum of practice of artistic form that he clearly wished to belong to himself. He argued that "the unconsciousness and bankruptcy of contemporary art" originated with the Renaissance as a period of "monetary economics und organization," making that period visible as continuing the practices of the Romans who "divorce[d] construction and decoration in architecture" as well as with the contemporary. Endell further critiqued the disappearance of the visibility of relations in architecture as the outcome of the contemporary condition of the making of architecture that was due to the system of the organization stemming from its commission. In an aside, he pointed out America as a contemporary leading example of such practices and contrasted it with Germany, where he claimed, "the patient acceptance [of such practices] is not really forthcoming" [...diese geduldige Hinnahme nicht so recht aufkommen (will)], 50.

⁸⁹ Ibid., 51. "Organisation scheint alles. Der einzelne, lebendige, fühlende, wollende Mensch sinkt zur Nummer, zum Maschinenteil herab."

⁹⁰ Ibid., 51. "Jeder wird in eine unendliche Arbeitskette eingespannt, deren Beginn und deren Ziel er kaum zu erkennen vermag."

involved both the worker and the product—the process of mass-production. Endell's remarks concerning the "endless chain" resonated with his critical stance towards the labyrinth with which he launched the critique of contemporary cemeteries' forms in his essay.

These metaphors share a common quality in suggesting limited movement: any chain-like principle of organization would be a form that is "schematic" and leaves very little satisfaction or fulfillment for "the slaves of the enormous organizational treadmill."⁹¹ One can take the view that with the chain metaphor, Endell articulated how people could become enchained in a form that they at the same time constitute, a society deprived of the "space" without which change would be unthinkable. The metaphor further suggested that contemporary society was constituted of individuals stripped of humanity. Overall, in the essay Endell critiqued contemporary economy's branched organization for lacking the quality of a life-form and envisioned its fall for this reason. He commented: "[Overwhelming economy] is at any rate incapable of awakening the trust, the loyalty, the objectivity in people, without which it is impossible to conceive of the working of the exceedingly branched organization of the economy."⁹²

The origin of form structured by memory in the heritage of the folk

At the very end of his essay, Endell came forward with a vision of a solution to this crisis of society. He stated: "in our souls the heritage of the past still lives on, still the spirit of our folk traditions defends itself and forestalls the most dire dissolution. Still standing are the old towns,

⁹¹ Ibid., 52. "Und den Sklaven der grossen Organisationstretmühle bleibt nur übrig, in der leersten, äusserlichsten, abstraktesten Genusssucht kümmerlichen Ersatz zu suchen für die goldenen Lebensfrüchte, die der blinde Schematismus der siegreichen Wirtschaftsvernunft achtlos fortgeworfen hat."

⁹² Ibid. "[Überwaltigende Wirtschaft] ist jedenfalls nicht imstande, aus sich heraus die Zuverlässigkeit, die Treue, die Sachlichkeit in den Menschen zu erwecken, ohne die ein sicheres Arbeiten der viel verzweigten Wirtschaftsorganisation gar nicht denkbar ist."

the old domes, and the old songs still live on and keep yearning awake...."⁹³ Endell asserted folk traditions as the conceptual origin of the cemeteries, as an expression of the contemporary need for memory. He did so by averring, "Out of such longing [for folk traditions] this proposal has arisen."⁹⁴ With his projects, it can be argued that Endell attempted to demonstrate the means needed for the expression of the interrelated origins of conscious experience in memory and history.

Endell "theorized" these needs as emanating from the interrelation of a time-based (rhythmic) structure and traditional form. Endell imagined an artistically conceived form that would have the structure and nature of a symbolic form as an essentially paradoxical structure. Endell put the cemeteries projects forward as building on a counterpoint also on the symbolic level of life versus death. One can infer that Endell intended the perceptual boundaries to dissolve, also between death and life, proposing cemeteries as forms and symbols of life and change. In the essay, Endell expressed the need to build contemporary life anew in ways that would overcome the lack of creative force. This also can be read as an exhortation to seeing anew in ways that would overcome the eclipse of memory and history—traditions of seeing—that Endell clearly felt informed the life and art of the ancients Greeks as well as of medieval builders:

In an incomprehensible way a life is suddenly extinguished, a life that until then reached into our own life by the day and by the hour, buoyed us up, helped us, fructified us, accompanied, conditioned, bounded and enfolded our entire creative undertaking; a living

⁹³ Ibid. 52. "...noch lebt das Erbe der Vergangenheit in unseren Seelen, noch wehrt sich der Geist unseres Volkstums und hindert die schlimmste Zersetzung. Noch stehen die alten Städte, die alten Dome, noch leben die alten Lieder und halten die Sehnsucht wach. Noch leben in den Menschen Anschauungen und Ziele, die nicht der neuen Ordnung ihren Ursprung verdanken... ."

⁹⁴ Ibid. 50. "Aus solcher Sehnsucht ist auch dieser Entwurf entstanden."

force with which our entire feeling and thinking and doing was entangled and that all at once has been torn away from us. One's own life must be built anew, ordered anew, until the energies so abruptly lost can be replaced by others.⁹⁵

⁹⁵ Ibid. "Auf eine unbegreifliche Weise erlischt plötzlich ein Leben, dass bis dahin täglich und stündlich in unser eigenes Leben hineingrif, uns stüsste, uns half, uns befrüchtete, unser ganzes tun Schaffen begleitete, bedingte, begrenzte und entfaltetete; eine lebendige Macht, mit der unser ganzes Fühlen und Denken und Handeln verwachsen war und die nun mit einem Male uns entrissen wird. Das eigene Leben muss neu aufgebaut, neu geordnet werden, bis die jäh verlorenen Kräfte müssen durch andere ersetzt werden."

CONCLUSION

In this dissertation, I have discussed how Endell's early speculations about the illusory ways of seeing in modern society motivated him to think and work experimentally in the direction of a design of conscious experience. To try to understand how Endell drew a motivation from his own experiencing of the world, and how he postulated an observer for the purposes of his design, one might consider what it would be like to come to feel that one is living an illusion. This could impel a person to contend with illusion, perhaps seeking to become more fully aware of the living self—seeing, thinking, feeling. I have demonstrated that Endell from early on consistently experimented with processes of reversing form. I have asserted the ways in which his designed "laboratories" were proposals for alternative forms of life that instructed in experience in which feeling becomes central to processes of consciousness.

I have argued that Endell imagined a form of life as ceaseless movement facilitated by the interrelated processes of seeing based in memory, thinking, and feeling, and that he sought to arrive at such an alternative by experimenting in the construction of a multi-dimensional, recursively structured, designed and built form. Beginning in the first chapter, I made the case that Endell strove to design a form and a symbol for consciousness—a creative brain. Consequently, I have shown that he continued to explore the structure and nature of conscious experience in a variety of settings in designed and built experiential forms, a range of which I have striven to represent with my selections from Endell's works. Overall, I have argued that Endell sought to design a mechanism that would approximate the architecture of conscious processes, the structures of which Endell derived from nature, and that he aimed in this way to

activate the underlying ordering principle in the brain capable of triggering empathy. I have demonstrated that Endell sought to continue in this way the organizing principle in nature, and that he appropriated the idea of relatedness of forms in nature in his own experiential forms constructed as continua of reciprocal mirroring of form's elements.

I would like to speculate at this point that my interpretation might beg the question whether we might think today of Endell's project as, in some sense, worthy of mention as an episode at the dawn of neuroscience. With his efforts at materializing the processes of conscious experience, Endell raised questions concerning the architecture of the brain in which a mechanism of conscious experience would be responsible for triggering empathy, thereby insinuating a physiological underpinning to empathy. Today, we have hypotheses regarding certain neuronal mechanisms, and we have various theories of consciousness. This dissertation contributes to the accounts of the latter by presenting Endell's designed theory of experiential form—a neglected designed theory of consciousness.

Among the themes that Endell engaged in regard to the "architecture of the brain" are the related notions of an experiential form based in feeling; of a design mapping the morphogenesis of conscious experience that would trigger empathy; and finally, the notion of experiential form as consisting of the interrelation of multiple spatial and temporal scales—patterns of rhythms. One of the currently celebrated neuroscientists, György Buzsáki, recently defined the fundamental problem in studying the brain as "deriv[ing] from the fact that it is organized at multiple spatial and temporal scales."¹ With respect to Endell's concern with the possibility of simultaneity in perception, the question of the structure and nature of time (in relation to space and form) essentially pertained to the structure and nature of the relation of the varying scales of

¹ György Buzsáki, *Rhythms of the Brain* (New York: Oxford University Press, 2006), 57.

its visibility. I have argued that Endell attempted to achieve its manifestation as a parallel to the question of the structure and nature of consciousness. If the sorts of questions being asked today regarding the syntax of the brain can be properly understood as concerned with the architecture of the *time* involved in the brain's pattern of rhythms, Endell's designed theory of consciousness might indeed be seen as having raised or addressed such questions at another threshold moment in cognitive investigations.

Briefly examining the next two themes that Endell engaged in regard to the "architecture of the brain," let us begin with my interpretation of Endell's insistence on making feeling visible as fundamental for the emergence of conscious experience. Today, one of the leading neuroscientists, Antonio Damasio, has been invested in questions of the relationship between emotions, rationality, and the underlying biology. He has asserted the indispensability of "certain aspects of the process of emotion and feeling...for rationality" and has asserted, "emotion, feeling and biological regulation, all play a role in human reason."² I have argued that Endell rejected Descartes' dualism in favor of experimenting in a design of experience for whose construction contrasting feelings become fundamental. In the first chapter, I made the case that Endell provided the observer with feelings of joy and pain in the experience of the interior light design. I showed that Endell constructed an experiential continuum, in the experience of which contrasting feelings that accompanied the notion of illusion and its reversal were fundamental to Endell's notion of creation.

In another instance, in the fourth chapter, I discussed how Endell was even more explicit about his conviction that an experience of contrasting feelings (the subject of his unfinished dissertation) was at the core of a mechanism capable of triggering empathy. In the projects for

² Antonio R. Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: Quill, 1994), xiii. See also, Antonio Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (San Diego: Harcourt, Inc., 1999).

military cemeteries, Endell included a sculpture of a warrior that I interpreted as demonstrative of how the contrasting feelings of suffering and liberation play a central role in one's humanity. Here, one could take the view that Endell visualized a notion of embodied consciousness, within which contrasting feelings become visible as the fundament of the human condition. I would suggest that he stressed the need for an observer-warrior who fights for survival in the sense of fighting for values of humanity. Damasio has asserted that human reason depends on several brain systems, and it may be instructive to consult these most recent perspectives when thinking further about the sorts of mechanisms and processes that Endell was grappling with. In this regard, it is worth noting that Damasio's work has drawn attention to

the low-level brain regions in the neural edifice of reason [as] the same ones that regulate the processing of emotions and feelings, along with the body functions necessary for an organism's survival. In turn, these lower levels maintain direct and mutual relationship with virtually every bodily organ, thus placing the body directly within the chain of operations that generate the highest reaches of reasoning, decision making, and, by extension, social behavior and creativity.³

Another theme of major interest in today's neuroscience that comes to mind when dealing with Endell's design is the mirror neuron system as a possible key to explaining empathy. In the early 1990s, neuroscientists in Italy (Giacomo Rizzolatti et al.) observed how a specific neuron, in a specific region, fires when a monkey sees a specific action or performs the action.⁴ Today, research has progressed as mirror neurons have been identified in humans, in a variety of brain regions. According to current hypotheses, mirror neurons may help us understand the actions of others and spur us to imitate what we see. The neuroscientist Vilayanur S. Ramachandran has

³ Ibid., xiii.

⁴ Giacomo Rizzolatti et al., "Premotor cortex and the recognition of motor action," *Cognitive Brain Research* 3 (1996): 131-141.

even gone so far as to suggest that mirror neurons may be the key to understanding the neurological basis of human self-awareness.⁵

Endell's designed mirroring mechanism, with which, I argued, he aimed to trigger empathy in the observer, might strike a chord with regard to this contemporary research. Vittorio Gallese, another neuroscientist researching mirror neurons, has commented: "This matching mechanism constituted by mirror neurons originally discovered and described in the domain of action, could well be a basic organizational feature of our brain, enabling our rich and diversified intersubjective experiences."⁶ The discovery of mirror neurons raised the question whether we are wired to see others as similar or different. Endell's experiential forms seem to have operated on a similar terrain. Themselves constituted by self-similar parts, they were designed, I have argued, in accordance with the principle of form-making in nature to go on designing through a mechanism of mirroring, which would render them capable of instilling empathy in the sense of seeing the other as self-similar. I have suggested that Endell believed empathy could be triggered by activating the brain via a specifically structured built and designed form that consists in the interrelation of rhythms of varying spatial and temporal scales. With the inclusion of a sculpted warrior in his projects of the cemeteries, discussed in the fourth chapter, Endell may have made a symbolic allusion to the human capacity for sharing empathy by a mechanism of mirroring.

⁵ L. M. Oberman and V. S. Ramachandran, "Reflections on the Mirror Neuron System: Their Evolutionary Functions Beyond Motor Representation," in *Mirror Neuron Systems: The Role of Mirroring Processes in Social Cognition*, edited by Jaime. A. Pineda, Contemporary Neuroscience (New York: Humana Press, 2010), 39-62. See also V. S. Ramachandran, "Self Awareness: The Last Frontier," Edge Foundation web site (January 1, 2009), retrieved May 28, 2013.

⁶ Vittorio Gallese, "The Roots of Empathy. The Shared Manifold Hypothesis and the Neural Basis of Intersubjectivity," *Psychopathology* 36 (2003): 171-180; here 171. Cited in Robin Curtis, "Einführung in die Einfühlung," in Curtis and Koch, eds., *Einfühlung*, 11-29, here 15. David Freedberg, a professor in the Art History Department at Columbia University, has co-authored articles with Gallese. Freedberg is interested in questions concerning the mirror neurons' possible role in the emotional responses solicited by art. See, among others, David Freedberg and Vittorio Gallese, "Motion, emotion and empathy in esthetic experience," *Trends in Cognitive Science* 11 (2007): 197-203. And idem, "Mirror and canonical neurons are crucial elements in esthetic response," *Trends in Cognitive Science* (2007).

Late in 2011, at a conference at Columbia University titled "BrainBeat [*sic*]. Frontiers in the Neuroscience of Music" (December 9, 2011), neuroscientists and others discussed the ways in which music might help in understanding the architecture of the brain, as well as in helping to treat neurological disorders such as autism.⁷ Rhythm was the catchword of the discussions that day. To a question from the audience about why neuroscientists do not also work with visual forms in the area of therapy for autism, one of the speakers answered that there is simply not enough data in support of the contention that visual forms may work in the same way music does. Especially in my third chapter, I have investigated how Endell can be understood as having explored a design of experiential form in ways that evinced a kinship to music. I emphasized that Endell regarded an experiential form capable of triggering conscious experience (and thereby empathy) as a construction of a rhythm of patterns of various spatial and temporal scales common to both the musical and visual orders of form, and that he thereby experimented with the notion of experience as an intersensory phenomenon.

My interpretation of Endell's ambition may spur thinking about how to design and build today in a way that taps into resources of empathy or, to carry forward and expand upon the aims of the cited conference, that serves as a therapeutic tool for addressing a general lack of empathy in society. At its most ambitious and fanciful limits, Endell's experimental project touches upon the question of whether it will be possible to determine how deeply neuroscience may be able to delve into the mechanisms that undergird our humanity—leaving aside the question whether that would be desirable or not—grasping and laying bear the mechanisms, in more explicit and practical ways, or perhaps just different ways, than those to which art, or architecture and design, can attain.

⁷ It may be worth mentioning that, in plain terms, autism is currently understood as a person's lack of empathy.

In architectural history today, there is a rising interest in the connection of architecture and neuroscience. A recent article, "Ultraviolet: Alvar Aalto's Embodied Rationalism" by the architectural historian Sarah Goldhagen, is one such instance. Goldhagen has investigated the possibility of a new understanding of Aalto's work in the context of proto-phenomenological explorations in perceptual psychology in the nineteenth century, as well as in the context of current investigations in neuroscience. Goldhagen has suggested that Aalto's "embodied rationalism" points to ideas present in his works that convey something about cognition to which contemporary neuroscientists lend credence, namely: "that the brain's locus of reason also manages perception and motor control."⁸

I see it as perhaps more than an interesting coincidence that Endell and Aalto were both paradoxical figures in the history of modern architecture. Of course, as a major figure, Aalto and his work remained visible throughout the twentieth century, but Endell, as a minor figure, has receded from view. Goldhagen has traced the origins of Aalto's "canonically un-Modernist work [yet] indisputably modernist" to his engagement as a student in proto-phenomenological experimental psychology, stressing that, "when Aalto's notions of rationalism and humanism, and the architecture that he built out of those ideas, is [*sic*] seen from...multiple, overlapping vantage points, the importance of [Aalto's] buildings for contemporary architectural theory and practice emerges."⁹ I propose that my treatment of Endell's work opens up to a discussion about common origins in the studies of proto-phenomenology that seem to inflect the work of both Endell and Aalto.

⁸ Sarah Williams Goldhagen, "Ultraviolet: Alvar Aalto's Embodied Rationalism," *Harvard Design Magazine* (Fall 2007/Winter 2008): 38-52. See also, idem, "Aalto's Embodied Rationalism," in Stanford Anderson, Gail Fenske, and David Fixler, eds., *Aalto and America* (New Haven and London: Yale University Press, 2012), 13-35.

⁹ Ibid., 39. Goldhagen gives credit to Eeva-Lisa Pelkonen for the spur to researching the connection to proto-phenomenological experimental psychology. Ibid., 43.

Endell's sort of proto-neuroscience was directed toward identifying, in design and architecture, a practice capable of modeling a science arising from the physiological underpinnings of humanity—"a task of mankind," as Endell would have it. Imagining in this way a designed science that would be inherently ethical and that would inform all endeavor in life, Endell embraced a utopia, I suggest, that had as its aim an ultimate synthesis in which everything resonates.

If Endell's project was in some sense an inherently disciplinary one, I stressed that its origins lay in a basically utopian urge to subvert disciplinary constraints. In light of such tensions, Endell's project may strike one for its similarities to neo-Kantian philosophy in Germany in the second half of the nineteenth century. This continued the tradition in nineteenth century German thought of trying to reconcile between materialism and the idea of progress, on the one hand, and the tradition in German philosophy of idealism as a sort of protection from materialism, on the other. Within this framework of thought regarding possibilities for bridging of science and philosophy, Endell can be seen as following in the footsteps of figures in the history of German culture such as Goethe and Helmholtz.

I have shown that Endell made reference to their central ideas in his works: namely, that he graphically expressed the origins of his "laboratories" in the design of a leaf as the Ur-form of the concept of both coordination and subordination of elements in many variations in his works; and that he graphically expressed the concept of accommodating eyes at the Hackesche Höfe. Endell's emphasis on the visibility of the origins of his design in the investigations of these scientists/philosophers is a token of tribute, and it also reveals a notion of design and architecture aspiring to continue the principles of form-making in nature. While having shown how consistent Endell was in elucidating the origins of his thought, one might go so far as to suggest that his

debut work in the light design at the Photoatelier Elvira highlighted Ruskin's seminal work *Seven Lamps of Architecture*. These connections that I have explored or suggested deserve to be taken up in a future publication. For now, I have focused on establishing, through in-depth analyses, the consistency of attention to the themes that kept turning up in Endell's work in a variety of contexts.

I showed that Endell was transitioning between a variety of disciplines, such as physics, physiology, psychology, philosophy, and theory of music, in the effort to express the possibility of both individual and shared experience. Out of these investigations has grown my argument that Endell explored the theme of a relationship between interior and exterior in architecture, and between surface and depth, as a relationship of elasticity that would allow for the experience of a built form's perpetual change. In these ways, I have argued, Endell imagined to be able to bridge materialism and idealism. I suggested that Endell strove to facilitate an experience of architecture and design as both form and space, thereby emphasizing these media's capacity to instill empathy. The beginnings of preoccupations with the relationship between interior and exterior in science date back to the work of Helmholtz—already mentioned—and Fechner, both of whom originated research into psycho-physics in Germany.

Crary has emphasized how both of these scientists participated in laying the foundations of knowledge in ways that are, ultimately, disciplinary.¹⁰ Moreover, in regard to Helmholtz's investigations in music, Steege has emphasized Helmholtz's analytical approach with regard to the possibility of synthesis, however arguing that Helmholtz's modernity consisted, above all, in

¹⁰ Jonathan Crary, *Techniques of the observer: on vision and modernity in the nineteenth century*, October Books, (Cambridge, MA: MIT Press, 1992); and idem, *Suspensions of Perception: Attention, Spectacle, and Modern Culture*, October Books (Cambridge, MA: MIT Press, 2000).

interrogating and coming to doubt the possibility of "self-possessed listening."¹¹ In some sense Endell, who was also working analytically and synthetically, also recognized the pitfalls on the path to "self-possessed" seeing.

With his "laboratories" of form based in feeling and with the inherent disciplinary implications of his work, Endell occupies a historical position among artists who assimilated and sought to transform potentially ambiguous modernizing processes in their works, thereby participating in shaping the modern observer. Namely, he is part of a tradition that has contributed to creating a possibility of free subjective vision, but where this attainment bears within it implications as to the possibility of constraint involving vision. Cary's variously important work concerning nineteenth century art, looking into how diverse cultural discourses intersected, has provided a model in art historical writing of investigating artists transitioning between disciplines at that time. A major contemporary locus of similarly inspired studies in architectural history seeking to address the intersection of cultural discourses in architecture and design is the journal *Grey Room*, dedicated to theorizing modern and contemporary architecture, art, media, and politics. Essays in that journal are concerned primarily, but not exclusively, with architecture and design of the twentieth century.

While I have emphasized Endell's practical involvement with the project of a "laboratory," at the same time, however, I stressed the value of investigating the origins of his synthesizing project. With my investigations into the complexities of the formative matrix of Endell's ideas and his works, I have intended to show that Endell's designed theory grew out of frustrations similar to those we are facing today, just as it grew out of his dissatisfaction—shared by many—with regard to the growing distances between various areas of inquiry. It strikes me

¹¹ Benjamin Steege, *Helmholtz and the Modern Listener* (New York: Cambridge University Press, 2012), 13.

that, in his works, where Endell experimented in continua in perceptual psychology and in physics, in particular his explorations regarding aspects of recursivity and self-similarity of form may have brushed up against a notion associated with Helge Koch's mathematical curve in 1905, which was the first mathematical expression of what in the 1970s came to be defined as fractal.

I have emphasized that Endell's work and thought may bear upon a variety of discussions in architectural history and theory. Going beyond the admittedly bold revision of current understandings of Endell that I have suggested in this conclusion so far, I would also note that Endell's theory of design and his concept of modulation certainly deserve to be included in anthologies of theories of modern design; also, his concept of experiential form deserves a place in anthologies of theories of empathy, form and space in German architecture. I have proposed that Endell was interested in construction and perception of an experiential designed and built form as a curved space. In the context of Endell's experimentation, I have hypothesized that within such a construction, Endell strove to show the possibility of a design based in the interrelation of processes of abstraction and empathy. Furthermore, by emphasizing Endell's practical theory of form based in feeling as simultaneously a practical theory of memory, I suggested how Endell's work opens onto discussions in the field of theory of memory. Finally, I have argued that Endell's work, targeting the institutionally conditioned ways of illusory seeing in contemporary society, was about ethics, not about politics, or at least not directly. The political philosopher Michael Hardt's recent article, "The Militancy of Theory," discussed an alternative mode of critique, the origins of which the author located in Michel Foucault's turn from concerns with politics to ethics.¹² In the current context, I will only note that Endell's investigations into the structure and nature of synthesis, and his works of practical theory, evince

¹² Michael Hardt, "The Militancy of Theory," *South Atlantic Quarterly* 110, no. 1 (Winter 2011): 19-35.

a similar step away from politics to ethics, and from theory to practical theory, as a means to forms of visibility.

In the course of my encounter with Endell's pedagogy in the second chapter, I hope to have laid the ground for a future investigation of yet another school in Germany whose significance has long been overshadowed by the overwhelming attention accorded to the Bauhaus— the Art Academy in Breslau that Endell directed 1919-1925. Endell's presence in Breslau in those years, accompanied by a cadre of his former students, sheds new light upon one of Germany's most important, yet most understudied, art academies. Although the German architectural historian Petra Hölscher has made a significant contribution to the illumination of the Breslau academy in general, the period of its existence under Endell's directorship merits further attention.¹³

A minor figure whose work received very little attention in the past century, Endell has made a re-appearance in architectural history in recent years. I have pointed to a range of factors that may help to account for the surge of interest regarding Endell in architectural history, suggested by recent publications in Germany and a spat of dissertations in the United States. This interest comes, furthermore, at a time of discussions in the theory and practice of architecture about ecological ramifications and social responsibility, and at a time of growing interest in the notion of embodied architecture. Endell has reemerged at a moment when the origins of modernist architecture in biocentrism, where nineteenth-century investigations into empathy in philosophical aesthetics and architecture are being studied and connection between architecture and neuroscience are beginning to be explored.

¹³ Petra Hölscher, *Die Akademie für Kunst und Kunstgewerbe zu Breslau: Wege einer Kunstschule (1791-1932)* (Kiel: Verlag Ludwig, 2003).

In closing, a brief text composed by Adolf Rading (1888-1957), an assistant in Endell's architectural practice in Berlin and his teaching assistant in Breslau, shows how Endell's principles of form continued in the thought of that proponent of the modern movement *Neues Bauen* (New Building) in Germany.¹⁴ The message resonates with the idea of an artistically conceived form penetrating all scales of modern society. While not addressed in any specific way to Endell, the excerpt from Rading is nevertheless evocative of Endell's concept of experiential form:

But we all are human beings with sound senses.

For all that is born, there is a right to an adequate life,

we live in an animated world,

think of that!

Make a distinction between qualities and quantities!

Then there will again be pleasure in our work and in our world.

It is up to us to animate machines and materials.

We need

artists,

i.e. productive men

in every sphere of life, statesmen, officials, economists, industrialists,

teachers, architects

And so on

And so on

Don't sleep.

Be wakeful.

You have eyes to see

¹⁴ The architect of *Neues Bauen*, Adolf Rading, was an assistant in Endell's studio before 1914, and he assisted Endell especially in his work on the racetrack in Mariendorf in Berlin.

And ears to hear.....

It is terribly important that we not again inter a Mozart in a pauper's graveyard....¹⁵

¹⁵ Nachlass Rading, Abteilung Baukunst, Archiv der Akademie der Künste, Berlin.

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Appendix A: Biographical sketch of August Endell

Sources: The two sources on which this brief biography mainly draws are Klaus Reichel, and Helge David. See Reichel, "Vom Jugendstil zur Sachlichkeit. August Endell (1871-1925)" (Ph.D. diss., Ruhr-Universität Bochum, 1974); August Endell, *Vom Sehen: Texte 1896-1925 über Architektur, Formkunst und "Die Schönheit der grossen Stadt,"* ed. Helge David, Birkhäuser Architektur Bibliothek, edited by Martina Düttmann (Basel, Berlin, Boston: Birkhäuser Verlag, 1995), 16-32.

August Endell was born on April 12, 1871, in Berlin, where he died on April 15, 1925.¹⁶ Very little is known about his early life. August and his younger brother Fritz (1873-1955) were raised by their father, the architect Carl Friedrich Endell (1843-1891).¹⁷ A former student at Karl Friedrich Schinkel's Berliner Bauakademie (1864-1871), Carl Endell found employment with the Ministry for Public Works, where he supervised construction of many of the judicial and governmental buildings of the recently founded German Empire.¹⁸

In 1890, August began university-level studies in Berlin and continued in the spring of 1891 in Tübingen. At this time, Endell began a correspondence with his cousin Kurt Breysig, a historian residing in Berlin. In the winter of 1892/93, he matriculated as a candidate in the natural sciences at Munich's Ludwig-Maximilians-University, where he studied for the next five years. Taking courses in both science and humanities, Endell encountered a great variety of subjects. In 1896, what was to be his final year of study, Endell matriculated in philosophy and

¹⁶ The first extensive biography of Endell was provided by Klaus Reichel. Here I provide an abbreviated version of Helge David's more recent biography of Endell, but I also supply some new information based on my archival research.

¹⁷ David informs about Endell's mother's early death: Marie Amelie Adelheid, *née* Haffner (1844-1874). See Endell, *Vom Sehen*, ed. David, 16.

¹⁸ *Allgemeines Lexikon der Bildenden Künstler*, ed. Ulrich Thieme, vol. 10 (Leipzig: 1914), 514. Cited in Clemens Klemmer, "Mensch und Dinge, Schnittpunkte," *Bauen + Wohnen* 9 (1988), 9-10.

began his dissertation on "Construction of Feeling" under the direction of professor Theodor Lipps, a proponent of a theory of empathy (*Einfühlung*).¹⁹

In 1895-1896, Endell served as director of the newly founded Akademischer Verein für Psychologie (Academic Association for Psychology) at the Ludwig-Maximilians-University (an association that this dissertation introduces in relation to Endell's work and thought).

Subsequently, in 1896 Endell broke off his dissertation and left the university, turning to the practice of architecture and design instead. With no previous training, he ventured forth on a terrain with which he had in one way or another been familiar since childhood.

The first years after leaving the university proved to be especially productive. In 1896, Endell published his first art-critical essay, "Um die Schönheit" (On Beauty), upon the occasion of an art exhibition at the Munich Glass Palace. Between 1898-1899, Endell worked on his first architectural commission, the re-design of an existing building into the Photoatelier Elvira, and he published articles in popular art-journals. In 1898 he was commissioned to design a building complex for a Sanatorium in Wyk on the island of Föhr in northern Germany. In 1899, Endell co-founded the United Art and Craft Workshops in Munich.

During these years, Endell engaged in furniture design, participated in exhibitions, and met with a variety of progressively thinking intellectuals and artists in Munich at that time, including the Swiss artist Hermann Obrist, the poet Rainer Maria Rilke, and Nietzsche's first biographer and a future student in psychoanalysis, Lou Andreas-Salomé.

In 1901, Endell moved back to Berlin, where he undertook commissions of public works as well as private houses during a time period stretching to the beginning of the Great War in Europe in 1914. During these years, Endell engaged in teaching, wrote for progressive journals,

¹⁹ August Endell's matriculation status and registration, Matriculation Documents, Ludwig-Maximilians-Universitätsarchiv, Munich, Germany.

and became a member of prominent artistic and architectural associations. In 1901, Endell re-designed the writer Ernst von Wolzogen's modern variété type of a theater called the Buntes Theater. In 1904, Endell opened a Schule für Formkunst (1904-1914), and almost simultaneously he worked on the design of the first courtyard of the Hackesche Höfe (1905-06), a socially oriented building complex in Berlin. The most celebrated work in Endell's lifetime was his design of a building complex and racetrack in Berlin-Mariendorf (1911-1912), considered a rare example of artistically conceived racetrack architecture.

Endell wrote articles concerned with social critique for the art section of *Die Neue Woche* (The New Week), for *Die Neue Gesellschaft* (The New Society), a journal of the revisionist wing of the Social Democrats, and for the journal *Die Zukunft* (The Future). He was a member of an association of artists in Berlin, the Werkring (Work Ring, 1902-1906), and a member of the Deutscher Werkbund (German Work Federation), an association of artists, architects, designers and industrialists. In 1914, Endell was on a short list (together with the artist Hermann Obrist and the architect Walter Gropius) as a prospective director of Henri van de Velde's School of the Arts and Crafts in Weimar.

During the war, Endell remained professionally active. Karl Ernst Osthaus, a patron of the modern movement in the arts, commissioned Endell in a variety of projects that however remained unrealized. One of them was a model of an expandable house for Osthaus' project for Hohenhagen. In 1915, he participated in a competition to design cemeteries for German soldiers of the Great War, and in 1916 he published the essay "Zwei Kriegerfriedhöfe" (Two Warriors' Cemeteries), in which he brought to attention the two projects he had submitted for the competition without success. Endell did not serve at the front, but from 1917 on he found work

at the Ministry of War. There he was commissioned to design a model for a War Museum that was to be built to celebrate Germany's anticipated victory.

After the war, in 1919 Endell accepted the directorship of one of Germany's most important art academies at that time, the Art Academy in Breslau, where he taught until his death in 1925. There, he conducted lectures with slides of works of art and architecture drawn widely from history and from a variety of places, together with images of nature and technology. (In 1919, Gropius became director of van de Velde's school, renaming it the *Bauhaus*.)

Endell died in 1925 due to illness. He was survived by his second wife, Anna Endell, a sculptor trained in Paris and a friend of the painters Marg and Oscar Moll. His first marriage, about which little is known, lasted 1901-1903. Endell's first wife, Else Ti Endell (*née* Ploetz), moved to New York where she took part in the Dada movement at a later date. Finally, Endell was survived by his brother Fritz, a woodcutter and graphic designer.

Appendix B: August Endell, "Schule für Formkunst"

Source: August Endell, "Schule für Formkunst. Vorträge über Architektur" (Abschrift).
Nachlass Endell, Baukunst Abteilung, Akademie der Künste Archive, Berlin. This document is
not dated, but includes a schedule of lectures for Winter 1907 to Winter 1909.

1. Jahrgang: allgemeine Formenlehre

Naturstudium: Zeichnen und Modellieren nach Blättern Blüten Muscheln
u. s. w. Heraussuchen der besonders charakteristischen Teile,
Sammeln ähnlicher Formen. Umgestalten von Naturformen.

Formerfinden

Ebene Formen:

Linie und Fläche: Charakter und Gefühlswirkung
Bewegung Schwerpunkt Gesamtform Teilform
Gabelung Verzweigung Büschel und Bündel
Pflanzenartige Bildungen
Fleckwirkung Schwarz-Weiss

Buchschmuck
Schablone

Freischwebende Formen:

Schwerpunkt Stosspunkt Richtungen Gleichgewicht
Tierformen

Räumliche Formen:

Das räumliche Sehen Tiefe Verkürzung Schatten
Abbilden räumlicher Formen

Flachrelief

Durchbildung der Formen:

Aderung Strukturen Randbildung

Freie Ornamente;

modelliert gezeichnet und getuscht

Stickereien

II. und III. Jahrgang: angewandte Formen

I. Gruppe Flächenkunst

Farbstudien: Streifen- und Fleckmuster
Geometrische Formen: Aufteilung von
Flächen geometrische Strukturen
Gitterformen
Reihen- Band- und Flächenmuster Leimfarbentechnik

Schrift
Spitzen
Tapeten
Stoffe
Teppiche

II. Gruppe Räumliche Kunst

Bildung von Körpern: Vollkörper Hohlkörper Drehformen
Geometrische Formen wie Gruppe I

Gefässe

Gitterformen	Schmiede- und Treibarbeit Guss Schmuck Beleuchtungs- körper
Durchbrochene Körper	
III. Gruppe Möbel.	
Verwendung rein konstruktiver Formen. (II. Jahrgang)	
Aufmessung und Darstellung von Räumen und Möbeln.	
Architektonische Formen:	
Charakter Wirkung und Bildung	
Das einfache Kastenmöbel:	Kleider- und Wäsche- schränke
Gesamtwirkung.	
Fuss und Sockel Platte und Gesims einfache Profile	
Flächengestaltung: Rahmen und Füllung, Kehlstoß und Spiegel. Fournierte Flächen.	
Zusammengesetzte Kastenmöbel	Buffets Bücher- schränke Glasschränke Regale Betten Tische Sofas
Offene Möbel	Lehnstühle Stühle
Sitzmöbel	
Verwendung von Zierformen (III Jahrgang).	
Zierteile:	
Bildung von Körpern wie Gruppe II	
Gesimse Profile Verkröpfung Rahmen	
Pfeiler Säulen Basen Kapitäle	
Consolen Füße Bekrönungen	
Flächenverzierung:	
Geometrische Formen wie Gruppe I	
Intarsie Gitter Verglasung	
Plastische Belebung: Schnitzerei Profilierung.	
Die farbige Einheit des Zimmers:	
Holzfarbe Stoffe Tapeten Teppiche Metall	
Mehrere Holzarten	

Appendix C: Hanns Jacob

Source: Hanns Jacob, "Versuch einer Wiedergabe der pädagogisch-praktischen Kunstlehre von August Endell (1906) durch eine systematische Disposition," Archiv der Akademie der Künste, Berlin, Baukunst Abteilung, Nachlass Endell, End-01-39.

Formaufbau, Formbildung und Wirkung

I. Einfache Komposition

Verschiedene Möglichkeiten des Hervorbringens von künstlerischen Wirkungen durch bewusste Anwendung bestimmter Kunstmittel als Ursache:

- 1.) Symmetrie (Wiederholung von zwei gleichen, einfachen Flächenformen im Spiegelbild)
 - 1.) nach einer geraden Achse beliebiger Lage (gleichschenkeliges Dreieck, Blattformen)
 - 2.) nach mehreren Achsen, die sich in einem Punkte schneiden (gleichs. Dreieck, Quadrat, Vielecke, Kreisfläche)
 - 3.) nach zwei aufeinander senkrecht stehenden geraden Achsen (Raute, Oval, Spitzoval)
- 2.) Rhythmus (Wiederholung von zwei oder mehreren gleichen Formen in gleichen Abständen)
 - 1.) Reihung (Fries, Fensterreihe, Kamm, Zaun)
 - 2.) Schichtung (gleiche Stockwerke)
 - 3.) Scharbildung (regelmässige Streumuster)
 - 4.) Sterne (regelmässige Blüten)
 - 5.) Netze (regelmässige)
- 3.) Melodische Ordnung (Wiederholung von mehreren gleichen Formen in gleichen Abständen nach subjektivem melodischem Empfinden)

Bemerkung: Melodische Ordnungen haben nach ihrer Wirkung verschiedene Qualitäten:

 - 1.) harmonisch empfundene oder klar und übersichtlich erkennbare,
 - 2.) disharmonisch empfundene oder unbestimmte.
- 4.) Abwandlung oder Variation (Verbindung von zwei oder mehreren ähnlichen Formen)

- 1.) durch Asymmetrie (unsymm. Blätter, auch gebogene)
- 2.) Fingerung (Palmetten, Dolden)
- 3.) Reihung (unregelmässige Streifung, Wirbelsäule)
- 4.) Schichtung (ungleichartige Stockwerke)
- 5.) Scharbildung (unregelmässige Streuung)
- 6.) Verzweigung (regelmässige und unregelmässige)
- 7.) Schachtelung (räumlich) usw.

Bemerkung: Variationen können auch nach der Qualität ihrer Wirkungen verschiedenartig sein:

1. Die harmonische oder deutlich wahrnehmbare -
2. Die disharmonische oder unbestimmte –
3. Die rhythmische –
4. Die perspektivische Abwandlung

5.) Gegensatz (Verbindung von zwei oder mehreren verschiedenen Formen)

Beispiele:

a) Einfacher Gegensatz

- 1.) Gross und klein
- 2.) Lang und kurz
- 3.) Schmal und breit
- 4.) Gerade und gebogen
- 5.) Masse und Öffnung
- 6.) Langsame und schnelle Formen
- 7.) zwei Farben
- 8.) Horizontal und vertikal

b) Mehrfacher Gegensatz

- 1.) Schichtung stark verschiedener Stockwerke
- 2.) Sockel – Säule – Gebälk
- 3.) Baumstamm – Zweige – Blätter
- 4.) Zweig – Stiel – Blatt
- 5.) Figürliche Darstellung (Beine, Körper, Arme, Kopf)
- 6.) Mehrere Farben

Bemerkung: Die Gegensätze können in etwa vier Qualitätsstufen auftreten:

- 1.) Der harmonische Gegensatz (Siehe auch Proportionslehre),
- 2.) der extreme Gegensatz,
- 3.) der disharmonische oder übertriebene Gegensatz,
- 4.) der unklare oder unerhebliche Gegensatz (siehe auch Abwandlung).

II. Bewegung der Formen

(Die scheinbare Unbewegtheit oder Bewegung der Formen,

Statik und Dynamik, Temperament der Formen.)

- 1.) Statische Formen (Formen ohne scheinbarer Bewegungstendenz)
 - 1.) Frei im Raum oder auf der Fläche schwebende symmetrische Zentralformen (Sterne, Blüten)
 - 2.) Auf einer scheinbar festen Unterlage aufliegende Formen.
(Liegende einfache Gegenstände, niedriges Haus mit flachem Dach)
- 2.) Langsame Formen (Formen mit geringer scheinbarer Bewegungstendenz.)
 - 1.) Die gebogene Spitze (Dornen, gebauchte Turnhelme.)
 - 2.) Die stark gebogene Linie. (Die ausgebauchte Konturlinie, der gebogene Stengel, die Volute oder Schnecke.)
 - 3.) Formen mit gewisser Höhenentwicklung. (Haus mit steilem Dach, Pappel oder Cypresse.)
 - 4.) Auf einer Fläche oder im Raum schwebende annähernd dreieckige Formen.
- 3.) Schnelle Formen (Formen mit starker scheinbarer Bewegungstendenz.)
 - 1.) die gerade Spitze (glatte Turmspitzen, Schornsteine, Fahnenstangen, Die Lanzen.)
 - 2.) Die schwach gebogene oder gerade Linie. (Der Grashalm. Der Stil oder Stengel. Die glatte Conturlinie)
 - 3.) Auf der Fläche oder im Raum schwebende kometenartige Formen, usw.

Bemerkungen: Die scheinbare Bewegungstendenz der Formen wird durch den "Gegensatz" zwischen verschiedenen Temperamenten sehr gesteigert (z.B. gelagerter Baukörper und Turm, runder Helm mit Spitze)

III Formbildung

Weitere verschiedene Arten der Zusammenfügung von Formen zu neuen Formgebilden:

- 1.) Verkettung: Verschiedene Formen hängen unmittelbar aneinander und bilden ein neues Formgebilde, ohne dass eine Form eine beherrschende Funktion übernimmt.

- 2.) Durchdringung: Eine Form durchdringt eine oder mehrere andere Formen.
- 3.) Verschmelzung: Zwei oder mehrere Formen gehen ineinander über und bilden eine neue Form. (Menschen- und Tierformen usw.)
- 4.) Herauswachsen oder Anfügung: Eine Form trägt eine oder mehrere andere und diese bilden gemeinsam ein neues Formgebilde.
 - 1.) Stehende Formen (Zweig mit Blättern, Blüte am Stiel, Blatt mit Stiel, Stachelbildung. Siehe auch Gegensatz)
 - 2.) Hängende Formen
 - 3.) Sich abspreizende Formen
- 5.) Der Zusammenstoß von zwei oder mehreren Formen.
 - 1.) Der symmetrische Gegenstoß, gerade oder geschwungen.
 - 2.) Der unsymmetrische Gegenstoß (Gegensatz) gerade oder geschwungen.
 - 3.) Der Stoß auf den Schwerpunkt (Zwei schwebende Formen richten ihren scheinbaren Stoß auf ihre Schwerpunkte.)

IV. Besondere Formbildungen

- 1.) Der Formentausch: Betonung der Leerform zwischen den Formen als Hauptform.
- 2.) Die Lochbildung: Bildung von Durchlöcherungen mit deutlichem Formcharakter.
- 3.) Die Wechselwirkung: zwischen Leerform und Hauptform (siehe Rhythmus und Abwandlung).
- 4.) Die Wechselwirkung: zwischen Einzelform und Gesamtform (siehe auch Masstab und Standpunktentfernung des Betrachters).

Appendix D: August Endell, "Bauformenlehre I. Teil"

Source: August Endell, "Schule für Formkunst. Vorträge über Architektur" (Abschrift).
Nachlass Endell, Baukunst Abteilung, Akademie der Künste Archive, Berlin. This document is
not dated, but includes a schedule of lectures for Winter 1907 to Winter 1909.

Allgemeine Formenlehre.

Bewegung der Formen

Formwirkung Formbildung Formaufbau

Bauformenlehre I. Teil: Konstruktive tektonische Formen

Gestaltung der sachlich (wirtschaftlich-technisch) gegebenen

Baumassen durch Verschiebung der Masse

das Innere des Hauses

der Raum

Gesamtform

Verhältnisse Masse

Decke Gewölbe Wand Tapete Fussboden

Raum und Tür

Raum und Licht

Raum und Fenster

Raum und Möbel

Raum und Treppe

Reihung der Räume

Schichtung der Räume in Stockwerken

das Äussere des Hauses

Gesamtform

Hauskörper und Dach

Dachformen

Hauswände Fenster Erker Balkone Dachflächen

Appendix E: August Endell, "Bauformenlehre II. Teil"

Source: August Endell, "Schule für Formkunst. Vorträge über Architektur" (Abschrift).
Nachlass Endell, Baukunst Abteilung, Akademie der Künste Archive, Berlin. This document is
not dated, but includes a schedule of lectures for Winter 1907 to Winter 1909.

Bauformenlehre II. Teil: Architektonische Formen

Kunstformen

Gestaltung der sachlich gegebenen Baumassen durch Formung und
künstliche Gliederung

die Gliederung der Baumassen

die Innenräume

einheitliche

Decken und Gewölbe

geteilte

Stützen Säulen Pfeiler

gruppierte

Raumfolge

Gebäude von aussen

Gesamtform Massenverteilung

Kunstformen der Dächer

Fassaden

melodische Gliederung

Bewegung Teilung

rythmische Gliederung

die Kunstmittel

ihr Wesen

Masstab Wirksamkeit und Entstehung

ihre Bildung

Wandglieder

Profile Bänder Füllungen Masswerke

bekrönende Glieder

Spitzen Fialen Giebel

Hallenglieder

Pfeiler Säulen Gebälk Bogen Gewölbe

Blendglieder (Hallenglieder als Wandglieder
benutzt)

Wandsäulen Pilaster Blenden



Fig. 1 Title page with orchid from August Endell's "Um die Schönheit" (1896).

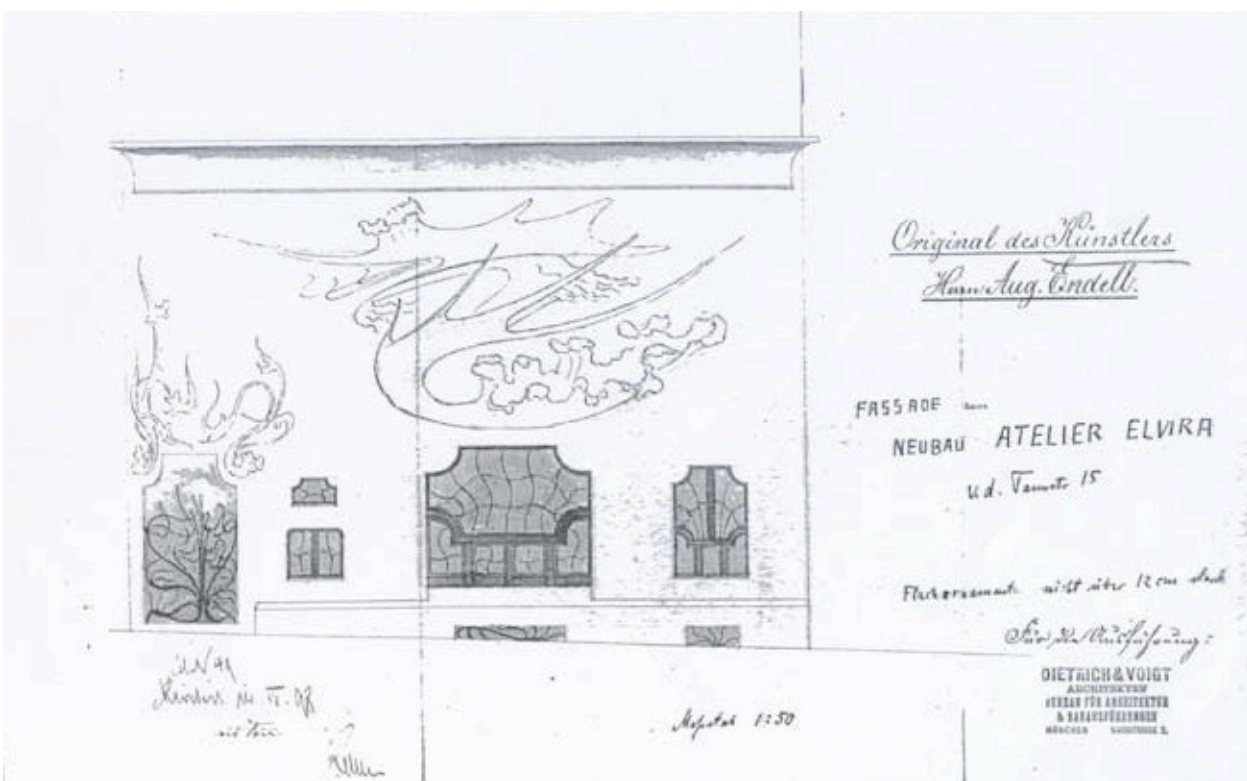


Fig. 2 August Endell. Photoatelier Elvira. Drawing. 1898.



Fig. 3 August Endell. Photoatelier Elvira, Munich. Photograph. 1937.



Fig. 4 August Endell. Photoatelier Elvira, Munich.



Fig. 5 Photograph of a brain. Lateral surface of the right hemisphere showing cerebellum and cerebrum.

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Kunstgewerbliches Seminar von Professor van de Velde
in Weimar.

Fig. 6 August Endell. Advertisement for Schule für Formkunst. In *Kunst und Künstler* (1904).



Fig. 7 August Endell. Monogram. Advertisement for Schule für Formkunst.
In *Kunst und Künstler* (1904).



Fig. 8 E. Scheller. Drawing #1. Untitled. 1905.

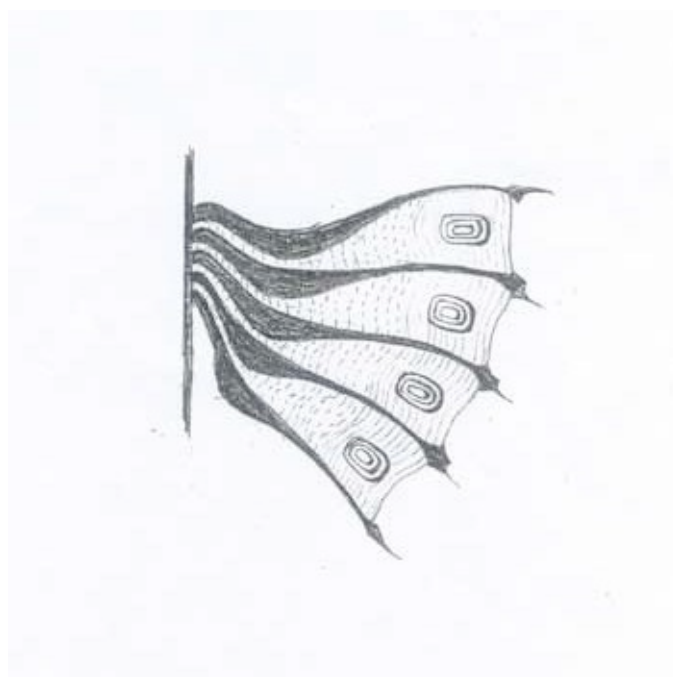


Fig. 9 E. Schweller. Drawing #2. Untitled. 1905.



Fig. 10 Anonymous. Drawing #3. Untitled. No date.



Fig. 11 August Endell. View from the first courtyard back to the entry passage through which Hackesche Höfe is accessed. Berlin, present state.



Fig. 12 August Endell. First courtyard of Hackesche Höfe, façade of the western transversing building. Berlin, present state.



Fig. 13 August Endell. Oriental Restaurant. First courtyard of Hackesche Höfe, Berlin. 1905-1906.

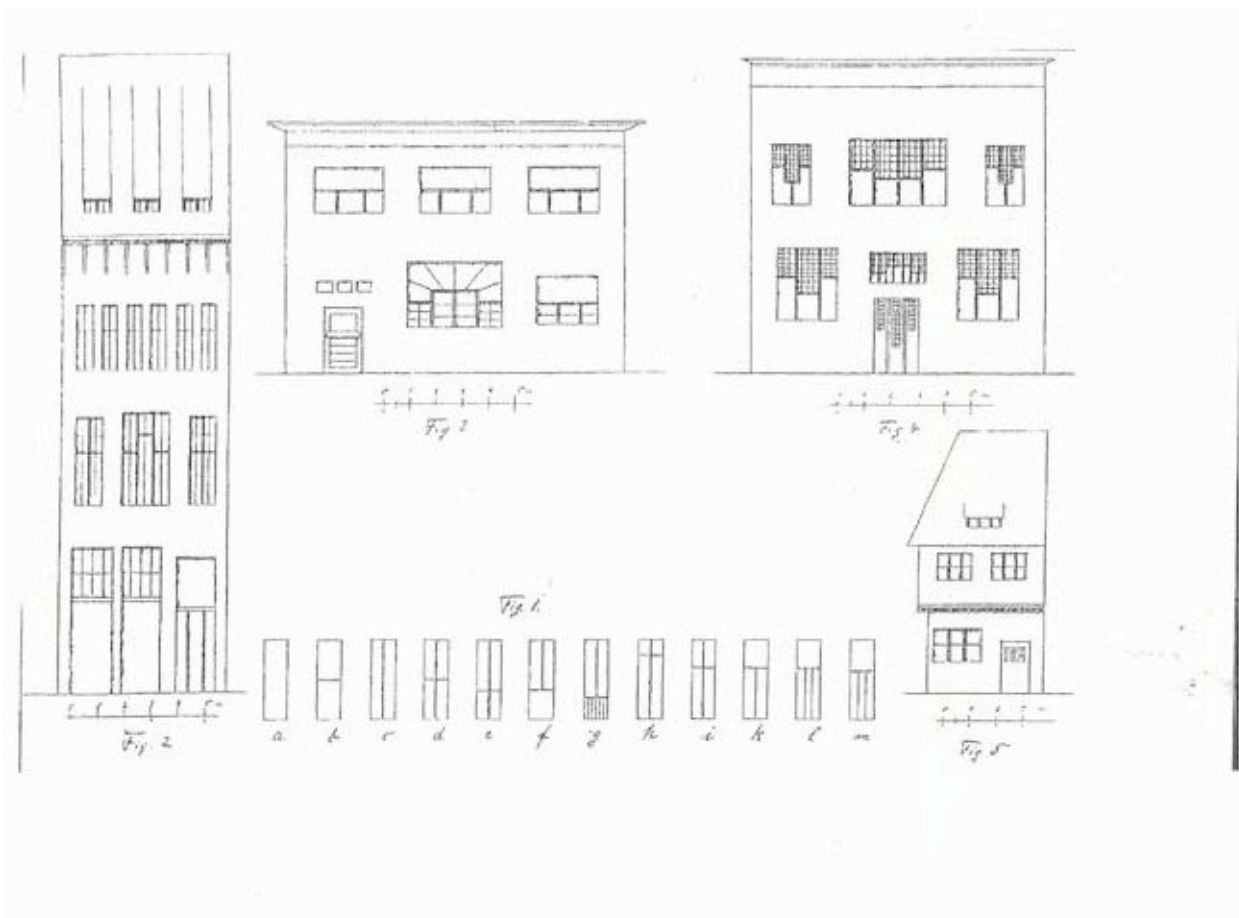


Fig. 14 August Endell's diagram of elevations and window configurations in "Formenschönheit und Dekorative Kunst I" (1897/1898).



Fig. 15 August Endell. First courtyard of Hackesche Höfe, Berlin.



Fig. 16 First courtyard of Hackesche Höfe, Berlin. Postcard.

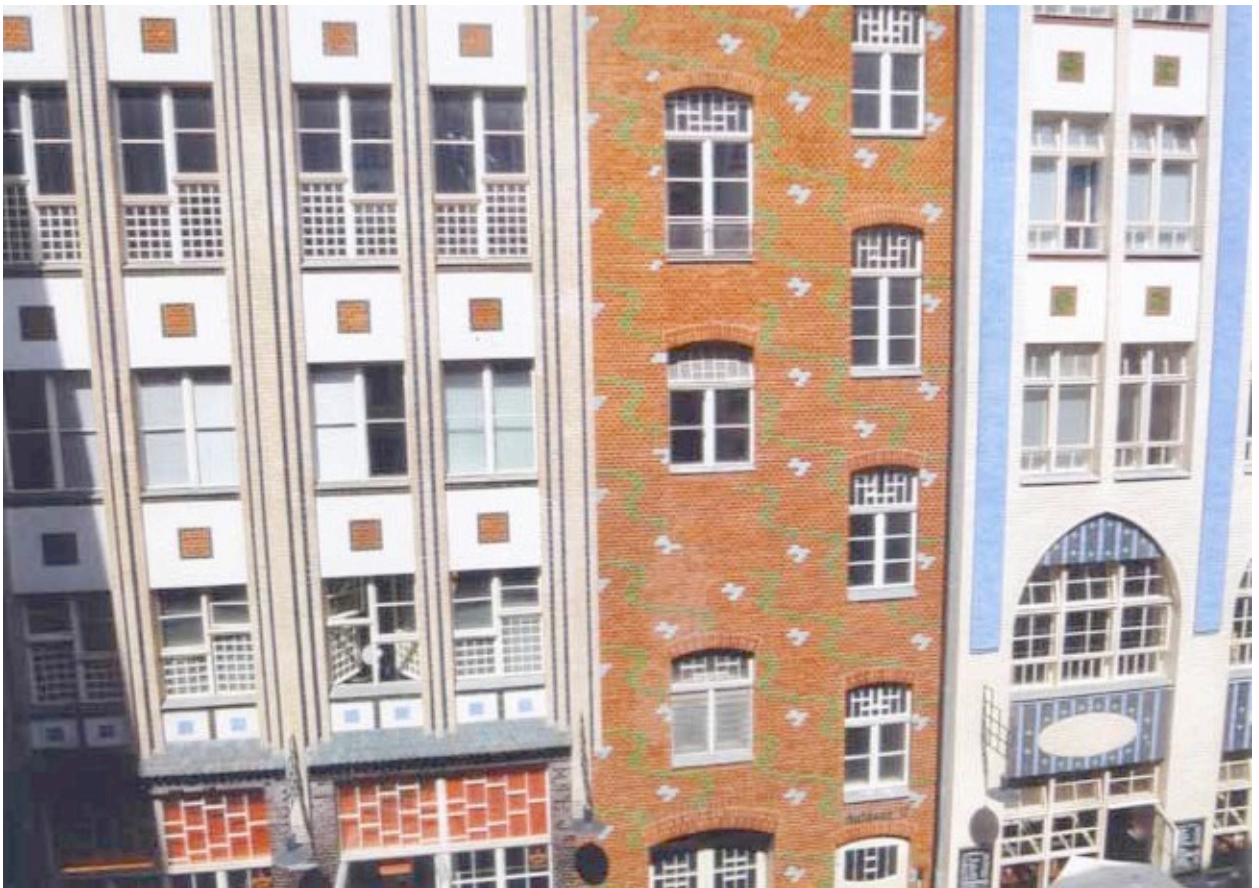


Fig. 17 August Endell. First courtyard of Hackesche Höfe, Berlin, present state.



Fig. 18 August Endell. Detailed view. First courtyard of Hackesche Höfe, Berlin, present state.



Fig. 19 August Endell. First courtyard of Hackesche Höfe, Berlin, present state.

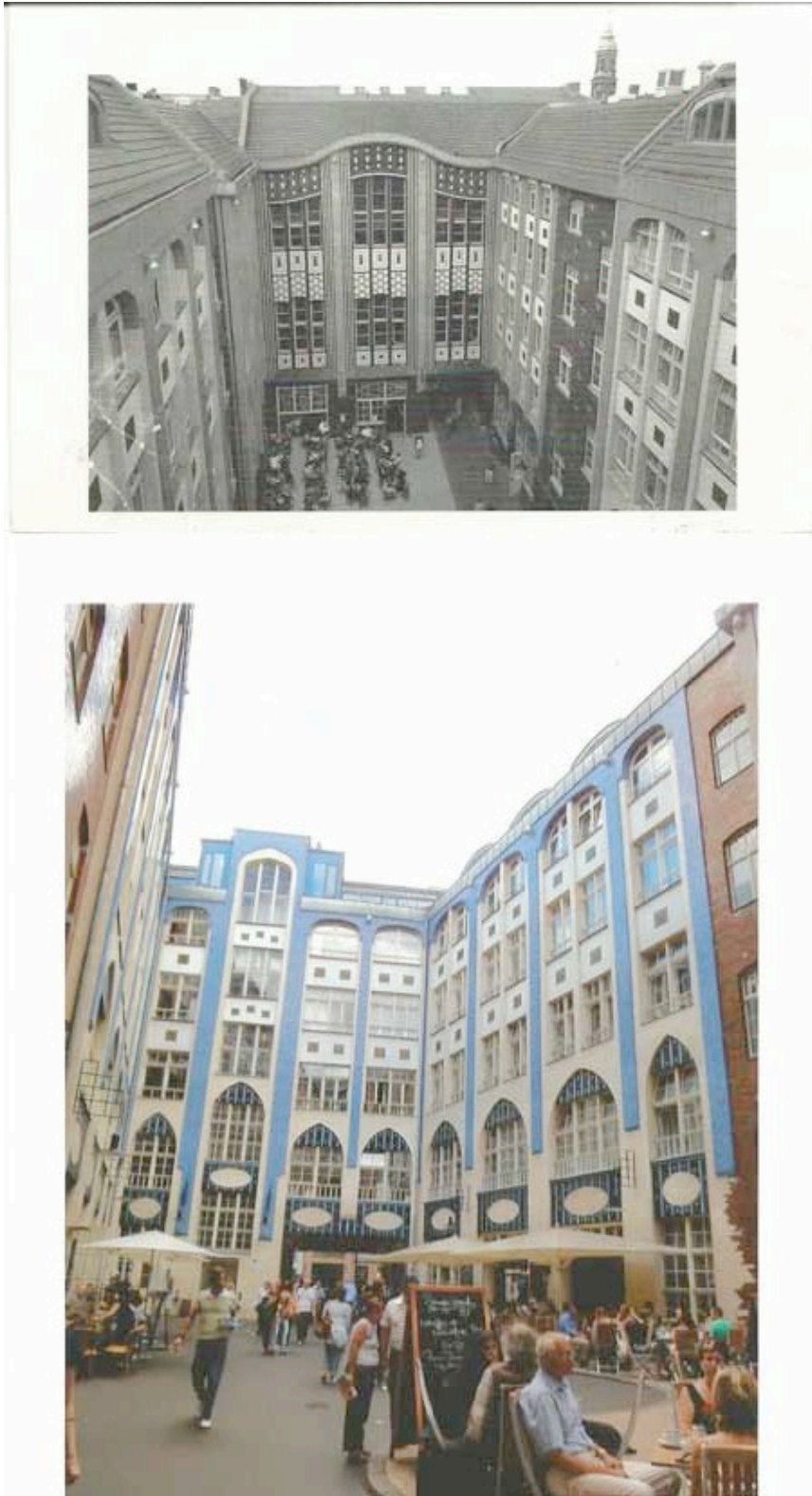


Fig. 20 August Endell. Views of the western and eastern parts of the first courtyard of Hackesche Höfe, Berlin.

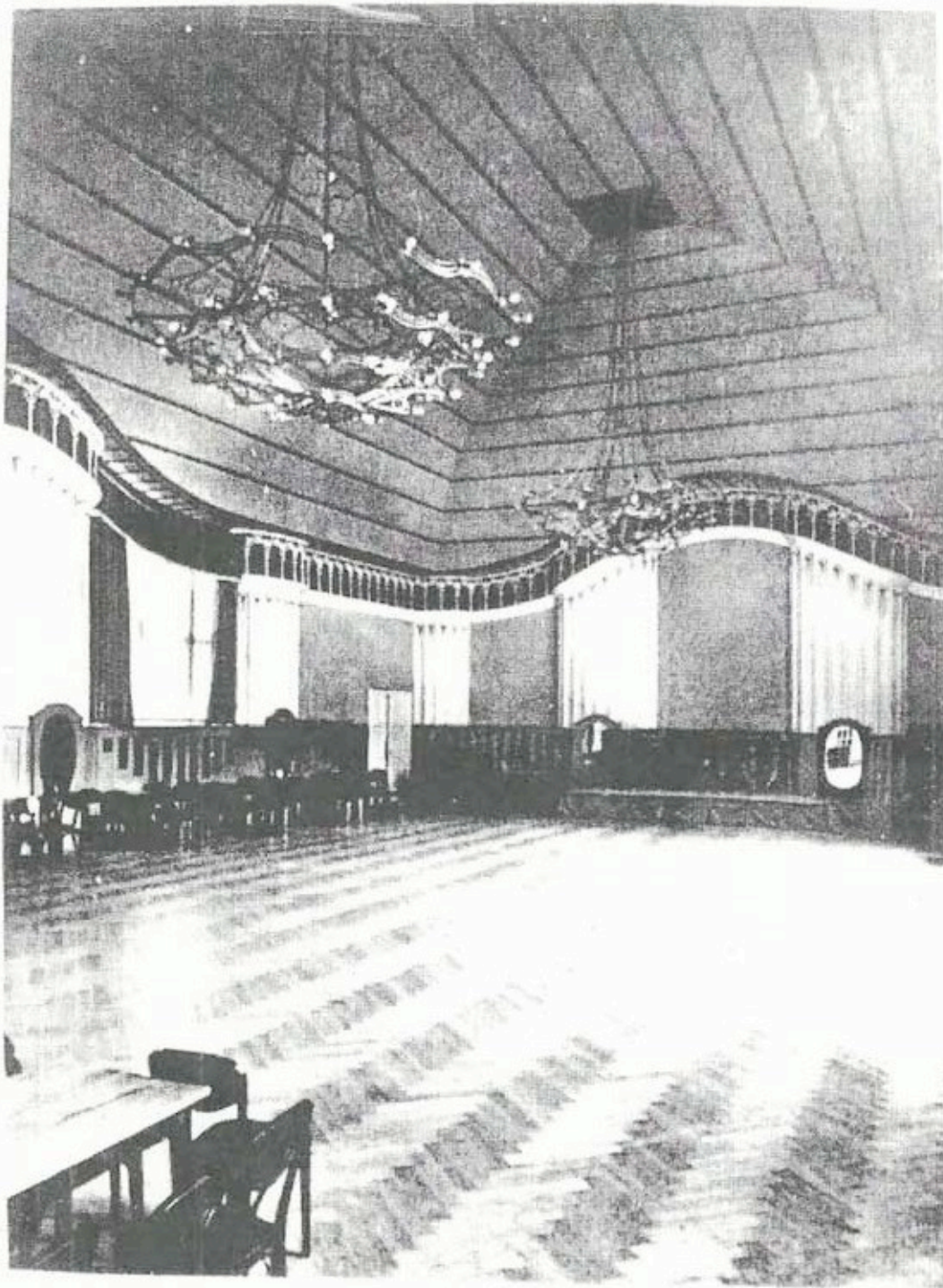


Fig. 21 August Endell. Dance Hall, Neumannsche Festsäle. First courtyard of Hackesche Höfe, Berlin.



Fig. 22 August Endell. Relief in the hallway. First courtyard of Hackesche Höfe, Berlin.

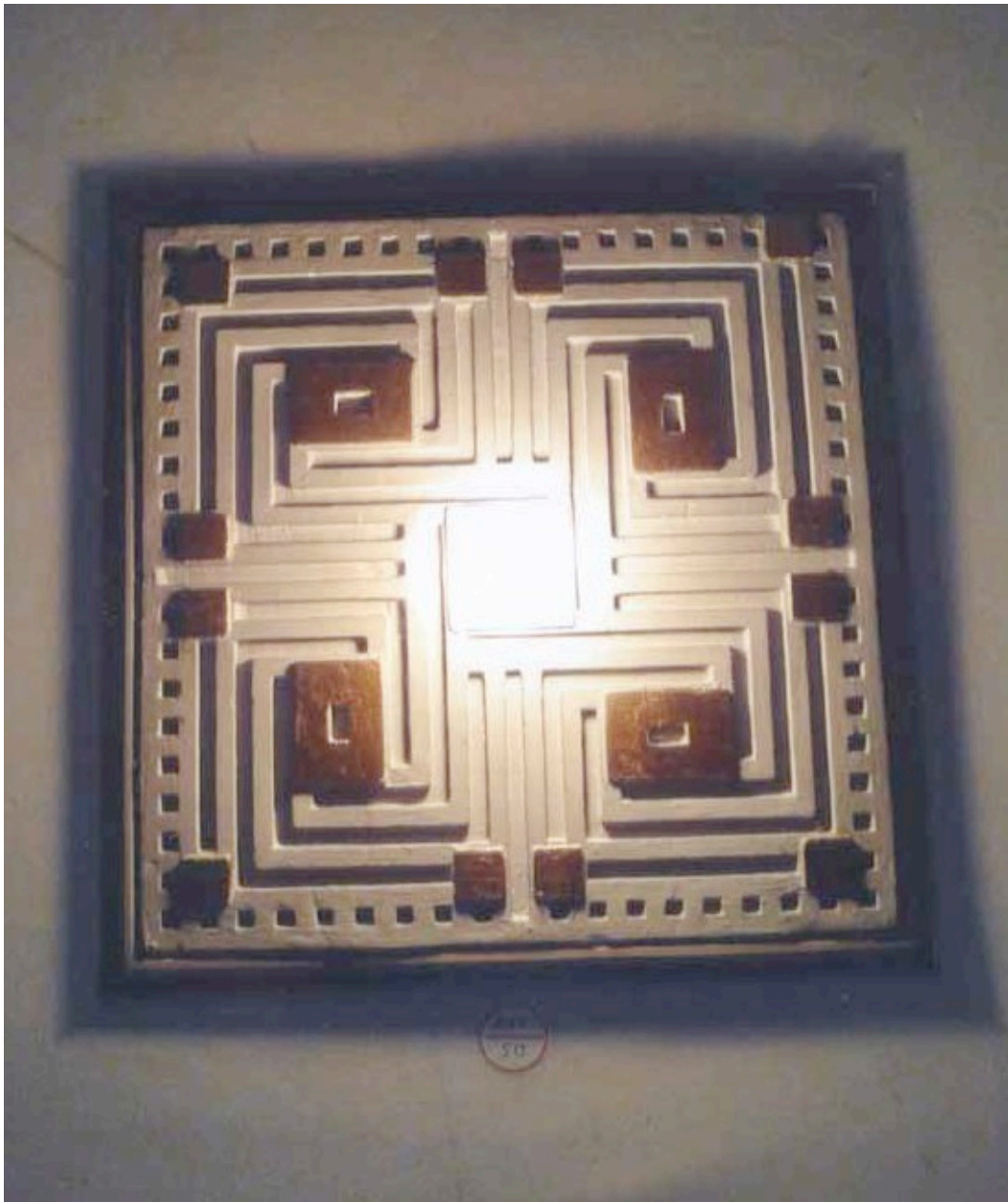


Fig. 23 August Endell. Ceiling light in the hallway. First courtyard of Hackesche Höfe, Berlin.

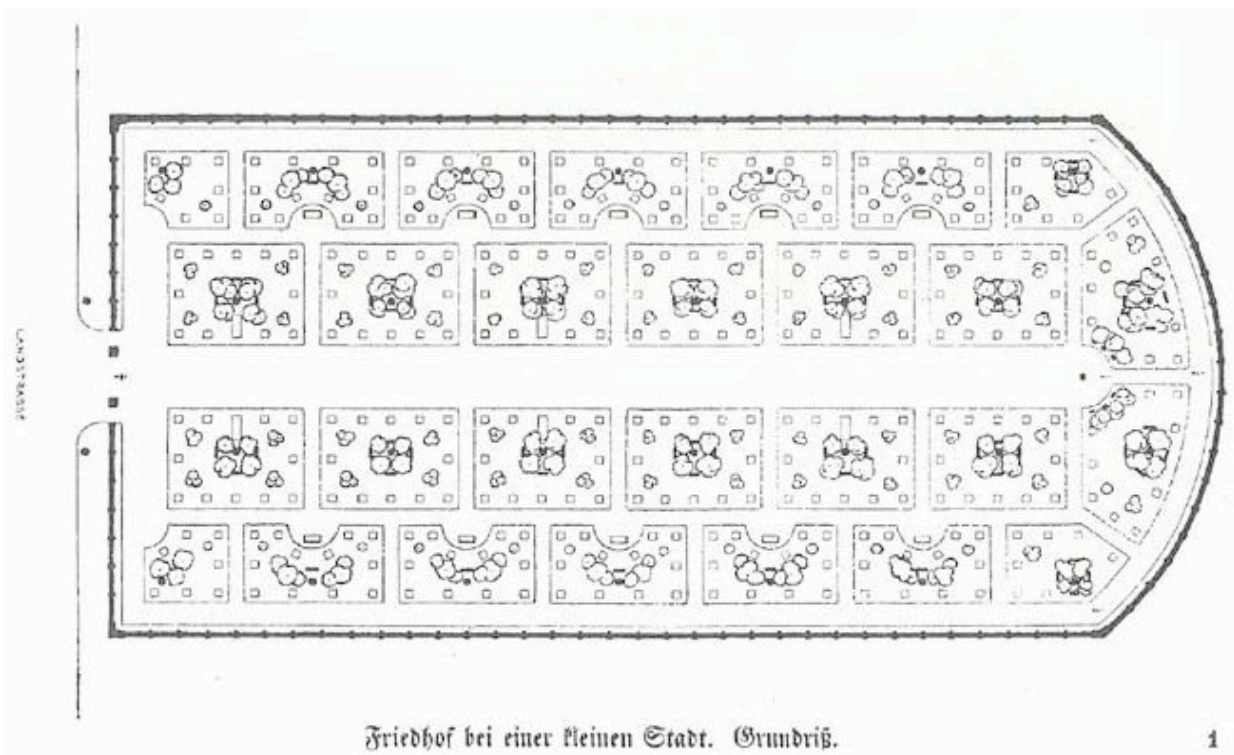
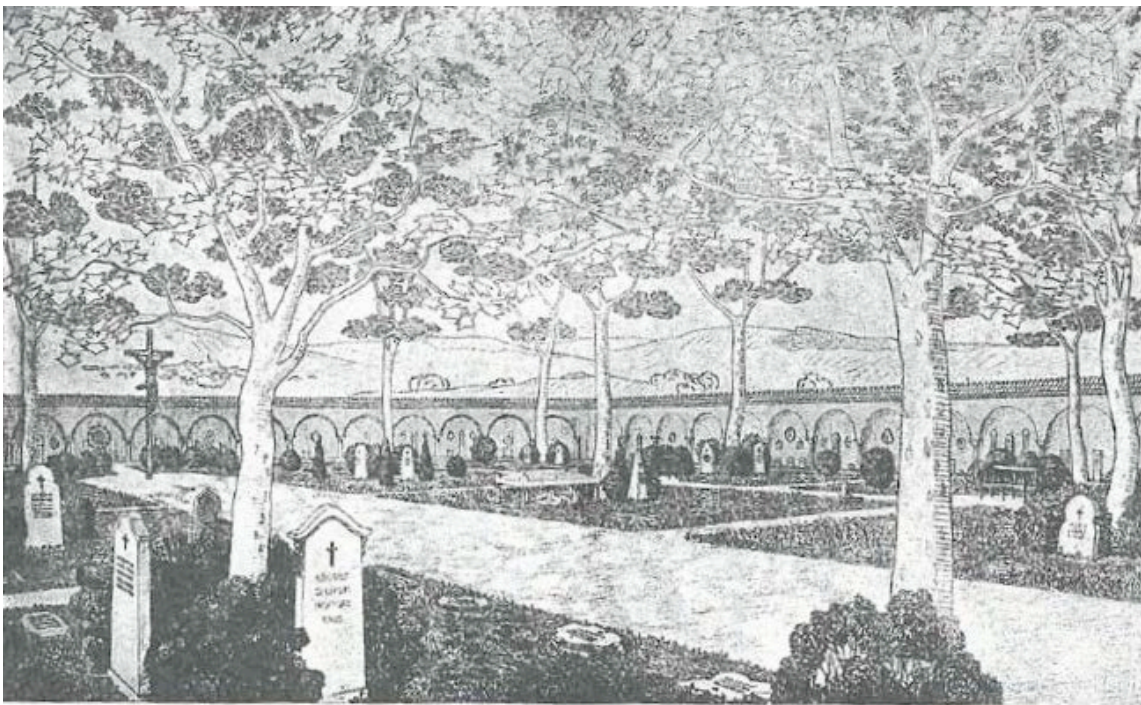


Fig. 24 August Endell. Plan of a Cemetery for a Small City. 1915-16.



Friedhof bei einer kleinen Stadt.

3

Fig. 25 August Endell. Cemetery for a Small City. 1915-16.

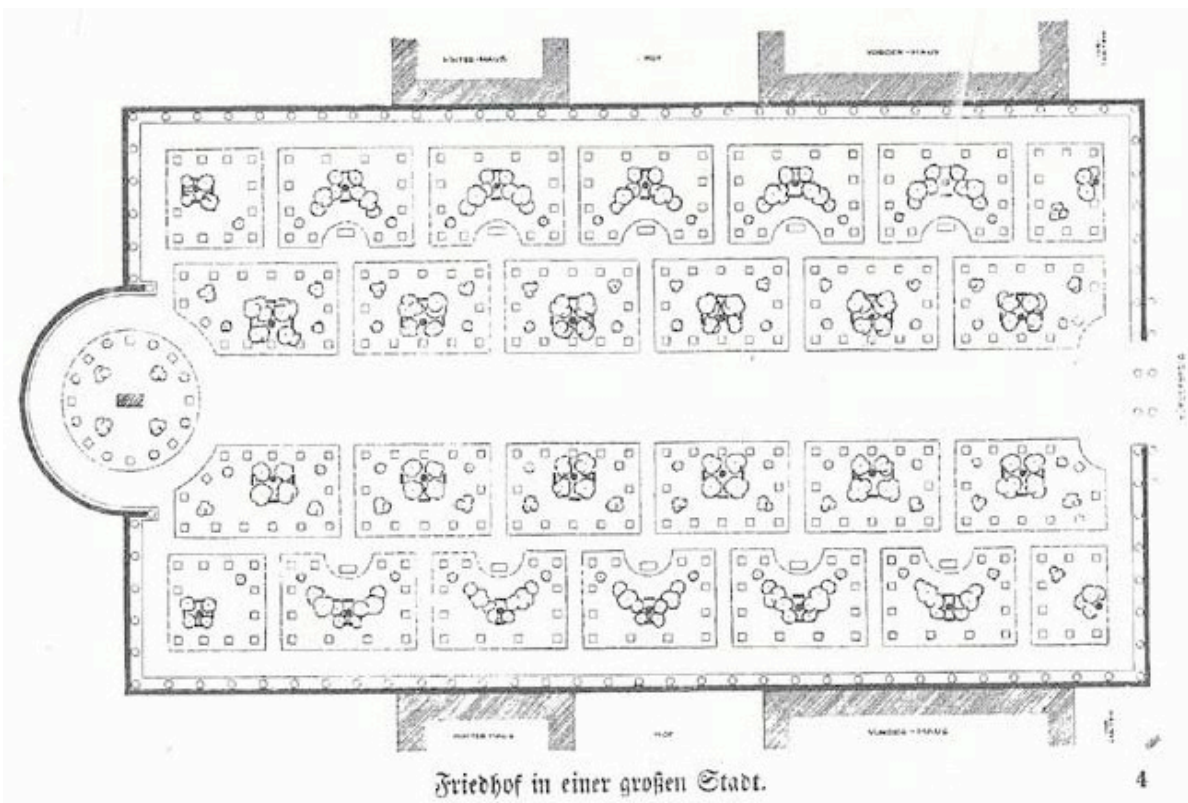
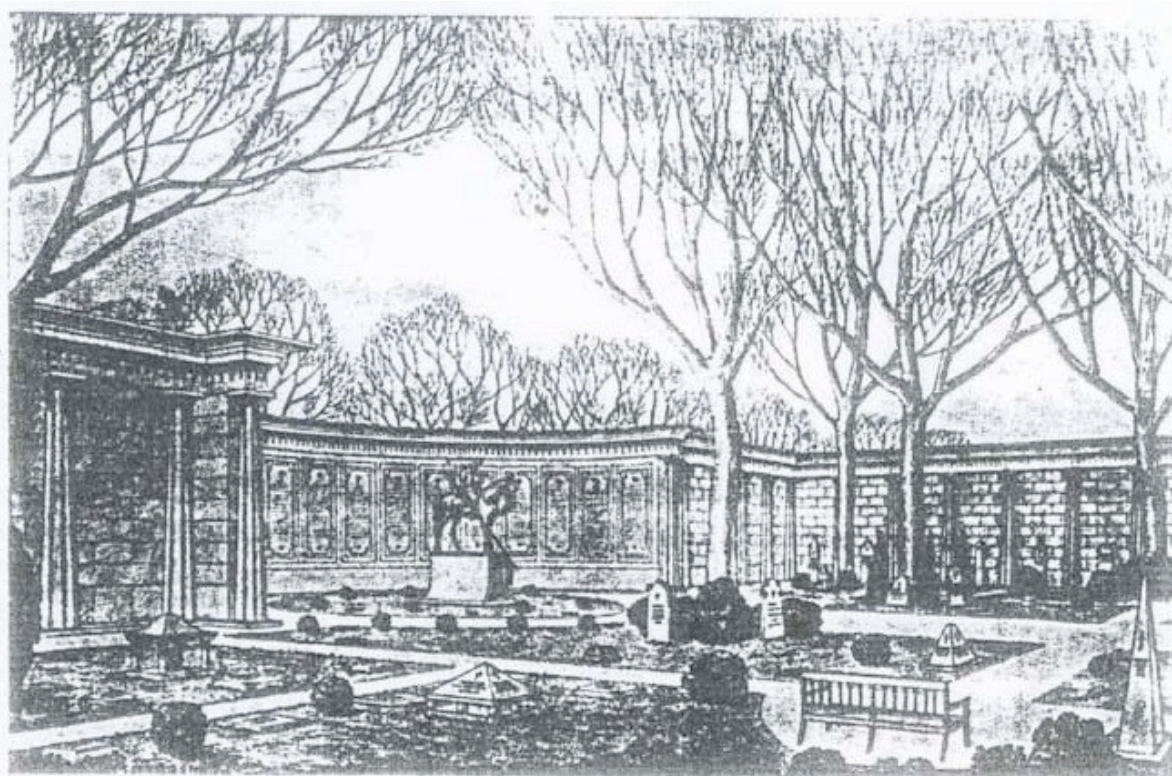
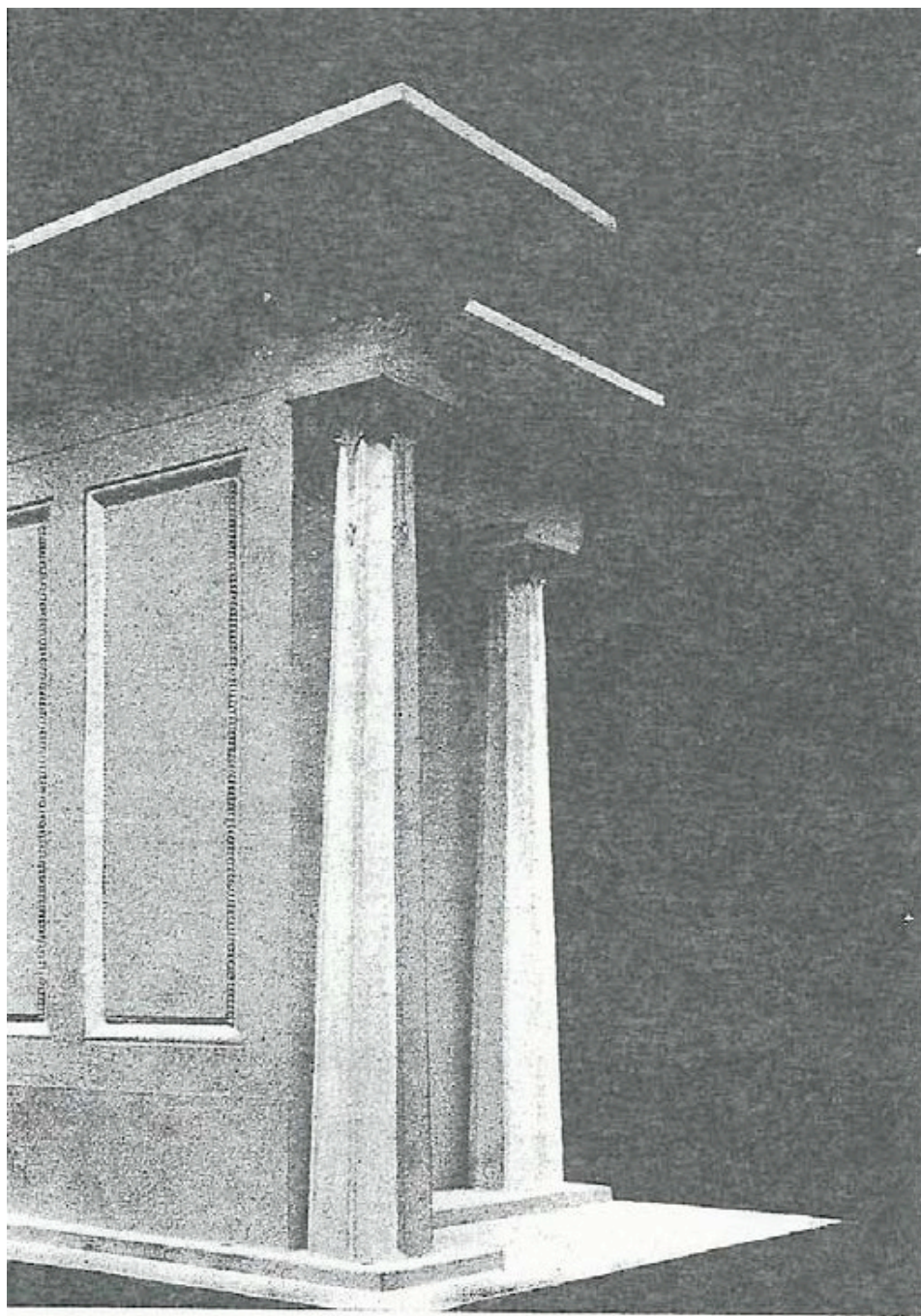


Fig. 26 August Endell. Plan of a Cemetery for a Large City. 1915-1916.



Friedhof in einer großen Stadt.

Fig. 27 August Endell. Cemetery for a Large City. 1915-1916.



Friedhof in einer großen Stadt.
Säulenstellung. Modell.

6

Fig. 28 August Endell. Model showing position of columns. Cemetery of a Large City. 1915-1916.



Fig. 29 Photograph of a leaf.



Fig. 30 Detailed view of a leaf.