Being in the right place at the right time, according to conventional wisdom, is often critical to significant accomplishment. As the career of the German artist, designer, and architect Peter Behrens (1868–1940) unfolded, fate put him in the "right place" several times with significant results. In graphic design, Behrens recognized the need for new typographic forms to express a new era, and he conceived and directed the first unified corporate identity program. His influence on product design was so significant that he has been called "the first industrial designer." His major buildings include a 1909 factory whose structure and glass curtain walls influenced the direction of architecture. The roster of architects who launched their careers as Behrens's apprentices include such titans as Walter Gropius, Ludwig Mies van der Rohe, Le Corbusier, and Adolf Meyer.

At the beginning of the century, Behrens contributed to design curriculum reform by developing new approaches to introductory visual education. As a theoretician, Behrens's articles and speeches often crystallized and focused important issues about design in an industrial society, suggesting new directions. Behrens advocated functionalism, truth to materials, and standards of uniformity. Given the scope of Behrens's contribution, it might be argued that he occupies a position in twentieth-century design somewhat similar to the positions of Cézanne and Picasso in painting: Behrens was a catalytic innovator whose work altered the course of design in this century.

Behrens was orphaned at age fourteen and received a substantial inheritance from his father's estate, which provided ongoing economic independence. He chose art for his career and studies in his native Hamburg. Social realism became the focus of his early paintings which depicted poor people and the industrial landscape. In 1892, Behrens was a founder of the Munich Secession, an organization formed by artists who, excited by new developments such as Impressionism and post-Impressionism, broke with the academic tradition. In Munich, a renaissance in German arts, crafts, and design was emerging. In 1897, Behrens gave up painting for applied art and embraced the 1890s Art Nouveau movement, called Jugendstil (Youth Style) in Germany after the new magazine Jugend (Youth), whose pages were filled with Art Nouveau designs and illustrations. Behrens began to make large multicolored woodcuts inspired by French Art Nouveau and Japanese prints, and he became a frequent contributor of illustrations and decorative designs to Jugend and Pan magazines. New printing and manufacturing techniques and the excitement of Art Nouveau were creat-
tremendous interest in the applied arts, and many artists embraced graphic and product design. Behrens's close friend Otto Eckmann abandoned painting for design and illustration. In November 1894, auctioned all his paintings. His letter to the auctioneer bid his things a "cordial farewell" and concluded, "may we never meet again."

In 1900, the Grand Duke of Hessen, who sought to "fuse art and life together," established a new artists' colony in Darmstadt, hoping to encourage both cultural development and economic growth in light manufacturing such as furniture and ceramics. The participating artists, including Behrens and Vienna Secession architect Joseph Maria Olbrich, all had experience in the applied arts. Each artist was granted land to build a house, and Behrens designed his own house and all its furnishings, from furniture to cutlery china.

A sense of urgency existed in the German art and design community. A new century was at hand, and the need to create new forms for a new era weighed heavily upon Behrens. Typographic reform was one of Behrens's major interests and he struggled unsuccessfully to develop a new typeface with a conservative type foundry. Then he came into contact with 32-year-old Dr. Karl Klingspor, of the Klingspor Foundry, who agreed to commission and release Behrens's first typeface, Behrenschrift, in 1901. The Klingspor dry was the first German typefoundry to commission new fonts from artists, and it created a sensation. Drawn with a brush instead of a pen, Eckmannschrift was a conscious attempt to revitalize typography by combining medieval and Roman attributes with the rhythm of Japanese prints.

In contrast to Eckmann's gestural vitality, Behrens's typeface was an attempt to reduce ornate flourish which would mark the forms as the work of an individual hand and reduce their universal character. Behrens's typeface looks very calligraphic to the late-nineteenth-century eye viewing this typeface more than sixty years after Paul Renner designed his geometrically constructed Futura. However, ornate Art Nouveau forms dominated the decorative typeface design in the early 1900s, and Behrens's typeface looks very standardized to the typographic fashion of the time. Behrens's typeface was an attempt not only to create a new typeface but to create a uniquely German typeface that combined the heavy, dense feeling of black letter with the letter proportions of Gothic typefaces.

In the promotional booklet for Behrens's typeface, Behrens compared reading text type to iconic and gestural movements. Both seem graceful and pleasing, but the does not observe details of their form or movement. Only the rhythm of the lines is the same true of a typeface."

German art critics of the period were interested in the relationship of forms in art sign to social, technological, and cultural conditions. Behrens was deeply concerned about these issues and believed that, after architecture, typography provided "the most characteristic picture of a period, and the strongest testimonial of the spiritual progress [and] development of a people." Another attempt to express the spirit of the new era occurred in 1900 when Behrens set his twenty-five-page booklet, "Celebrations of Life and Art..." in sans-serif type. German typographic historian Hans Loubier suggested in the 1920s that this document might contain the first use of sans-serif type as running book text. All-capital sans-serif type is used in an unprecedented way on the title and dedication pages. The popularity of sans-serif types in the twentieth century vindicated Behrens's experiment.

In 1903, Behrens moved to Dusseldorf to become director of the Dusseldorf School of Arts and Crafts. Innovative preparatory courses preceded study in specific disciplines such as architectural, graphic, or interior design. Behrens's purpose was to "go back to the fundamental intellectual principles of all form-creating work," allowing the principles of form-making to be rooted in the artistically spontaneous, in the inner laws of perception, rather than directly in the mechanical aspects of the work. Students drew and painted natural forms in different media, then made analytical studies to explore linear movement, pattern, and geometric structure. These introductory courses were precursors of the preliminary course at the Bauhaus, where two of Behrens's former apprentices, Grosz, and Mies van der Rohe, served as directors.

A dramatic transformation occurred in Behrens's work in 1904 after the Dutch architect J. L. M. van der Waerden joined the Dusseldorf faculty. Van der Waerden was fascinated by geometric form and had developed an approach to teaching design based on geometric composition. His grids began with a square inscribed with a circle and the numerous permutations made possible by subdividing and duplicating this basic structure. The geometric patterns thus developed could be used to determine proportions, dimensions, and spatial divisions in the design of everything from chairs to buildings to posters. Behrens's application of this theory proved catalytic in pushing twentieth-century architecture and design toward rational geometry as an underlying system for visual organization. His work from this period reveals the tentative beginnings of constructivism in graphic design, wherein realistic or even stylized depictions are replaced by an architectural and geometric structure. Often, Behrens used square formats, but more frequently, he used rectangles in ratios such as 2:1 or 2:3 square to square.

The major event in Behrens's career occurred in 1907, when Emil Rathenau, director of the Allgemeine Elektrizitäts-Gesellschaft (AEG), appointed him artistic adviser for the company. Rathenau had purchased European manufacturing rights to Thomas A. Edison's patents in 1883, and AEG had grown into one of the world's largest manufacturing concerns. A visionary industrialist, Rathenau sensed the need for a unified visual character for AEG products, environments, and communications. In 1907, the electrical industry was synonymous with high technology: Electric teakettles were as advanced as computers and videocassette recorders are today. As design adviser to the concern, Behrens began to focus intensely upon the design needs of industry, with design responsibility ranging from large buildings to stationery.

Ott Eckmann had been a designer and consultant for AEG, but he died of tuberculosis in 1902 at age 37. Behrens executed several graphic designs for AEG in 1906; then,
individually by the touch of an artist's hand; and it is more than merely copying the stylistic aspects of this work, he found a new formal approach to against the industrial revolution, the Werkbund embraced new technology and advo-designed as a way to give form and meaning to all machine-made things, including machine-made buildings.

With visionary zeal, Werkbund members advanced a philosophy of Gesamtkultur, a universal culture existing in a totally reformed man-made environment. Design was the engine which could propel society forward to achieve Gesamtkultur. Soon after its establishment, the Werkbund split into two factions. One, headed by Muthesius, argued for the use of mechanical manufacturing and standardization of design for industrial society. Its adherents believed that form should be determined solely by function and that to eliminate all ornament. The other faction, led by van de Velde, argued for the primacy of individual artistic expression. A design philosophy is merely an idle vision until one creates artifacts which make it a real force in the world. Thus, Werkbund members sought to create a new design language to realize their goals. Behrens's work for AEG is an early manifestation of Werkbund ideals.

Behrens's work for AEG represents a synthesis of two seemingly contradictory conceptions: the neoclassicism and Sachsicheit (loosely translated, "commonsense objectivity"). His aesthetic came from a careful study of the art and design of ancient Greece and Rome. He was a master of copy and the stylistic aspects of his work, he found a new formal language of harmony and proportion to achieve a unity of the parts with the whole. Sachsicheit pragmatism was upon technology, manufacturing processes, and function. Artistic and questions of style were subordinate to purpose. In concert, these two concepts were the driving force behind Behrens's work for AEG: to achieve Gesamtkultur.

The AEG graphic identity program made consistent use of three linchpin elements: the three finishes: smooth, hammered, or rippled. All these elements were available to assemble the design of AEG teakettles with interchangeable parts: three basic kettle forms, two lids, two handles, and two bases. Three materials were used: brass, copperplate, and nickelplate; and three finishes: smooth, hammered, or rippled. All these elements were available to assemble the design containing the firm's initials signifies mathematical order while functioning as a visual metaphor that relates the complexity and organization of a twentieth-century corporation to a beehive. Geometrical spatial divisions based on Lauweriks's grid structures are one unifying graphic theme of Behrens's AEG publication designs.

The use of various graphic devices gave AEG materials a consistent appearance. In addition to modular divisions of space using Lauweriks's grid, these included: framing the pace by a medium-weight rule; central placement of static elements; exclusive use of Behrens-Antiqua type; use of analogous colors, often two or three sequential colors on the color wheel; and simple, objective photographs and drawings with subjects isolated from their environments.

Industrial products designed by Behrens ranged from electric household products such as teakettles and fans to streetlamps and electric motors. He brought the formal eye of the painter and the structural approach and professional ethics of the architect to product design. The combination of visual form, working method, and functional concern in his work for AEG products enabled him to produce a body of work which has led to his being proclaimed the "first industrial designer." An innovative use of standardization is seen in the design of AEG teakettles with interchangeable parts: three basic kettle forms, two lids, two handles, and two bases. Three materials were used: brass, copperplate, and nickelplate; and three finishes: smooth, hammered, or rippled. All these elements were available to assemble three sizes of teakettles, and all the kettles used the same heating elements and plugs. This system of interchangeable components made it possible to configure eighty-one different teakettles, though only thirty were actually brought to market.

Beginning in early 1907, Behrens designed a series of AEG arc lamps that produced intense light by means of passing an electrical current between two carbon electrodes. These were 300 times brighter, used less energy, and were safer than the gaslamps of the time. Because the carbon rods had to be replaced every eight to twelve hours, Behrens designed convenient exterior clips for dismantling them quickly. Their forms and proportions suggest Lauweriks's grid, while the overall shapes evoke the harmonious design and graceful curves of Greek vases. The arc lamps were widely used in factories, railway stations, and public buildings.

Behrens believed neutrality and standardization were not only appropriate in product designs--created for machine manufacture. By designing streetlamps and teakettles using simple forms shorn of decoration, Behrens stripped connotations of social class and wealth from these products. His work pointed toward a new sensibility about design, which matured in the 1920s. This rational approach decreed the need for form to emerge from function rather than being an added embellishment.

Between 1909 and 1912, Behrens directed the design for the AEG factory complex which could evoke positive connotations of quality and performance. Behrens-Antiqua possessed the solemn, monumental quality of Roman letterforms, tempered by the rhythm of the serifs. The ornaments were inspired by ancient Roman brasswork, whose geometric properties satisfied Behrens's belief that geometry could make ornamentation universal and impersonal.

In 1908, he designed the hexagonal AEG trademark. This pictographic honeycomb design containing the firm's initials signifies mathematical order while functioning as a visual metaphor that relates the complexity and organization of a twentieth-century corporation to a beehive. Geometrical spatial divisions based on Lauweriks's grid structures are one unifying graphic theme of Behrens's AEG publication designs.
in. The Turbine Hall, designed by Behrens in collaboration with structural engineer Ernhard, is one of the most influential buildings of the early twentieth century. A vast space is formed by twenty-two giant girder frames enclosing an interior space 401 feet by 49 feet high. In addition to the roof and glass walls, these girder frames support veiling gantry cranes, each with a 50-ton lifting capacity for moving giant turbines' construction. The huge window areas are "curtain walls" floating in the space. The concrete columns at the corners are non-load-bearing. Except for the identifying name on the end of the roof, there is neither ornament nor embellishment. The e and proportions of functional elements are designed to convey the aesthetic of the . Its appearance suggests a massive industrial factory engineered for the assembly of gram turbines. This major architectural design by Behrens—with its exposed exterior ders along the sides, glass curtain walls, and form determined by function—became a se for future design evolution. Behrens's philosophy and the usual studio shop talk e a wellspring of ideas for his apprentices of this period: Gropius, Mies van der e Corbusier, and Meyer.

At the 1914 Werkbund annual conference, the debate between Muthesius's ration- d standardization versus van de Velde's expressionism was soundly determined in the Muthesius approach. Up until this 1914 meeting, Behrens played a key roleesigners who rejected the ornament of both historicism and Art Nouveau design cated a spartan approach, stripped of decoration. The austere orthodoxy of the onal Style was the evolutionary extension of these beliefs.

Behrens began to accept architectural commissions from other clients in 1911; nd product design occupied less of his time. In 1914, Behrens's contract with AEG inated, although he continued to work from time to time on AEG projects. Until in 1940, Behrens's design practice centered upon architecture. His buildings were suie and ranged from expressionism immediately after World War I to modernist the late 1920s and early 1930s whose geometric simplicity and white stucco walls the influence of Gropius and Mies.

One may ask why Behrens has not been more widely recognized or even lionized sportance to twentieth-century design. Perhaps the answer is yet another fact in the impact of Adolf Hitler upon the century. Hitler's rise to power during the 1930s ny of Europe's leading modern artists and designers to join the flight of scientific al leaders from the continent to the United States. When Gropius and Mies re, they established architectural and educational programs that transformed archiecture. However, the aging Behrens remained in Germany. During his final struggled to come to terms with the New Order and even signed correspondence, lter. Ironically, he was shunned by some longtime associates for his efforts to adapt e was being investigated and attacked by the Nazis for his artistic and political nd and prior association with Communists and Jews, including Albert Einstein.

During the late 1930s, Hitler's architect, Albert Speer, planned the transformation into an imperial city of the Third Reich, designed in a monumental Empire Style. The buildings planned for the grand boulevard stretching from a proposed Arch of to a domed Great Hall was a new administrative building for AEG to be designed

by Behrens. Nazi cultural watchdogs were outraged "that this forerunner of architectural radicalism should be allowed to win immortality on 'the Fuehrer's avenue.'" Hitler backed Speer in his decision to use Behrens, quelling the opposition. The design for the AEG building was completed in October 1939, but it was never executed, as the grand scheme for Berlin became an early casualty of World War II.

Behrens had been plagued with heart trouble since his mid-thirties, and he died of a heart attack on February 27, 1940, at age 72. Neither the design professions nor the newspapers took much notice of his passing.

The neglect of Behrens's pivotal role in twentieth-century design, at least in the United States and England, may relate to factors other than the taint of his accommodation with Nazism. Perhaps his drift away from Modernism in the late 1930s fueled the failure to fully recognize his earlier importance. Over the past half century, the legacies of Hitler and Stalin have warped our perceptions of the human condition. But as the walls of the past crumble and a new era of international culture hopefully emerges, perhaps one small result will be a greater acknowledgment of Peter Behrens's impact upon design in this century.

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