

The idea of “building with electric light” in the German architectural disputation of 1925-1933

Abstract

The article is about popularity of the idea of the “architecture of light” in the German architectural disputation of the turn of the 1920’s and 1930’s. The significance of electric light in the shaping of architectural compositions increased in Germany after the First World War. Light advertisements emphasizing modern and functionalist nature of buildings started to appear on façades of face-lifted tenement houses. Neon signs were often integrated with the form of façades. German (mostly Berlin) architectural avant-garde circles often proposed development of “architecture of light”: the inclusion of light in the whole architectural design to embellish buildings with entirely new, original but also simple, compositions of effects becoming visible after dark. The night appearance of a building could be styled by ribbon windows, neon signs or tall store displays. Electric light became an add-on to architecture or even, as in the designs by Hans Poelzig or Erich Mendelsohn, a “material” equally important as steel, ferroconcrete and glass.

Key words Germany | light | modernism

An Electrical Spectacle

An exhibition titled “Health, Welfare and Fitness” (*Gesundheit, soziale Fürsorge und Leibesübungen*) was held in Düsseldorf from May to October 1926. Many comments on the event described the use of electric light in the interiors of pavilions including the most prominent one: the Planetarium of Wilhelm Kreis. Attention was also paid to the eye-catching night illumination of the exhibition site. The monumental pavilions with brick façades lost their effect of bulkiness. The whole idea that urban planning should serve to health, welfare and fitness bowed to the conception of electrical performance. Engineer Joachim Teichmüller, the manager of the first German institute for lighting system technologies at the Karlsruhe University, designed the lighting¹. It was Teichmüller who popularized the concept of “light architecture” introduced to architectural disputes earlier, before the First World War, by architect Brunon Taut and by writer Paul Scheerbart².

¹ M. Stadler, *Vom guten sehen bei künstlicher Beleuchtung. Lichttechnische Aufklärung um 1930*, in: *Erkenne Dich selbst! Strategien der Sichtbarmachung des Körpers im 20. Jahrhundert*, red. S. Nikolow, Köln, Weimar, Wien 2015, s. 298-300.

² Scheerbart used the term Lichtarchitektur earlier, in 1906, in his book „Münchhausen und Clarissa”. At that time he was inspired by the illumination of world exhibitions and by the glazed domes of the “La Samaritaine” department store in Paris. He developed the vision of “glass architecture” combined with light effects a few years later. In 1911 he wrote that impressions of illuminated nights which we would owe to the architecture of glass would be undescrivable, with spotlights installed

In 1920's, electric light became an important ingredient of architectural composition (see Fig. 1). Projects clearly affected by the light architecture theory showed up in German cities directly after the war. The most renowned was the *Grosses Schauspielhaus*, a modern theater designed by Hans Poelzig, featuring backlit stalactitic forms of the auditorium and columns in the vestibule, opened in November 1919. In these interiors, electric light, as the architectural ingredient, sacralized space intended for performance of visionary and mystery plays by Max Reinhardt. The role of electric light in the modeling of the architectural composition became more important in the end of 1920's but, by that time, shifted to reinforcement of the perception of "sense" in the audience. The expressionism of lighting effects was displaced by the stressing of the functionalist nature of buildings inspired by trends of the age of the machine and Americanization. During the night, electric lighting was supposed to uncover smooth façades stripped of their peculiarities, which intent came from the fascination of the façade surface, frequent among German avant-garde architects. As described by Janet Ward, this effect was achieved through the use of smooth wall plaster, milk-white glass panes or gleaming chrome-plated banisters. The "sophistication" in the façade design was supposed to be replaced by "hygienic gloss"³. The big-city culture of Germany

on tops of all glass towers and carried by aircraft, the whole spectrum of colors, factories letting light in through stained glass windows, and grand palaces and cathedrals of glass: P. Scheerbart, *Glasarchitektur & Glashausbriege*, Munich 1988 [1911], p. 91, cited from: D. Neumann, *Lichtarchitektur and the Avant-Garde*, in: *Architecture of the Night. The Illuminated Building*, ed. by D. Neumann, Munich, Berlin, London, New York, 2002, p. 36. Scheerbart described in "Lesabéndio", his science-fiction novel published in 1913, a giant "star-reaching" glass structure reinforced with a special steel alloy frame. The "Tower of Light" (*Lichtturm*) beaming in the night was supposed to be the greatest achievements of the population of planet Pallas. In his „Glassarchitektur" Scheerbart proposed erection of a permanent exhibition structure housing a huge hall lit from the bottom: J. Ward, *Weimar Surfaces. Urban Visual Culture in 1920s Germany*, Berkeley 2001, p. 64.

³ Ibidem, passim.

was studied by Walter Riezler, an architecture critic associated with the German Association of Craftsmen (Deutscher Werkbund), who wrote the essay titled "Light and Architecture" in 1928. This urban landscape was marked by streets full of store displays, carrying heavy vehicle traffic and dense flows of pedestrians. These agile and dynamic forces became ever more manifest after dark, in the cold ambience of electric light from lamps and color neon signs. Riezler wrote in the essay that modern light advertisements in geometric forms should be helpful in building a spatial order in the night city landscape (Fig. 2 and 3)⁴. This was a quite common view among architecture critics sympathizing with the avant-garde. The criticism of the Wilhelmine age façades was accompanied by postulates for modernization of tenement houses, mainly those standing in Berlin. The practice of clearing up façades of such buildings was becoming more popular in mid-1920's, which was even noticed by popular dailies; for instance, *Berliner Illustrierte Zeitung* wrote about "rejuvenated façades", comparing their looks to the style of a "page-boy haircut"⁵. Franz Hessel noted in his essay titled „Flâneur in Berlin" that "as soon as a house becomes dilapidated or just in need of repair, the young architects give it the page-boy haircut of a simple clear facade, and clear away all the fancy curlicues"⁶. Hans Eckstein understood the getting rid of clutter from main façades as a process of "decorating" façades with smooth surfaces⁷. The campaign for the face-lift of tenements, preceded by argumentation from professional magazines, and also postulated by Walter Riezler and by others including Adolf Behne who said "No more façade" in 1925, was supported by

⁴ W. Riezler, *Licht und Architektur*, in: *Licht und Beleuchtung*, ed. by W. Lotz, Berlin 1928, p. 42-43.

⁵ Ibidem, p. 43.

⁶ F. Hessel, *Flâneur in Berlin*, translated by S. Lisiecka, „Literatura na Świecie" 2001, vol. 8-9, p. 185.

⁷ H. Eckstein, *Neue Wohnbauten. Ein Querschnitt durch die Wohnarchitektur in Deutschland*, Munich 1932, cited from: J. Ward, op. cit., p. 70.

municipal authorities of the main metropolises of the Weimar Republic⁸. Discussions of such face-lift projects, many designed by leading avant-garde architects, were published at the turn of 1920's and 1930's by *The Form* (*Die Form*) and the *Light and Lighting* (*Licht und Beleuchtung*) magazines. The updating of the form of the 19th century Tauentzienstrasse 3 tenement house in Berlin done by the Anker brothers, Luckhardt and Alfons, in 1925-27 offers a good example: the architects embellished the façade by adding ribbon windows with intervening incandescent light bulbs concealed behind metal boards⁹.

The modern style of many face-lifted façades was accented by electrically illuminated advertisements. For instance, Franz Hessel noted that effulging and vanishing, wandering and returning, light advertisements changed the depths, heights and contours of buildings. He was glad that those horrible dentils, bays and superstructures of these "ulcer houses", as they used to be called, vanished behind the architecture of advertisements, particularly in these parts of the Kurfürstendamm avenue where there were still many ghastly elevations, awful extents and protrusions left after the worst times of private developments, which only slowly started to concede¹⁰.

In late 1920's, many German artists made pilgrimages to New York, perceived as a center of modernity, to find inspiration. One of them was Fritz Lang whose travel of 1924 inbreathed him to make „Metropolis"¹¹. The fascination with America, including the New York City skyline at night, was accompanied by strong criticism of visual chaos of the metropolis. Martin Wagner, who visited the city in 1927, condemned the

oppressive blaze of colors of neon signs and façades of backlit buildings. Two years later, Wassili Luckhardt commented on tawdriness of electric illumination of buildings that, in the architect's words, looked like the fabulous castles of Asgard. In 1924, Erich Mendelsohn gave account of his visit to the United states in the widely-read *Berliner Tageblatt* magazine (his texts were published two years later in his book "Amerika. Bilderbuch eines Architekten"). His notes under photographs are full of praise for New York night scenes but there is also criticism of chaotic arrangement of outshouting advertisements on façades¹². In 1928, the German Association of Craftsmen published a collection of essays written by authors linked to the organization. Their publication titled "Light and Lighting" (*Licht und Beleuchtung*) contains texts of Ernst May and Walter Riezler, among other authors, who made a clear distinction between the experiences of American lightning designers and German authors of advertisements. According to May and Riezler, American makers of neon signs and lighting systems were compelled to create a dazzling kaleidoscopic show within the urban space. According to them, the creation of the nocturnal true colors of architecture should not rely on the highlighting of building tops so typical for the USA (making skyscrapers look as ghosts against the night sky). Instead, the creation should add light effects to the architectural composition as a whole to create an entirely new, original but also simple, night scene. As May and Riezler stressed, this effect can be provided by creative layouts of large, preferably ribbon, windows and store fronts (the architects took the works of Erich Mendelsohn as a model). The building of façades from almost only glass with backlit panels was supposed to be the next step. For this idea they turned to the "Luz" lighting supplies store at Stuttgart for inspiration (Fig. 3)¹³.

⁸ A. Behne, *Der moderne Zweckbau*, Munich 1925, p. 12.

⁹ Hugo Häring advocated façade refurbishment historicizing tenement houses and commercial buildings, as well as placement of advertisements modernizing eclectic façades: H. Häring, *Lichtreklame und Architektur*, „Architektur und Schaufenster" 1927, vol. 8, p. 5-8.

¹⁰ F. Hessel, op. cit., p. 185.

¹¹ D. Neumann, op. cit., p. 42.

¹² Ibidem, p. 42-43.

¹³ E. May, *Städtebau und Lichtreklame*, in: *Licht und Beleuchtung* ..., op. cit., p. 44-47; W. Riezler, *Licht...*, op. cit.,

Avant-garde artists from the “New Building” (Neues Bauen) school stressed that modernistic forms of façades, and particularly their night views, could raise public interest in contemporary arts. Creative application of neon signs, such as a combination of light lines cutting through the whole massif of a façade with modern text typefaces, was supposed to introduce spatial order and promote new typography. Lajos Kassák spoke about the social function of designing advertisements while Alfred Gellhorn called architects, painters and engineers to work together in the creation of light for the sake of “good form” of the night city landscape¹⁴. Many German modernists of the 1920’s considered thoughtfully applied lighting as an important add-on to architecture. Flat geometric façades were suited particularly well for the installation of illuminated advertisements. However, such an advertisement had to be integrated with the building design to make a harmonious entity. Walter Riezler emphasized that such illuminated compositions could invigorate dull functionalist facades¹⁵. Another German architect most concerned with the role of electric light, apart from Erich Mendelsohn, was Hugo Häring who wrote about necessity of addressing such light in night landscape designs; this night view was supposedly even more important than the city appearance during the day¹⁶. In 1927, Häring predicted that the night appearance of buildings would gain on importance within a few years¹⁷. That was not an uncommon opinion. The disputation about the role of lighting in architecture triggered an increasing number of appeals for evolution from

illuminated advertisements to light architecture, made by Ernst May, Ludwig Hilberseimer, Marcel Breuer, Artur Korn and many others.

Architecture of Light

In 1930, *The Construction Industry World* (Bauwelt), a German architectural magazine, wrote that it would be difficult to find a new structural technology or a new construction material offering so many flexible opportunities, but also creating so many challenges, as light¹⁸. The treatment of electric light as a “material” of equal importance as ferroconcrete, steel or glass was not unique to German avant-garde architects of that time. In 1929, Theo van Doesburg, a Dutch artist, painter, writer and architect called for development of an “architecture of light” according to which each building should come with certain light effects (including kinetic forms). Such architectural and spatial compositions were supposed to respond to the challenge that architects faced at that time: the birth of the motion pictures¹⁹. So, it was the Dutch who erected the building that came to be recognized by German architects as a model product of light architecture: the office of “Endurance” (Volharding), a socialist cooperative, located at the Grote Markt Square in the city center of The Hague. This facility, designed by Jan Willem Eduard Buijs and Joan B. Lürsen, built in 1927-28, featured an eye-catching night appearance achieved in collaboration with Osram (Fig. 4). The architecture of the building was integrated with lights. Its façade panels mounted between the windows were made of milk-white glass and, after dark, displayed messages promoting the cooperative movement and its values. Light from the interior streamed through luxfer tiles of the staircases and windows of the first floor. This office building is topped with a backlight mast that gives the building its extra prominence as

p. 42-43. Architect Richard Döcker designed the composition and the lighting for the lighting supplies store of Hermann Luz. Designs of advertisements by this architects are discussed in Friederike Mehlaui-Wiebkling, *Richard Döcker: Ein Architekt im Aufbruch zur Moderne*, Braunschweig, Wiesbaden 2013, p. 187-189.

¹⁴ D. Neumann, op. cit., p. 37.

¹⁵ W. Riezler, *Umgestaltung der Fassaden*, „Die Form” 1927, vol. 2, p. 33-40.

¹⁶ J. Ward, op. cit., p. 111 and next.

¹⁷ H. Häring, op. cit., p. 5-8.

¹⁸ *Das Licht in der Baukunst*, „Bauwelt” 1930, vol. 1, p. 3.

¹⁹ T. van Doesburg, *Film als reine Gestaltung*, „Die Form” 1929, vol. 10, p. 248.

a landmark in the night skyline of The Hague²⁰. Productions of Erich Mendelsohn, mainly his department stores in Nuremberg, Stuttgart and Chemnitz, designed for Schocken, were acclaimed, not only in Germany, as models of skillful use of light. As the author himself wrote, at night the illuminated strips of windows could convey the effect of “buildup of mass in space”, show energy concentrated in the building body, and express movement (this function was played in Stuttgart by the glazed tower situated at the intersection of the Hirsch and Eberhard streets)²¹. The *Die Form* magazine praised “Deukonhaus”, a building designed by Mendelsohn, erected in 1928, in which electric light was supposed to reveal the logic of arrangement of the interior underlying the design of the façade (Fig. 5)²². The integration of architecture and lighting at the turn of 1920’s and 1930’s was implemented to the fullest in Berlin theaters: the glamorous “motion pictures palaces” including the “Titania Palast” theater at the Schloss St. in the Steglitz district, designed by Ernst Schöffler, Carlo Schloenbach and Carl Jacobi, built in 1927-28, with lighting from Ernst Hölscher (Fig. 6)²³. The “Lichtburg” theater (Rudolf Fränkel, 1929), built in the

working class district of Wedding, had fifteen tall windows that split the overhanging rounded part of the building, forming an illuminated colonnade. The effect of the “electrical palace” was reinforced by a red neon sign and by three light beams cast by a battery of spotlights seated on the roof²⁴. In two other theaters, “Capitol” and „Babylon” (Hans Poelzig, 1926-29), electric light was one of the factors unveiling space (Fig. 7)²⁵. This effect was well described by Kathleen James-Chakraborty who wrote that between the opening of Hans Poelzig’s *Grosses Schauspielhaus* in 1919 and the completion of Rudolf Fränkel’s “Lichtburg” theater in 1930 Berlin had witnessed an architectural change driven by entertainment, intended to attract a new type of audience: the masses. Architects, above all Poelzig, inspired with the idea of developing a new democratic language of forms, exciting enough to attract crowds, replaced eclectic ornaments with new brilliant light effects²⁶.

Walter Curt Behrendt wrote about the potential of artificial light as the arranger of interiors and about the spatiality of light in 1927 in his book titled “Victory of the New Building Style” (*Sieg des neuen Baustils*)²⁷. In the same year, Joachim Teichmüller observed that also lighting and backlighting contributes to the creation of form²⁸. The “Universum-Filmpalast” theater built at the Lehniner Platz in the Kurfürstendamm district in 1927-28 was one of the prime examples

²⁰ The lighting was shut down in 1933 for economic reasons: Ch. Rehorst, *Jan Buijs and De Volharding, The Hague, Holland*, “Journal of the Society of Architectural Historians” 1985, vol. (54), p. 147-160.

²¹ R. Stephan, “*Towar jest najważniejszy – jego zachwalaniu służą wszystkie zabiegi budowlane*”. *Domy towarowe w Berlinie, Wrocławiu, Chemnitz, Duisburgu, Norymberdze, Oslo i Stuttgarcie (1924-1932)*, in: *Erich Mendelsohn. Dynamics and Function – Realised Visions of a Cosmopolitan Architect*, ed. by R. Stephan, Wrocław 2001, p. 82.

²² *Das Deukonhaus von Erich Mendelsohn*, „*Die Form*” 1928, vol. 2, p. 43-48.

²³ *Elektropolis Berlin. Architektur- und Denkmalführer*, ed. by T. Dame, Berlin 2014, p. 60-61. Modern German “motion pictures palaces” affected both English architecture (e.g. New Victoria in London, 1930) and French one. The “Gaumont Palace” with a six thousand-seat auditorium was built in 1931-32 near the Clichy Square in Paris. The theater was designed by Henri Belloc but Les Etablissements Paz e Silva was the author of the lighting system (including the “illuminated cascade”): A. Soulier, *Les Installations électriques du plus grand cinema du monde ‘Le Gaumont Palace’*, “*Industrie Electricque*” 1931, vol. 939 (of Aug. 10) p. 341-351.

²⁴ Description of the lighting in: G. Schmidt, *The Castle of Light: A New Large Cinema Theatre in Berlin*, “*Illuminating Engineer*” 1931, vol. 24, p. 70. More about productions of the architect during the interwar period: Gerardo Brown-Manrique, *Rudolf Fränkel and Neues Bauen. Work in Germany, Romania and the United Kingdom*, Berlin 2009.

²⁵ W. Schivelbusch, *Licht, Schein und Wahn: Auftritte der elektrischen Beleuchtung im 20. Jahrhundert*, Berlin 1992, p. 53.

²⁶ K. James, “*No Stucco Pastries for Potemkin and Scapa Flow*”. *Metropolitan Architecture in Berlin – the WOGA Complex and the ‘Uniwersum’ Cinema*, in: *Erich Mendelsohn...*, op. cit., p. 105-106.

²⁷ W. C. Behrendt, *Der Sieg des Neuen Baustils*, Stuttgart 1927, p. 47-48, cited from: W. Oechslin, *Light Architecture. A New Term’s Genesis*, in: *Architecture of the Night...*, op. cit., p. 31-32

²⁸ J. Teichmüller, *Lichtarchitektur*, „*Licht und Lampe*” 1927, vol. 13-14, p. 421.

of this approach to light. The lighting, including glass panels installed flush in the ceiling and lamp shades made from opaque glass, was an important part of the architectural composition of this magnificent theater designed by Erich Mendelsohn, intended for displaying sound films produced by Ufa. Lights in the box office pavilion, a two-story atrium with a gallery, and in the auditorium for a 1,800 audience was supposed to create an effect of gradual transition from the real world to a realm of magic²⁹. James-Chakraborty wrote that cascades of light, advertisements and the very shape of the “Uniwersum” theater attracted attention of passers at night while the whole palette of light and color effects in the interior heightened the appeal of visual entertainment³⁰.

As of approximately 1930, professional press started to mention increasingly often the need for development of not only light architecture but also “light urbanism”. German “functionalists” tended to consider cities as a technical problem to be resolved by experts. Martin Wagner noted that the “city machine” has to operate smoothly, as an engine³¹. Wagner, like many architects from the German “New Building” school, advocated management of metropolises through the use of advanced tools. However, the tending of growth of a city by a team of experts was supposed to go beyond urban planning, functional zoning and linking of the city with its geographic region: extend onto control over the visual aspects of the metropolis. For Berlin, this governance should enhance the image of a “city bathed in light”, both

a European center of modernness and a place for avant-garde experimentation. And night illumination could help. Walter Randt wrote about the possibility of designing compositions of night street view: unification and visual fusion of whole frontages using illuminated advertisements and neon signs³². In 1928, while discussing this subject in a magazine published by AEG, architect Hans Pfeffer concluded that the course towards a grand future, a total architecture of light, had been already set³³. Pfeffer meant the designing of not only individual buildings but entire building blocks, such as frontages of streets and squares in which the negative-image composition of abstract forms of fulgent strips of windows would be integrated with the holistic composition of illuminated advertisements³⁴. The architecture of light (*Lichtrarchitektur*) could be unity with the advertising through light (*Lichtreklame*). Martin Wagner was following these recommendations when he announced the contest for the design of new frontages for the Alexanderplatz in 1928. Some proposals addressed the night view of the plaza. For instance, the design by Emil Schaudt showed reflections of vehicle lights on wet asphalt, glow of street lamps, carefully rendered neon signs at subway entrances and bright bands of light from storefronts. These designs stayed on paper. The building of night frontages from light turned out to be a success only for a few projects. The twin seven-story buildings situated at the Alexanderplatz, Alexanderhaus and Berolinahaus (Peter Behrens, 1929-32), are good examples. Cofinanced by US investors, they served commerce and entertainment (stores on the ground floor, restaurants with tall windows on the first floor) while higher stories housed

²⁹ The “Uniwersum” theater was part of the WOGA residential and entertainment complex: L., *Ein Lichtspielgebäude*, “Die Form” 1929, vol. 4, p. 85-87.

³⁰ K. James, op. cit., p. 105-106.

³¹ M. Wagner, *Zivilisation, Kultur, Kunst*, „Wohnungswirtschaft”, 1926, vol. 20-21, p. 165. Egon Friedell described Berlin as a “grand machine or a huge electric motor” (*eine wundervolle Maschine, ein riesiger Elektromotor*): E. Friedell, *Prolog vor dem Film*, in: *Kino-Debatte. Texte zum Verhältnis von Literatur und Film, 1909-1929*, ed. by A. Kaes, Tübingen 1978, p. 43, cited from: T. Dame, *Elektropolis Berlin. Industriemetropole und urbanes Labor*, in: *Elektropolis...*, op. cit., p. 39.

³² W. Randt, *Stadt und Lichtarchitektur*, „Das Licht” 1932, vol. 6, p. 129. Implementation of such projects forming the night landscape of the city was recommended by Ernst May, the municipal architect of Frankfurt on Main: J. Ward, op. cit., p. 115.

³³ H. Pfeffer, *Im Anfang war das Licht*, “Spannung. Die AEG Umschau” 1928, vol. 1, p. 1-5, cited from: D. Neumann, op. cit., p. 39.

³⁴ Ibidem.

offices³⁵. Behrens designed the lighting system very carefully both for the building interiors (there are concealed light sources in the lobby and geometrical lights in offices) and for the exteriors (the façades facing the Alexanderplatz, formerly Königstrasse, are cut into sections by two glazed bays: two illuminated columns forming an eye-catching gate leading to the city from the West, from the railroad station side).

The German architectural debate at the turn of the 1920s and 1930s was dominated by several issues. Motives related to the contemporaneous political polarization of

the architectural environment are taking an increasingly central place, such as the conflict between those who backed Heimatstil and Neues Bauen. In the recent years, as part of research on the so-called alternative modernism, attention began to be drawn to problems undertaken in the architectural discourse that crossed obvious divisions (supporters of national forms, ex-professionals, functionalists, etc.): Taylorism and Fordism, the dream of a “new man”; these also include the role of electric light, understood as an important “building material”.

³⁵ S. Anderson, *Peter Behrens and a New Architecture for the Twentieth Century*, Cambridge, Massachusetts, London 2000, p. 248.