Lissitzky on Broadway

MARIA GOUGH

Matthew Josephson discovered the great anonymous poetry of America—the verses and advertisements written in lights in the night sky of Chicago and New York.

—El Lissitzky, 19251

In our country the main emphasis is placed not on the "sports record" but on "physical culture," that is, the culture of the body.

-El Lissitzky, 1930²

El Lissitzky's Record (Rekord) (1926; fig. 1) presents a lone and anonymous athlete on the verge of clearing a hurdle. His forward motion is guided by his outstretched left arm, the hand and fingers of which are almost amphibian in their streamlining. Intensely illuminated, his body, conspicuously unmarked by the trappings of any team or state, is substantial enough to cast an elongated, stainlike shadow across the track. Yet, at the same time, his physical density is draining away, merging into the electrified urban nightscape that surrounds him. In a few places, such as the contouring of his lower right leg, the rough cutting of photographic material flattens his body altogether. The nightscape, meanwhile, comprises a double- and prolonged-exposure photograph of the heart of New York's theater district, with its rush of illuminated signage and marquees wrapping both sides of Broadway as it snakes its way north from Times Square to about 50th Street. Dominated by the incandescent bulbs and flashing syncopated lights of the Central and Strand Theatres—the latter announcing child actor and Charlie Chaplin protégé Jackie Coogan on its stage as well as the performance of a lobster palace cabaret on its roof—this already world famous streetscape also features what were then a novelty—colored neon, time-based advertising extravaganzas performed day and night. Streaking across its lower reaches, adjacent to the track, the headlights of automobiles and trolley cars race downtown, in both consonance and competition with the hurdler. Lissitzky's captivating combination of nightscape and hurdler produces a double utopian fantasy: a human body powered by the electrical field in which it is embedded, and, at the same time, powering that very field through the conversion of its own thermal and kinetic energy into electricity.

In addition to this print, in the Thomas Walther Collection at The Museum of Modern Art, New York, two further prints of *Record* exist, one in the private collection of Thea Berggren in Chicago (fig. 2), and the other,

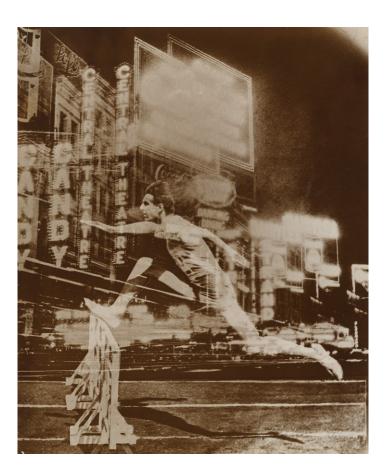


fig. 1 El Lissitzky (Lazar Markovich Lissitzky). Record (Rekord). 1926. Gelatin silver print, 10 $\frac{1}{2} \times 8^{\frac{13}{16}}$ " (26.7 × 22.4 cm). The Museum of Modern Art, New York. Thomas Walther Collection. Gift of Thomas Walther (MoMA 1766.2001)

substantially truncated, in the collection of the Russian art historian Nikolai Khardzhiev, now at the Stedelijk Museum in Amsterdam (fig. 3). Another version, a somewhat smaller print in collage form that is now at the Metropolitan Museum of Art, New York, is called *Runner in the City* (fig. 4).³ In this photocollage, Lissitzky goes one step further in his quest for dynamism, animating the physical materiality of the print itself in a way that has direct implications for the sense of movement it conveys: by slicing the print into twenty-eight vertical strips and mounting these on white paper at intervals of roughly one thirty-second of an inch (o.8 mm), Lissitzky dramatically extends the length of the hurdler's leap. This, in turn, increases the streamlining



fig. 2 El Lissitzky (Lazar Markovich Lissitzky). Record. 1926. Gelatin silver print, 4 $\%\times$ 3 $^{13}/_{16}$ " (11.7 \times 9.7 cm). Collection of Thea Berggren, Chicago

fig. 3 El Lissitzky (Lazar Markovich Lissitzky). Fotofreska (fotopis') "Rekord". 1926. Collodium printing-out paper mounted on paper, 4 $\frac{1}{2}$ × 4 $\frac{1}{2}$ " (10.5 × 10.5 cm). Stedelijk Museum, Amsterdam. Nikolai Khardzhiev Collection







fig. 4 El Lissitzky (Lazar Markovich Lissitzky). Runner in the City. 1926. Collage, gelatin silver print, $5\,^3/_{16} \times 5\,^1/_{16}$ " (13.1 × 12.8 cm). The Metropolitan Museum of Art, New York

fig. 5 El Lissitzky (Lazar Markovich Lissitzky). Record. 1926. Gelatin silver print collage, $4\frac{1}{2}\times8\frac{1}{3}$ " (12 \times 21.4 cm). Galerie Berinson, Berlin

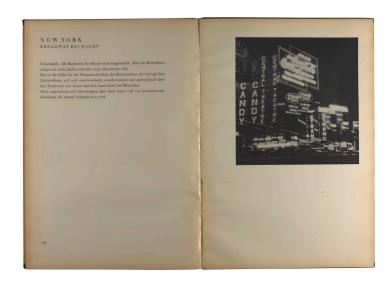


fig. 6 Knud Lönberg-Holm. New York: Broadway at Night (New York: Broadway bei Nacht). Page 150 in Erich Mendelsohn. Amerika: Bilderbuch eines Architekten (America: An architect's picture book). Berlin: Rudolf Mosse Buchverlag, 1926. The Museum of Modern Art Library, New York. © The Knud Lönberg-Holm Archive from the Marc Dessauce Collection

of his body, and accelerates both his velocity and that of the streetscape. Another closely related print, currently at the Galerie Berinson in Berlin (fig. 5), is similarly sliced into a photocollage but is now double in width, presenting two different hurdlers, the second dark-haired and bespectacled, his body much more intangible than the first.⁴ Though both athletes are merged with, and surrounded by, the same nightscape, the doubling of their number introduces a narrative dimension—they race against one another as much as against the New York traffic. Finally, a small uncut print of the left half of the Berinson photocollage is preserved at the Russian State Archive for Literature and Art (RGALI) in Moscow.⁵

All six prints were produced through sandwich printing, a darkroom technique wherein negatives are combined in the film carrier of the enlarger and then printed together as a single image. Precisely how many negatives were used is a matter of contention: Margarita Tupitsyn suggests three (athlete, track, nightscape), while Klaus Pollmeier concludes that athlete and track derive from a single negative, for a total of just two.6 But whether two or three, the single element definitively identified—in terms of its original source—is the Broadway nightshot (fig. 6), which was taken in 1923 or 1924 by the then Ann Arbor-based Danish architect (and later information designer) Knud Lönberg-Holm.⁷ Lissitzky maintained a correspondence with the architect in the mid-1920s after their initial meeting at the Weimar Bauhaus in July 1923, shortly before the former's emigration to the United States. Though Lönberg-Holm would become known for his urban nightshots, this particular one appears to be his only surviving double-exposure. By prolonging the first exposure and then moving slightly the position of his camera and reopening its shutter without having advanced the film, he doubled the rush of Broadway's illumination, exponentially increasing its capacity to blur. This photograph enjoyed a certain notoriety at the time in part due to its reproduction, under the title *Broadway at Night*, in the German architect Erich Mendelsohn's idiosyncratic and widely celebrated photographic survey of the northeastern and midwestern American architectural landscape, *Amerika: Bilderbuch eines Architekten* (America: An architect's picture book).8

This photo album—about which we will hear more in the third section of the present essay — was most likely Lissitzky's source for Broadway at Night. It is no surprise that the artist chose this particular photograph rather than any of the other nightshots reproduced therein, for it is the only one that explicitly resists the "proper" operation of the camera insofar as it is a double-exposure of a single negative. Instances of such resistance, whether deliberate or inadvertent, held special fascination for avant-garde artists like Lissitzky, who were primarily interested in exploring the creative rather than veristic potential of photography. (Interestingly, even Sergei Tretyakov, the erstwhile Futurist poet and leading advocate of factography in both literature and photography in the later 1920s and early 1930s, would acknowledge the value of the so-called photographic defect [fotograficheskii brak].)9 It is also worth noting that Broadway at Night accompanied reviews of Mendelsohn's album published by both Christian Zervos, in Cahiers d'art (1926), and Mosei Ginzburg, in the flagship journal of Constructivist architects, Sovremennaia arkhitektura

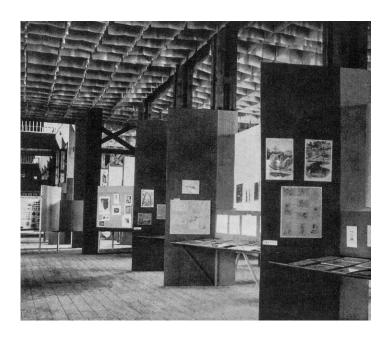


fig. 7 All-Union Printing Trades Exhibition, Moscow. Installation design by El Lissitzky. Fall 1927



fig. 8 El Lissitzky (Lazar Markovich Lissitzky). *Kurt Schwitters.* 1924. Gelatin silver print, $4\frac{1}{4}\times3\frac{7}{8}$ " (10.8 × 9.8 cm). The Museum of Modern Art, New York. Thomas Walther Collection. Gift of Shirley C. Burden, by exchange (MoMA 1763.2001)

(Contemporary architecture) (1926). Thus, when Lissitzky selected Lönberg-Holm's nightscape for manipulation in the darkroom, it was an image already well in circulation.

Once thought to have been made in 1930, Record has been persuasively redated to 1926 by Peter Nisbet, who identified the presence of a print of the image in an installation view of the All-Union Printing Trades Exhibition (Vsesoiuznaia poligraficheskaia vystavka) in Moscow, which Lissitzky designed, in fall 1927 (fig. 7). Nisbet also correlated this exhibited print to an item listed in the accompanying catalogue under the title Record (Multiple Exposure). 10 While Record's production thus post-dates Lissitzky's return to Moscow in mid-1925 in order to participate in the collective project of Soviet reconstruction, it continues to exemplify, at least in terms of technique, the experimental thrust of his early work in photography during the three and a half years he had just spent in western Europe. This early work involved the manipulation of existing photographic material rather than getting behind the lens of a camera, though there was indeed some of that as well. Lissitzky had first combined photographic fragments in a work-table set of collages prepared as maquettes for the illustration of Shest povestei o legkikh kontsakh (Six tales with easy endings; 1922), a collection of short stories by the Paris-based Soviet writer

Ilya Ehrenburg, with whom he coedited the short-lived trilingual magazine *Veshch' Gegenstand Objet* (Object; 1922) in Berlin. Thereafter, however, Lissitzky seems to have devoted himself to experimenting in the darkroom, deploying a range of techniques popular among artists at the time—such as multiple exposure, superimposition, rotation, sandwich printing, and the <u>photogram</u>—in the production of complex yet playful photographic compositions that frequently memorialized his dialogue and friendship with leading members of the pan-European avant-garde, such as *4/i/Lampe* (*Heliokonstruktion 125 volt*) (in collaboration with the de Stijl artist Vilmos Huszár; 1923), *In the Studio* (1923), and *Kurt Schwitters* (1924; fig. 8). These early photographs are, as Leah Dickerman suggests, "less an unmediated record of the phenomenal world . . . and more the product of handling."¹¹

Lissitzky continued to hold out for such experimental procedures in the years immediately after his return to Russia. Indeed, at the All-Union Printing Trades Exhibition, he presented his photographic experiments as a new category of production altogether, that of fotopis' ("photo-painting" or, alternatively, "light-painting"), a neologism he coined in an effort to give a precise name to the hybrid medium of his own developing darkroom practice. "Unlike painting," he writes in the accompanying catalogue, fotopis' "paints' its image with light directly on . . . photographic paper." 12 In a May 1929 article published in Sovetskoe foto (Soviet photo), he goes further, insisting that for photography to become fotopis'—that is, a form of art rather than simply a mechanical process for the inscription of empirical reality—it "cannot be reduced to getting into focus and releasing the shutter." Instead, it must develop the properties that lie "in the photographic material itself" through the "expansion of photography's possibilities": first, by acknowledging cameraless photography (i.e., the photogram); and, second, where camera negatives are in play, by eschewing direct contact between them and the photographic paper and so forth ("From one and the same negative it is possible to achieve various impressions — depending on the angle of its placement in relation to the paper, on the direction and strength and number of light sources"). Lissitzky's proselytization of fotopis' is no narrowly formalist call for medium specificity for its own sake however, but rather an assertion that a true understanding of the nature of the medium provides the artist with "one more means of influencing our consciousness and our emotions."13 The ultimate goal of fotopis' thus fully accords with Lissitzky's lifelong interest in mastering technologies of mass persuasion.

On the one hand, *fotopis'* swims against the tide of Soviet photographic practice of the late 1920s, with its increasing orientation toward the documentary potential of the medium. On the other, however, its signature experimental technique of sandwich printing gained considerable traction across the spectrum of photographic practitioners, and was quickly transformed from a once self-consciously avant-garde procedure ("music-hall fun à



fig. 9 Georgii Zimin. Untitled (*Montage with Self-Portrait and Building*). 1926. Gelatin silver print, $3^{11/16} \times 3^{14}$ " (9.4 × 8.3 cm). The Museum of Modern Art, New York. Thomas Walther Collection. Gift of Thomas Walther (MoMA 1920.2001)

la Dada" is how Lissitzky might have described it in retrospect)¹⁴ into a photographic vernacular for communication. A remarkable case in point is Georgii Zimin's very finely detailed negative sandwich, Untitled (Montage with Self-Portrait and Building) (1926; fig. 9), wherein the smiling face of a young man—thought to be the artist himself—is merged with an elevated view of a railway station platform, effectively unifying the individual subject with the social space of his everyday life. Even as late as March 1932, we find the photojournalist Semyon Fridlyand — a member of the Russkoe obshchestvo proletarskikh fotografov (Russian society of proletarian photographers, or ROPF), which opposed the work of the Oktiabr' (October) association to which Lissitzky had belonged - arguing in favor of negative sandwiching in the hyper-proletarian photomagazine <u>Proletarskoe foto (Proletarian photo)</u>. Fridlyand dismisses both the more familiar cut-and-paste method (on the grounds that it always leads, he believes, to "false impressions of violent action upon the photograph") and also the multiple exposure of a single negative while it is still in the camera ("too complicated," he asserts). In his own work, Fridlyand explains, he prefers to sandwich two or more negatives in the enlarger's film carrier. Illustrating his article are three examples of the process that are clearly intended to encourage darkroom experimentation by the novice proletarian photomonteur to whom the journal was explicitly addressed.15

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Yet if Record continues Lissitzky's early photographic experiments, albeit under the now quite different conditions of Soviet reconstruction, it also departs from those precedents. Most crucially, fotopis' is no longer deployed in the production of an autonomous work of art but instead has a job to do—it has become a design tool. Since his return to architecture—the field of his early professional training—around 1924, Lissitzky had been using photocollage and photomontage in the presentation of various projects for the built environment, such as the Lenin Tribune (1920/1924), a reworking of an earlier drawing by Ilya Chasnik to include a photograph of Lenin himself, and his horizontal "cloudscraper," Wolkenbügel (1924-25; fig. 10). These are important instances of the way in which, in the 1920s, photography began to rival or at least operate in dialogue with architecture's traditional presentation medium, that of drawing.

But Record is something else again—a maquette for a photographic mural, a fact confirmed by Lissitzky's autograph annotation of the aforementioned print in the Khardzhiev collection at the Stedelijk. This annotation reads "Foto-freska (fotopis') / 'Rekord' / 1925" (Photofresco [photo-painting] / 'Record' / 1925), and is followed by the artist's signature (see fig. 3).16 Hitherto little known, this annotated print essentially confirms the broad terms—if not the title per se—of Peter Nisbet's hypothetical identification of the Metropolitan Museum's related photocollage Runner in the City (see fig. 4) with a work listed for exhibition by Lissitzky in November 1926 under the title Experiment for a Fresco for a Sports-Club. 17 To the best of my knowledge, Lissitzky's annotation of the Khardzhiev print represents his first usage of the word "fresco" (freska) in a positive manner. On two earlier occasions, he had



fig. 10 El Lissitzky (Lazar Markovich Lissitzky). *Wolkenbügel*, view of Nikitskaia Square from Nikitskii Boulevard. 1924–25. Photomontage with ink and colored pencil, $15\% \times 21\%$ " (40 × 55.5 cm). Russian State Archive for Literature and Art, Moscow

dismissed the medium as an obsolete form of pictorial production, its once vital public and communicative functions usurped by the printed book and, more recently, by the new typography, both areas in which he himself had been crucially involved over the course of the last decade.¹⁸

But with the death of easel painting loudly proclaimed by leading members of the avant-garde, including Lissitzky himself, there was renewed interest in the mid-1920s in the collective public address historically afforded by fresco. The most notable protagonist of the medium's revival was Diego Rivera, whose extraordinary cycle of frescoes in the new Secretariat of Public Education in Mexico City had been lauded in 1925 by the poet Vladimir Mayakovsky as "the world's first Communist mural."19 With Record, however, Lissitzky proposes a quite different path to the recovery of the communicative function that had once belonged to fresco, namely, the rescaling of the photographic image from the space of the page to the expanse of the wall. In other words, just as photography had played a key role in the transformation of the field of typographical design, so too, he believed, it would be essential in any return by artists to the wall. Indeed, Record marks the inception of the very medium — monumental photography — that would become central to Lissitzky's practice as an international trade-fair exhibition designer in the later 1920s and 1930s. Installing monumental photographic ensembles in the Soviet pavilions he designed for the International Press Exhibition (Pressa) in Cologne in 1928 (in collaboration with Sergei Sen'kin), the International Hygeine Exhibition in Dresden in 1930, and the International Fur Trade Exhibition in Leipzig, also in 1930, Lissitzky would mobilize fotopis' on a massive and unprecedented scale for the purposes of education, enlightenment, and propaganda.

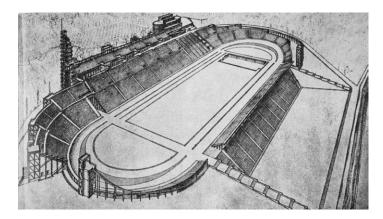
Record, and another photographic print by the artist on a similarly sports-related theme, Footballer (1926; fig. 11), were almost certainly intended for installation at the Mezhdunarodnyi krasnyi stadion (International red stadium, or MKS), a vast complex of sports stadia and performance spaces that was under planning and construction on a site in southwest Moscow for almost a decade. Originally proposed in 1920 by Nikolai Podvoiskii, a party and government official perhaps best known as the founder of the mass physical-culture (massovaia fizkul'tura) movement in the Soviet Union, the MKS came to have three main objectives: the improvement of the health and hence the productivity of Russian workers by encouraging their active participation in physical culture rather than simply passive consumption of "sport by champions"; the hosting of socialist competitions, i.e., proletarian Olympics in which Soviet athletes would compete against international teams composed of members of foreign communist parties and workers' organizations; and the provision of giant open-air theaters for the staging of mass actions, in which the traditional division between performer and spectator would be eliminated.²⁰ The MKS was, in short, a major project of socialist state building.



fig. 11 El Lissitzky (Lazar Markovich Lissitzky). Footballer. 1926. Gelatin silver print, $5\% \times 4\%$ " (13.3 × 10.7 cm). Alexander Kaplan, New York

Lissitzky became involved with the MKS through his membership in a group of architects and architectural students known as the Assotsiatsiia novykh arkhitektorov (Association of new architects, or ASNOVA), with whom he began to work soon after his return to Moscow.²¹ Led by Nikolai Ladovsky, a professor of architecture at the VKhUTEMAS, the ASNOVA completed the key planning and design work for the MKS between 1924 and 1926. Ladovsky was particularly excited by the physical challenges of the proposed site, which was bounded on three sides by a sweeping semicircular loop in the river Moskva and emcompassed both the steep incline of the Lenin Hills (formerly Sparrow Hills) and also the flood plain that lay directly opposite (Luzhniki). ASNOVA's initial design work responded enthusiastically to this difficult hillside terrain, proposing that a series of stadia be cut like terraces into its steep incline (fig. 12). After the geological stability of the hillside was called into question, however, design efforts were refocused on the vast plain across the river.

The full extent of Lissitzky's involvement in the MKS project is unknown. In letters to Sophie Küppers in August 1925, he mentions only his design of a yacht club on the Lenin Hills site, presentation drawings for which are now



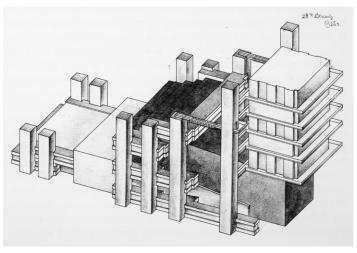


fig. 12 Nikolai Ladovsky with Vladimir Krinkskii and others. Mezhdunarodnyi krasnyi stadion (International red stadium), Moscow. Perspective. 1924–25

fig. 13 Mikhail Korzhev. Sports club for the *Mezhdunarodnyi krasnyi stadion* (International red stadium), Moscow. Axonometric view. 1925

preserved in the State Tretyakov Gallery.²² But a yacht club would seem to be an unlikely location for the installation of the photofresco Record, given its iconography. A more probable location might have been the site's proposed sports club, which was designed to contain not only indoor sporting facilities—such as a running track²³—but also auditoria intended for "cultural enlightenment" and the dissemination of information to visiting participant-spectators. The sports club was projected as the "brain and pulse" of the MKS complex overall, as Ladovsky put it.24 lts design went through various iterations over the course of ASNOVA's three-year involvement at the site, but arguably the most developed proposal was that of the VKhUTEMAS student (and future landscape architect), Mikhail Korzhev (fig. 13).²⁵ In its axonometric treatment of volumes, this sports club bears the clear influence of Lissitzky's prouns, which is not surprising given that the artist had resumed teaching at the VKhUTEMAS by January 1926 at the latest, 26 and the design formed part of Korzhev's MKS-dedicated diploma project in

1925 to 1926. There is evidence to suggest that Lissitzky considered Korzhev's diploma project to be ASNOVA's definitive contribution to the MKS site, since he discusses it—and reproduces three drawings from it—in his book *Russland*, a survey of the reconstruction of Soviet architecture under socialism published in Vienna in 1930.²⁷

If we can imagine Lissitzky's photofresco *Record* installed in Korzhev's Sports Club, we can also imagine its electrified and electrifying record-breaking champion hurdler inspiring not only star athletes to perform extraordinary feats on behalf of the world proletariat, but also ordinary Soviet workers to participate actively in mass *fizkul'tura* (physical culture). Beyond the immediate realms of sport and physical culture, however, we might also imagine *Record* serving a larger ideological function, one of encouraging those very same workers to accelerate their production at the factory bench in order that they, too, might achieve a new record in terms of labor productivity and thereby play their part in shoring up the success of the world's first workers' state.

Ш

But if the purpose of *Record* was the cultural enlightenment of the proletarian subject, how are we to understand Lissitzky's startling conjunction of the hurdler—that figure of production who overcomes all obstacles on the path to Soviet reconstruction—with Broadway's Times Square, one of the greatest icons of Western consumer culture? How might the relationship between athlete and nightscape, between production and consumption, between communism and capitalism, be defined and elaborated? What, in the end, is the meaning and significance of their conjunction? Is it simply a picturing of Soviet triumphalism for visitors to the MKS? Or is it something more complex than that?

Before we can answer this question, we need to return for a moment to Mendelsohn's Amerika—as noted earlier, Lissitzky's most likely source for the image—in order to consider the way in which the German architect frames Lönberg-Holm's Broadway by Night. Lissitzky and Mendelsohn had first met in 1923 at a conference in Stuttgart,²⁸ and then again in 1925 in Moscow, when the latter visited Russia in connection with an important commission from the Soviet government to design a textile factory in Leningrad.²⁹ Mendelsohn sent Lissitzky a copy of Amerika immediately upon its publication at the end of 1925. An oversized album (13 $\frac{1}{2}$ × 9 $\frac{1}{2}$ inches [34.3 × 24.1 centimeters]) comprising some seventy-seven black-andwhite photographs printed on medium-weight paper by a photomechanical printing process known as heliogravure, Amerika is a record of the German architect's travels in the United States in fall 1924.

Funded in part by his publisher and recent client, the Berlin newspaper and publishing giant Rudolf Mosse, who was eager to enter the burgeoning market for photographically illustrated newspaper supplements, Mendelsohn

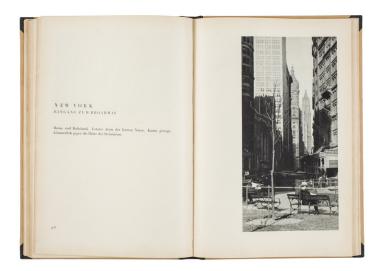
visited New York, Buffalo, Detroit, Ann Arbor, Chicago, and Madison. He met with Lönberg-Holm in Chicago and Ann Arbor, and also with Frank Lloyd Wright at his estate Taliesin, just an hour west of Madison.³⁰ The thick, black, horizontal, double bands wrapping Amerika's front and back covers were not only a signature motif of Mendelsohn himself, but also the newly adopted advertising logo of the Mosse media empire, for the headquarters of which the architect had just recently completed a major renovation—one notes in particular Mendelsohn's projecting baldachin wrapping around the building's corner entrance, consisting of a double row of horizontal bands. In part due to the patronage of the German media giant, the readership for Mendelsohn's photo album extended way beyond architectural circles. Bertolt Brecht, for example, included it on his Christmas list of the "7 Best Books of 1926," along with René Fulöp-Miller's The Mind and Face of Bolshevism.31

With its expanse of creamy white paper, Amerika smacks of the deluxe coffee-table travelogue, but what is most striking about the album is its unconventionality, by contemporary standards, with respect to its chosen subject matter, camera viewpoints, and commentaries. Yes, it includes some landmark American buildings, but also many anonymous ones, and not only front facades but also rear facades, back alleys, and entire streetscapes, as well as grain elevators and billboards. And even when major monuments are included, such as the Woolworth Building on Broadway, they are shot di sotto in su, and thus do not convey the so-called mastery of the motif then conventionally expected of architectural and travel photography.³² Such partial and even disturbing camera viewpoints fascinated readers. For example, the same photograph of the Woolworth Building shows up two years later in the pages of the Constructivist journal Novyi lef (New left), where Aleksandr Rodchenko uses it to bolster his polemic against conventional photographic perspectives in favor of the oblique angle.33

Parts of Amerika's preface and many of its commentaries on individual photographs are borrowed from Mendelsohn's diary of his trip and letters to his wife Louise.34 In these often elliptical prose fragments, the architect expresses the deep structural ambivalence typical of the pan-European phenomenon of Amerikanismus (Americanism)³⁵—on the one hand, sheer fascination with American technological prowess in construction and so forth, and, on the other, biting criticism of real estate speculation and unregulated urban growth and development, what he calls in a letter to Lewis Mumford, America's "historical vertigo."36 (In 1925, Lissitzky himself had penned an essay on the phenomenon of "Americanism" among European architects.)37 Given that Amerika is often described as a subjective, personal record of the architect's journey, it is worth emphasizing that only about a third of its photographs were in fact taken by Mendelsohn, contrary to the album's misleading subtitle, "with 77 photographs

by the author." Despite his awareness that Mendelsohn was not the author of all its photographs, Lissitzky nevertheless reviewed the album very favorably and at length in the February 1926 issue of *Stroitel'naia promyshlennost'* (The building industry), noting that its pages "thrill us like a dramatic film," and that to understand some of its oblique-angle photographs, "you must lift the book over your head and rotate it." 38

Broadway at Night (see fig. 6) appears within a section of the album called "The Grotesque," an architectural term that Mendelsohn uses in a broad and pejorative sense to refer to the disorder, distortion, exaggeration, and bizarre combination of unlike elements that he perceives to be characteristic of the American city as a consequence of



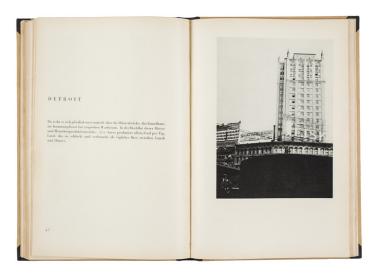
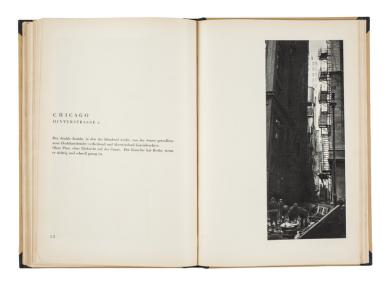


fig. 14 Spread from Erich Mendelsohn. *Amerika: Bilderbuch eines Architekten* (America: An architect's picture book). Berlin: Rudolf Mosse Buchverlag, 1926. The Museum of Modern Art Library, New York

fig. 15 Knud Lönberg-Holm. Detroit. Page 47 in Erich Mendelsohn. Amerika: Bilderbuch eines Architekten (America: An architect's picture book). Berlin: Rudolf Mosse Buchverlag, 1926. The Museum of Modern Art Library, New York. © The Knud Lönberg-Holm Archive from the Marc Dessauce Collection



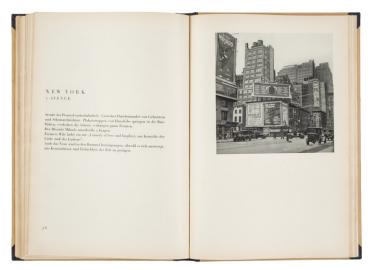


fig. 16 Spread from Erich Mendelsohn. *Amerika: Bilderbuch eines Architekten* (America: An architect's picture book). Berlin: Rudolf Mosse Buchverlag, 1926. The Museum of Modern Art Library, New York

fig. 17 Spread from Erich Mendelsohn. *Amerika: Bilderbuch eines Architekten* (America: An architect's picture book). Berlin: Rudolf Mosse Buchverlag, 1926. The Museum of Modern Art Library, New York

unregulated real estate speculation and chaotic urban development. The grotesque takes many forms. At the Wall Street end of Broadway, for example, Mendelsohn finds it in a last leafless sapling (fig. 14), which for him signifies nature's grotesque marginalization at the hands of culture: the "last breath of the last bit of nature," he laments, "pathetic in contrast to the hardness of the stone towers." In Detroit (fig. 15) he encounters a grotesque confusion of scale: an "isolated building growing without restraint, almost like tropical vegetation," stretching up "suddenly and unannounced" over the existing houses" (47/56). A back street of Chicago turns up a grotesque architectural chiaroscuro (fig. 16): a "dark crevasse into

which the dazzlingly white new skyscraper, catching the sunlight, shines promisingly and overpoweringly" (53/64).

But for Mendelsohn, the greatest protagonists of the urban grotesque were, respectively, the billboard and the relatively new phenomenon of kinetic and illuminated advertising, both of which he decried as having been allowed to proliferate without constraint, thereby destroying any semblance of architectural order in the American city. On the corner of Seventh Avenue in New York (fig. 17), for example, he finds a "grotesque confusion of real buildings and false fronts. Billboards tall as a house leap into the gaps between buildings, twist the axes askew and block entire facades." Disrupting any orderly relations of scale, "the Mikado pencil [in the billboard at upper left] writes its message across three stories" (56/70). Comparable sentiments underpin his negative commentary on Lönberg-Holm's nightscape, which begins with a single word, unheimlich (uncanny), to evoke the weird sensation of double-take or disorientation that is engendered in the human subject by "the rocket fire of moving illuminated advertisements, emerging and submerging, disappearing and breaking out again over the thousand autos and the maelstrom of pleasure-seeking people." An excess of moving illuminated advertising obliterates the once discrete boundaries of architectural forms, he writes, and "the contours of the buildings are erased" (44/52).

Mendelsohn's Amerika thus added an architectural voice to the growing critique of illuminated advertising by social theorists, town planners, and advertising executives, all of whom argued that while the new technology had had tremendous success in stimulating the city dweller's nervous system to consumption, its unregulated implementation had produced a sensory overload that had compromised its very efficacy. In Europe, calls would soon be made for its stringent regulation, with Broadway, New York, repeatedly singled out as the Ur-example of the technology's self-defeating implosion. In 1928, for example, Mendelsohn's compatriot Ernst May, then serving as Frankfurt city architect, argues that on Broadway,

the eye can read no words, distinguish no forms, for it is simply blinded by an excess of glittering lights, a plethora of lamps which cancel out each other's effect. . . . Of course advertisements must attract attention if they are to fulfil their purpose; but when they all try to surpass each other, scream louder than their neighbor, then advertising loses its sense and becomes merely overbright street-lighting. 40

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Lissitzky, for his part, shared neither Mendelsohn's anxiety about illuminated advertising's ruthless destruction of architecture nor May's belief that it blinded as much as enlightened. On the contrary, in his essay on Americanism, he celebrates the new technology, asserting that the American writer Matthew Josephson, an erstwhile financier and now spokesman of "the radical left group" had



fig. 18 Neon illumination of facade of the Moskovskaia gosudarstvennaia elektricheskaia stantsiia (Moscow state electric power station), Moscow, for the Tenth Anniversary of the October Revolution. Lighting design by Vladimir and Georgii Stenberg. 1927.

Archive of I. M. Bibikova

discovered "the great anonymous poetry of America—the verses and advertisements written in lights in the night sky of Chicago and New York."41 Accordingly, in his review of Amerika, we find little trace of Mendelsohn's disenchantment: "Illuminated signs turn the street into an eerie theatre. Flashing and streaking lights," reads Lissitzky's simple and affectless gloss on the architect's sharply negative commentary on the scene represented in Lönberg-Holm's Broadway at Night. 42 Furthermore, in his darkroom manipulation of that scene, Lissitzky exacerbates the very spatial confusion that had so aggrieved his German colleague. Finding the movement of automobiles and trolleys reduced to "pure luminous traces shooting through the streets," Lissitzky accentuates this effect in Record by also dragging the horizontal lines of the track across the breadth of the montage. Where Lönberg-Holm reduces the sense of perspectival depth by double-exposing the same negative, Lissitzky flattens space still further by adding the rigidly transverse orientation of the athlete's head and body, thereby augmenting the reduction of perspectival depth overall. Where illuminated advertising erases not only the contours of buildings, as Mendelsohn remarks, but also the very messages it is supposed to convey, Lissitzky hastens their implosion, scrubbing out words and passages in the darkroom, such as in the ghostly oval space immediately to the right of the hurdler's head.

Unlike Mendelsohn, Lissitzky thrives on the grotesque—the bizarre combination of unlike elements—that is, in a sense, intrinsic to his practice of *fotopis'*. In *Record*, furthermore, he proposes the grotesque on a massive scale,

thereby bringing to mind the American billboard as much as the ancient art of fresco. That said, there remains one fundamental aspect of Mendelsohn's commentary with which Lissitzky would surely have agreed, namely, the German architect's ultimately dialectical—and thus not simply negative—concluding remarks concerning the scene captured by Lönberg-Holm. For if Mendelsohn endlessly laments the way in which kinetic and electric signage destroys the architectural integrity and clarity of the urban environment, he also insists that within that very destruction lies a beauty awaiting its full realization: "Still disordered, because exaggerated," he writes of *Broadway at Night*, "but all the same already full of fantastic beauty, which will one day be complete" (44/52).

A similar conviction undergirds Lissitzky's enthusiasm for the new technology of illuminated advertising, an enthusiasm rooted in his longstanding interest in modern technologies of mass persuasion, irrespective of their provenance. Living in a putatively regulated economy under Communism enabled the artist to imagine neon's redemption from the rabid hands of capital in which it had developed and proliferated, and thus to imagine also its future state of perfection, to which Mendelsohn refers. "Moscow is developing into a world city, that is true," Lissitzky writes to Küppers in August 1925, "all the discoveries in the capitalist world are followed with the greatest interest, so as to make use of them here for the general public."43 Far from triumphalist swagger, therefore, his merging of hurdler and Broadway nightscape asserts instead both the possibility and desirability of a grand synthesis of Soviet power and Western technology. Harnessing the profligate illumination



fig. 19 Roman Karmen. Moscow Illuminations Celebrating the Tenth Anniversary of the Russian Revolution (Moskva noch'iu v oktiabr'skie dni). 1927. Gelatin silver print, 1927-39, $9\frac{1}{2} \times 11\frac{7}{16}$ " (23,2 × 29 cm). The Museum of Modern Art, New York. Thomas Walther Collection. Abbott-Levy Collection funds, by exchange (MoMA 1712.2001)

of Times Square for the purpose of socialist state-building, *Record* is thus a pictorial formulation that renews, one more time, Lenin's famous battle-cry for national electrification: "Communism is Soviet power plus the electrification of the entire country."

Though his proposed photofresco was never realized, and the MKS project abandoned altogether by 1930, Lissitzky would go on to install one monumental photographic ensemble after another in the Soviet pavilions he designed for large-scale international trade fairs in the late 1920s and early 1930s. As for his Soviet-Americanist desire for the repurposing of illuminated advertising as the new expressive means for cultural enlightenment in the worker's state, that would soon be fulfilled. Over the course of 1926, the first new power stations proposed in Lenin's electrification plan of 1920 had finally come on stream, thus enabling a long-awaited expansion in the use of electricity, beyond the all-important realm of industrial production alone. The public celebrations of the Tenth Anniversary of the October Revolution, which were held over several weeks in November 1927, presented the perfect occasion for the first major Soviet use of Broadway-style illumination. "On countless roofs and facades are gleaming letters of fire that throw a red glow over the city," Walter Duranty reported in the New York Times. 44 For the facade of the Moskovskaia gosudarstvennaia elektricheskaia stantsiia (Moscow state electric power station, or MOGES) on the river Moskva (fig. 18), the Constructivist brothers Vladimir and Georgii Stenberg designed a plethora of red neon inscriptions ("October," "Ten years of the Dictatorship of the Proletariat"), Communist

insignia (hammer and sickle, the Red Army star), and even an image of Lenin's head (as both revolutionary leader and proponent of national electrification)—all flashing on and off like the swimming fish of the famous Wrigley's chewing-gum sign that then occupied the upper story of an entire block of Broadway.

In downtown Moscow, meanwhile, the photojournalist (and future filmmaker) Roman Karmen made a number of prolonged-exposure nightshots of Sverdlov Square and Soviet Square — two key sites of the anniversary festivities — capturing their utter defamiliarization at the hands of a veritable cacophony of flashing colored neon signage, streaming headlights, and glaring streetlights. Unheimlich, even grotesque, Mendelsohn might have cried. Not so Lissitzky, who once owned the print of Karmen's spectacular Moscow Illuminations Celebrating the Tenth Anniversary of the Russian Revolution (Moskva noch'iu v oktiabr'skie dni) (1927; fig. 19) that is now in the Thomas Walther Collection. 45 This print bears traces of pencil retouching around both the streetlamps at upper right and the letters of Lenin's name at far right, while a host of sweeping graphite lines accelerates the swoosh of headlights just right of mid-center. Perhaps Lissitzky thought about incorporating Moscow Illuminations into a photographic ensemble mounted on the printed page or on the wall at mural-scale? It is impossible to say, especially since we do not know who was responsible for the retouching, or when it was done. What we do know, however, is that, in the wake of the neon



fig. 20 El Lissitzky (Lazar Markovich Lissitzky). Red star, Die Pressa, Cologne. 1928

transformation of downtown Moscow for the anniversary celebrations of 1927, Lissitzky designed a giant floodlit red star as the centerpiece of his overcrowded Soviet pavilion at the International Press Exhibition (*Die Pressa*) in fall 1928

(fig. 20), the stock phrases ("Soviet Village-Soviet City" and "Soviet Congress," respectively) on its scrolling ticker-tape upper rings, fully resplendent in their radiant illumination.

NOTES

Earlier drafts of this essay were presented in Madison, Ann Arbor, and Palo Alto between 2002 and 2004. My warm thanks to the organizers of those events, especially Jordana Mendelson, and to Mitra Abbaspour for more recently enabling its final revision.

- 1. El Lissitzky, "'Americanism' in European Architecture," *Krasnaia niva*, no. 49 (1925), trans. in Sophie Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts* (New York: Thames and Hudson, 1980), p. 373.
- 2. El Lissitzky, "Sport u. a.," in Russland: Die Rekonstruktion der Architektur in der Sowjetunion (Vienna: Verlag Anton Schroll & Co., 1930), p. 23. Unless otherwise noted, translations are by the author.
- 3. A photographic reproduction of the Metropolitan Museum of Art's photocollage is preserved at the State Tretyakov Gallery, Moscow. As several scholars have noted, Runner in the City bears an interesting relation, morphologically speaking, to Lissitzky's Room for Constructive Art at the International Exhibition held in Dresden in summer 1926, on which see Maria Gough. "Constructivism Disoriented: El Lissitzky's Dresden and Hannover Demonstrationsräume," in Nancy Perloff and Brian Reed, eds., Situating Lissitzky: Vitebsk, Berlin, Moscow (Los Angeles: Getty Research Institute, 2003), pp. 77-125.
- 4. El Lissitzky, Record (1926). Photocollage, 12 \times 21.4 cm (4 $^3\!\!/_4$ \times 8 $^7\!\!/_{16}$). Galerie Berinson, Berlin.
- 5. For a reproduction of the RGALI print, see O. M. Rubio, *El Lissitzky:*

L'esperienza della totalità (Milan: Mondadori Electa, 2014).

- 6. See Margareta Tupitsyn's catalogue entry in her *El Lissitzky: Experiments in Photography* (New York: Houk Friedman, 1991), p. 30; and Klaus Pollmeier, "El Lissitzky's Multilayer Photographs: A Technical Analysis," on this website.
- 7. E-mail correspondence with Marc Dessauce, August 26, 2002, and September 11, 2002. According to Dessauce, Lönberg-Holm used a high-quality small camera and did not make his own prints, apparently preferring to have his photographs processed at a local camera store.
- 8. Erich Mendelsohn, Amerika: Bilderbuch eines Architekten mit 77 photographischen Aufnahmen des Verfassers (Berlin: Rudolf Mosse Verlag, 1926).
- 9. On Tretyakov and the photographic defect, see Maria Gough, "Radical Tourism: Sergei Tret'iakov at the Communist Lighthouse," October, no. 118 (Fall 2006): 176-78.
- 10. For the original dating of Record to 1930, see Lissitzky-Küppers, El Lissitzky: Life, Letters, Texts, plate 172. For its redating to c. 1926, see Peter Nisbet, "An Introduction to El Lissitzky," in El Lissitzky, 1890–1941 (Cambridge, Mass.: Harvard University Art Museums, 1987), p. 51 n 95; and Nisbet, "El Lissitzky in the Proun Years: A Study of His Work and Thought" (PhD diss., Yale University, 1995), p. 293 n 2 and p. 351 n 75.
- 11. Leah Dickerman, "El Lissitzky's Camera Corpus," in Perloff and Reed, *Situating Lissitzky*, p. 160.

- 12. El Lissitzky, "Khudozhnik v proizvodstve," in Vsesoiuznaia poligraficheska vystavka:
 Putevoditel' (Moscow, 1927), p. 7; trans. (slightly modified) in Margarita Tupitsyn, "Back to Moscow," in El Lissitzky: Beyond the Abstract Cabinet: Photography, Design, Collaboration (New Haven, Conn.: Yale University Press, 1999), p. 26; see also Tupitsyn, "After Vitebsk," in Perloff and Reed, Situating Lissitzky, pp. 186–90.
- 13. El Lissitzky, "Fotopis',"
 Sovetskoe foto, no. 10 (May 15,
 1929): 311; trans. Peter Nisbet as
 "Photography" in Jan Debbaut et
 al., El Lissitzky, 1890–1941: architect
 painter photographer typographer
 (Eindhoven: Van Abbemuseum,
 1990), p. 70.
- 14. Lissitzky uses this phrase in another context in a September 1925 letter to Küppers; see Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts*, p. 68.
- 15. See Semyon Fridlyand, "Fotoreportery deliatsia opytom: Iz praktiki fotomontazha," *Proletarskoe foto*, no. 3 (March 1932): 24–26.
- 16. A similarly mounted and annotated print of Lissitzky's *Hans Arp* (1924) is found in one of Aleksei Kruchenykh's photo albums preserved at the Russian State Archive for Literature and Art (RGALI) f. 1072, op. 2, ed. khr. 357, l. 87; for a reproduction, see Tupitsyn, *El Lissitzky: Beyond the Abstract Cabinet*, p. 88.
- 17. See Peter Nisbet, "El Lissitzky in the Proun Years," p. 329 n 46.
- 18. "In our time," Lissitzky writes in August 1919, the book "has become what the cathedral with

- its frescoes and stained glass . . . used to be"; see Lazar Lissitzky, "Novaia kul'tura," Shkola i revoliutsiia (Vitebsk), nos. 24-25 (August 16, 1919): 11; trans. Peter Nisbet as "The New Culture" in Experiment/ Eksperiment (Los Angeles), no. 1 (1995): 261 (emphasis added). In 1925 Lissitzky asserts that "the old fresco painting is replaced by the new typography"; see El Lissitzky, "Typographische Tatsachen, z.B.:" (1925); trans. Helene Aldwinckle as "Typographical Facts" in Lissitzky-Küppers, El Lissitzky: Life, Letters, Texts, p. 360 (emphasis added).
- 19. See Vladimir Mayakovsky, My Discovery of America (1925), trans. Neil Cornwell (London: Hesperus Press Ltd, 2005), p. 17. Invited to the Soviet Union for the Tenth Anniversary celebrations in November 1927, Rivera subsequently spent almost eight months on the ground in Moscow trying to promote mural painting; see Leah Dickerman, "Leftist Circuits," in Dickerman and Anna Indych-Lopez, Diego Rivera: Murals for The Museum of Modern Art (New York: The Museum of Modern Art, 2011), pp. 15-21; and also Maria Gough, "Drawing between Reportage and Memory: Diego Rivera's Moscow Sketchbook," October, no. 145 (Fall 2013): 67-84. Though Rivera's Moscow efforts were ultimately unsuccessful, they do provide important evidence of an engagement with mural painting in the Soviet Union in the mid-1920s.
- 20. On the MKS, see Irina Kokkinaki, "Mezhdunarodnyi Krasnyi stadion: K istorii proektirovaniia i stroitel'stva," *Arkhitektura SSSR*, no. 6 (November-December 1985): 100–107. On Soviet sport policy,

- see Jim Riordan, Sport in Soviet
 Society: Development of Sport and
 Physical Education in Russia and the
 USSR (Cambridge, UK: Cambridge
 University Press, 1977); and also
 Robert Edelman, Serious Fun: A
 History of Spectator Sports in the
 USSR (New York and Oxford, UK:
 Oxford University Press, 1993).
- 21. Lissitzky joined ASNOVA in 1924, while convalescing in Switzerland, but his direct involvement in the MKS project post-dates his return to Moscow in mid-1925.
- 22. See Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts*, pp. 64-66, 70.
- 23. See Nikolai Ladovsky, "Dokladnaia zapiska: O proetakh sooruzhenii i proizvodstve stroitel'nykh rabot v 1924,1925 gg." (June 18, 1925), State Archive of the Russian Federation (GARF) f. 4346, op. 1, d. 584, l. 7.
- 24. See Kokkinaki, "Mezhdunarodnyi Krasnyi stadion," p. 104.
- 25. See Selim Khan-Magomedov, Mikhail Korzhev (Moscow: Fond "Russkii Avantgard," 2009), pp. 73-83.
- 26. See Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts*, p. 72.
- 27. See Lissitzky, *Russland*, 23–24, 64.
- 28. See Eric Mendelsohn: Letters of an Architect, ed. Oskar Beyer, trans. Geoffrey Strachan, with an introduction by Nikolaus Pevsner (London: Abelard-Schuman, 1967), p. 60.

- 29. See Lissitzky-Küppers, *El Lissitzky: Life, Letters, Texts*, pp. 69, 70, 71. Apparently, Mendelsohn was already planning a book with Rudolf Mosse on Russia; see *Eric Mendelsohn: Letters of an Architect*, p. 03.
- 30. See *Eric Mendelsohn: Letters of* an Architect, pp. 70–71.
- 31. Bertolt Brecht, Werke (1988–97), vol. 21, p. 176; cited in Werner Hecht, Brecht Chronik, 1898–1956 (Frankfurt: Suhrkamp, 1997), p. 221.
- 32. This becomes even more apparent if one compares the original 1926 edition with the revised edition published in 1928, to which were added more conventional perspectives and panoramas taken on a subsequent trip by Erich Karweik, the chief architect in Mendelsohn's office.
- 33. Aleksandr Rodchenko, "Puti sovremennoi fotografii," *Novyi lef*, no. 9 (1928): 33.
- 34. See Eric Mendelsohn: Letters of an Architect, pp. 65–75.
- 35. On Mendelsohn and Amerikanismus, see Jean-Louis Cohen, "Postface," in Erich Mendelsohn Amerika: Livre d'images d'un architecte (Paris: Les Éditions du Demi-Cercle, 1992), pp. 225-41; and Cohen, Scenes of the World to Come: European Architecture and the American Challenge, 1893-1960 (Paris: Flammarion; Montreal: Canadian Centre for Architecture, 1995), pp. 85-98.

- 36. Erich Mendelsohn, Berlin-Charlottenburg, to Lewis Mumford, December 25, 1925, in *Eric Mendelsohn: Letters of an Architect*, p. 89.
- 37. El Lissitzky, "'Americanism' in European Architecture," pp. 373-75.
- 38. El Lissitzky, "Glaz arkhitektora: izlozhenie knigi E. Mendel'sona," Stroitel'naia promyshlennost' 4, no. 2 (January 1926): 143-46; trans. Alan Upchurch in *Photography* in the Modern Era: European Documents and Critical Writings, 1913-1940, ed. and with an intro. by Christopher Phillips (New York: Metropolitan Museum of Art/Aperture, 1989), pp. 221-26. In a February 1926 letter to Küppers, Lissitzky confides that "the nightshots in Amerika are not by Mendelsohn himself," but that he "still wrote a good review of it anyway"; see El Lissitzky, Moscow, to Sophie Küppers, Hanover, February 8, 1926; Getty Research Institute, Special Collections and Visual Resources, accession no. 950076, box 1, folder 4. (This sentence is omitted in the published version of the letter in Lissitzky-Küppers, El Lissitzky: Life, Letters, Texts, pp. 73-74.)
- 39. Mendelsohn, *Amerika*, p. 46, trans. Stanley Appelbaum in *Erich Mendelsohn's "Amerika"* (New York: Dover Publications, Inc., 1993), p. 55. Hereafter, page references will be given in parentheses within the body of the text, first to the German edition and then to the English translation.
- 40. See Ernst May, "Städtebau und Lichtreklame," in Wilhelm

- Lotz, ed., Licht und Beleuchtung: Lichttechnische Fragen unter Berücksichtigung der Bedürfnisse der Architektur (Berlin: Verlag Hermann Reckendorf, 1928), pp. 44–47; trans. in Tim and Charlotte Benton with Dennis Sharp, eds., Architecture and Design: 1890–1939 (New York: The Whitney Library of Design, an imprint of Watson-Guptill Publications, 1975), pp. 238–39.
- 41. El Lissitzky, "'Americanism' in European Architecture," p. 373.
- 42. El Lissitzky, "Glaz arkhitektora," p. 224.
- 43. El Lissitzky, Moscow, to Sophie Küppers, Hanover, August 1, 1925, trans. in Lissitzky-Küppers, El Lissitzky: Life, Letters, Texts, p. 65.
- 44. Walter Duranty, "Red Army Marches in Soviet Capital," *New York Times*, November 8, 1927, p. 3.
- 45. Rodchenko reproduced two of Karmen's nightshots in Novyi lef, no. 10 (1927), including Moscow Illuminations Celebrating the Tenth Anniversary of the Russian Revolution. In Noyvi lef this work bore the title Moskva noch'iu v oktiabr'skie dni (Moscow at Night during the October Days). Following the advice of Christina Lodder, MoMA has given the picture the more descriptive English title used throughout this publication.

Citation:

Maria Gough. "Lissitzky on Broadway." In Mitra Abbaspour, Lee Ann Daffner, and Maria Morris Hambourg, eds. *Object:Photo. Modern Photographs: The Thomas Walther Collection* 1909–1949. *An Online Project of The Museum of Modern Art.* New York: The Museum of Modern Art, 2014. http://www.moma.org/interactives/objectphoto/assets/essays/Gough.pdf.