May 2012

Embracing Stars: On the Corporeal Qualities of Russian Glass

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Objects of Affection Conference, Princeton NJ, May 2012

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On the Corporeal Qualities of Russian Glass

Because of its transparency and its ubiquity, we have come to regard glass as a purely functional material—in other words, we do not really regard it at all. We simply look through it at whatever is on the other side. Yet glass is never simply functional; and in Russia, the material resonates with symbolic meanings that I would like to explore today.

Glass is a cold, hard, potentially injurious substance, yet it was used in the Soviet period to create spectacular objects that fostered a warm affective bond between the state that manufactured them and the citizens that beheld them. My talk presents two monumental glass constructions that span the vertical axis from the sublime to the subterranean and that turned into genuine objects of affection for the Soviet people. The Kremlin stars, built in the late 1930s, were surrounded by rhetorical scaffolding that presented them as new heavenly bodies and as living beings that deserved tender loving care. The crystal columns of the Avtovo metro station, unveiled in 1955, were likewise presented to the public as ideologically freighted objects with an emotional charge. I will situate these two objects within the larger context of Russians' centuries-long love affair with glass, considering case studies from the glass-making of Mikhail Lomonosov to Vera Mukhina's triumphant creation of a vitreous woman whom spectators could not help but touch. My discussion foregrounds the parallels between glass and the body that recur in Russian cultural texts, from poetry to political discourse. While the spectacular glass objects at the center of my inquiry have no analogues in other countries, glass offers itself as an

international language in which we can read the national narratives and fantastic projections of people who are remote from us as well as those who are closer to home.

My talk is part of a larger project that explores the uses and abuses of glass in the cultural history of modern Russia. As a material, glass is unique in the way that it has captivated people's imagination throughout its long history. In the modern world, glass has played a crucial role in the transformation of technology, art, and vision itself.[1] As such its function in culture merits close scrutiny. My aim is to excavate and explicate seldom-seen objects of beauty and significance that would otherwise be lost to scholars, and to show why glass is especially meaningful in the Russian context.

In thinking about the affective dimension of the objects that I term "works of glass," I find stimulating Jane Bennett's notion of thing-power, which she explores in her book *Vibrant Matter*. Bennett points out that bodies, whether human or not, "affect other bodies, enhancing or weakening their power" (3) and draws our attention to "the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle." (6) Bennett recalls encountering an assemblage of things collected in a Baltimore storm drain that "issued a call" to her; although she could not quite decipher the message, she "caught a glimpse of energetic vitality inside each of these things" (5). A compelling example that Bennett provides is that of an object that she saw when serving on a jury:

> It was a small glass vial with an adhesive-covered metal lid: the Gunpowder Residue sampler. This object/witness had been dabbed on the accused's hand hours after the shooting and now offered to the jury its microscopic evidence that the hand had either fired a gun or been within three feet of a gun firing. Expert witnesses showed the sampler to the jury several times, and with each appearance it exercised more force, until it became vital to the verdict. This composite of glass, skin cells, glue, words, laws, metals, and human emotions had become an actant [,] Bruno Latour's term for a source of action: …[it is] that which, by virtue of its particular location in an assemblage and the fortuity

[1] For a recent overview, see Alan Macfarlane and Gerry Martin, *Glass: A World History* (U of Chicago P, 2002).

> of being in the right place at the right time, makes the difference, makes things happen (9).

How does glass "make things happen"? For me, the answer has to do with the spectacular capacity of the material, as well as its contradictory qualities that have sparked the human imagination for centuries. Another source of inspiration for my project is the work of Mikhail Epstein, theorist and practitioner of realogy (the science of things). Akin to Bennett, Epstein strives to undo the binary opposition of person/thing by emphasizing the links between the two, and the role that things play in "everyday spiritual creation." Epstein seeks to bring to light the "endless variety and profound significance of things in human life, the wealth of their figurative and conceptual meaning, which can in no way be reduced to a utilitarian role. The whole of human life consists of things and is preserved in them, like so many geological layers."[2] Epstein reminds us that things serve as extensions of our bodies when he argues that "the very dichotomy of 'thing' and 'human' can at best be arbitrarily established within the framework of 'human-thingness,' which, ultimately, is as indissoluble as soul and body. …Wherever there is a thing, there is also a special exit for a human being beyond his body: to nature or art, space or thought, activity or quiet, contemplation or creativity." (255) For Epstein, an object on display in his "lyrical museum" appears as "pure being, irreducible to anything but itself. The touch of this being yields an incomparable joy … The 'is' of a thing rings with affirmation of our 'am." (274) I would add that glass is exceptional in this sense, because as we look at it we sense its translucence and the presence of something else beyond it; the latter quality suggests the transcendence of our mortal, embodied condition.

In my work I focus on objects that become part of the environment and that large groups of people are compelled to view—whether because these objects are always in their line of sight,

[2] Mikhail Epstein, "Thing and Word: On the Lyrical Museum," *After the Future: The Paradoxes of Postmodernism and Contemporary Russian Culture*, trans. Anesa Miller-Pogacar (Amherst: U of Massachusetts, 1995) 254-5.

or on the horizon, or part of an invented tradition in which they are obligated to participate. The objects themselves may be static, but the experience of seeing them is a potentially dynamic one in that it may bring about a transformation within the self.

Mikhail Lomonosov occupies a unique place in the history of world literature as one who simultaneously transformed both his nation's literary language[3] and its glass industry. Lomonosov's pioneering work on colored glass led to a rediscovery in Russia of the lost art of glass mosaics,[4] and then a revitalization of the industry as a whole. In 1752 he asked the Senate for support in establishing a glass factory "for the benefit and glory of the Russian empire." At the new factory, Lomonosov produced glass for optical devices, mosaics,[5] containers from inkpots to snuffboxes,[6] as well as larger items including glass table-tops made to mimic precious and semi-precious stones.[7] Lomonosov's "Letter on the Usefulness of Glass," published in 1753, sings the praises of glass in a seemingly exhaustive list of its virtues. In celebrating glass, Lomonosov exults in the shape-shifting potential of a material that lets him play God, and foregrounds issues of power and metamorphosis that would inform the cultural associations of glass in Russia for centuries to come.

At the outset, Lomonosov provides a mythological narrative describing the volcanic origins of glass. As Mt. Etna erupts, day turns to "terrifying night" and the world fears its imminent demise; a "dear child, beautiful Glass" is born from a geological catastrophe. The metamorphosis of day into night on the eve of the birth turns out to be a harbinger of the

[3] For example, the system of versification that he introduced in the first half of the eighteenth century has remained virtually unchanged to the present day.
[4] Batanova and Voronov 19-20.
[5] Ibid. 43.
[6] Asharina, "Russkie zavody khudozhestvennogo stekla XVII-XVIIIvv." 13.
[7] Makarov 69.

material's talent for self-transformation, as Lomonosov's list of its manifestations makes clear. Lomonosov begins by praising the clarity of wine and beer glasses, and offers transparency as a model of sincerity. From liquor Lomonosov moves to life-saving medicines, which can be safely prepared and stored only in non-reactive glass vessels. In mosaics, the attributes of beauty and utility are fused: these colorful bits of glass preserve the beauty and nobility of human faces for all time. Glass is essential for beautification rituals; mirrors enable women's artifice and even double their beauty: "you are twice as comely when you use Glass."

Lomonosov then lists numerous scientific uses for glass; the last of these helps to control nature by reproducing its effects: glass spheres serving as electrical generators; and glass lightning rods. Lomonosov reports that "knowing the rules discovered by Glass, we can turn thunder away from our homes."[8] Here Lomonosov's use of the instrumental case creates an ambiguity: the phrase "правила, изысканны Стеклом" can be read as "rules discovered *by means of* Glass" or as "rules discovered *by* Glass." A subsequent reference to the material ("then Glass shall assure us of the truth") supports the latter reading; we see that Lomonosov again personifies Glass, and even grants it agency—it is the substance itself that "discovers" the rules of nature.

Roland Barthes' essay on plastic provides a way to understand the evocation of wonder in Lomonosov's "Letter." For Barthes, plastic's protean potential evokes alchemy; he equates this material with "the very idea of its infinite transformation." This capacity of plastic arouses "a perpetual amazement [that is] is a pleasurable one, since the scope of the transformations gives man the measure of his power."[9] We might think of Lomonosov's "pleasurable amazement" in

[8] Ibid. 280.
[9] Roland Barthes, *Mythologies*, trans. Annette Lavers (London: Paladin, 1972) 97-8.

the "Letter" as a pleasure that is doubled, stemming as it does from the ability to craft new forms from an infinitely pliable substance, and an equally obliging language.

At the end of his life, Lomonosov devoted himself to building a massive mosaic-lined mausoleum for Peter the Great, an attempt to pay tribute to another artist of metamorphosis. Controversy plagued Lomonosov from the start. In 1759 his rival, the poet Trediakovsky attacked Lomonosov's artistic medium as "cheap and base" in his article "On Mosaics."[10] This characterization of the material might appear to clash with the prestigious status of glass that glass enjoyed in eighteenth-century Russia; yet what seems to have provoked these countervailing associations was the capacity of glass to imitate more expensive materials. This imitative capacity then gave rise to peculiar anxieties about authenticity, and, once revealed, it suggested the material's "baseness." One of Lomonsov's fellow academicians carried over this association of glass with inauthentic imitation to Lomonosov himself. In his papers he referred to the poet-inventor as a "savage" and an "uninvited guest in the world of art."[11] The fact that the famously lowborn Lomonosov had launched his career by pretending to be the son of a priest to gain admission to the Slavo-Greco-Latin Academy in 1731 may have also spurred his enemies to tar him with the brush of inauthenticity. Lomonosov's heartfelt defense of the virtues of glass against more traditionally valued materials can then be seen as, in part, a self-referential move. The multiple metamorphoses of glass demonstrated in Lomonosov's "Letter" are analogous to moments of human self-reinvention.

Glass is both utilitarian and mystical, and as such it speaks to the oscillation between these two poles in the human psyche. Utopian building projects are the most striking example of architecture that is designed to transform not only the outside world but mankind itself—

[10] Ibid. 11.
[11] Makarov 282-5.

architecture that works miracles. Inevitably, glass is involved in such projects; it is always-already modern, but it also carries associations of ancient mystery and timeless magic. Glass signifies both the future just out of reach and, in the glass city from the Book of Revelation, the very end of history.

In 1851, the Archbishop of Canterbury quoted from Revelation at the grand opening of the London Crystal Palace, an iconic structure accommodating associations that were pragmatic and transcendent, materialistic and spiritual. Already at the beginning of the nineteenth century, Russia was making its own grand-scale glass constructions with rhetorical aims. We can catch a glimmering of the Crystal Palace in a crystal pavilion built some fifty years earlier to adorn the interior of the Hermitage Theater in St. Petersburg. Plays and holiday ceremonies for the court were regularly staged at this venue. In 1808 a new theatrical tradition was introduced: New Year's Eve masquerades. A crystal pavilion was set up inside the theater for the occasion. The pavilion was lit up inside and out, and it sparkled with an iridescent fire.[12]

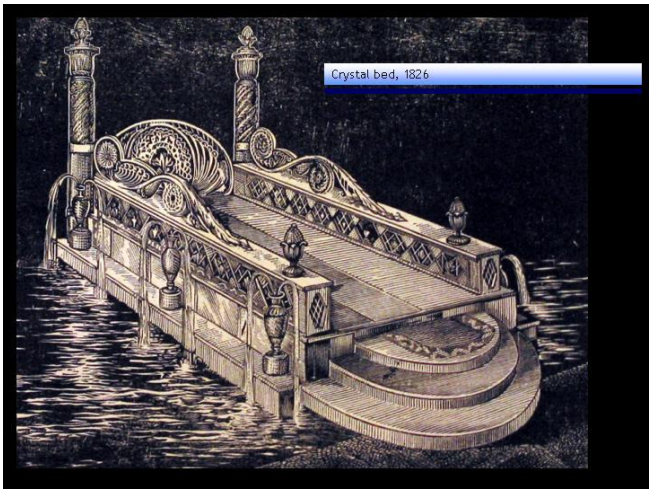
Gavrila Derzhavin attended one such masquerade in 1808 and penned a four-liner that would immortalize the fragile structure: "Is this not the house of the Sun? It is all aglow with lights! Nay! It is a cathedral lit up by hearts when the people are happy with their Tsar." The opening of the poem appears at first as a rhetorical question implying the answer: "yes, this is the house of the Sun," thus suggesting the conflation of "house of the Sun" and "house of the Tsar" and the analogous equation of sovereign and celestial body. The third line clarifies that the light comes not from the tsar, but from the enamored hearts of the populace, who have, through an act of the poet's imagination, taken the place of the small group of courtly elite actually granted access to the masquerade and its crystal heart. The burning heart, a trope of Sentimentalist art,

[12] This information is taken from R. I. Onufrieva and E. V. Gil', eds., *Ermitazh: istoriia i arkhitektura zdanii* (Leningrad: Avrora, 1974) 218. I am grateful to Katia Dianina for bringing the crystal pavilion to my attention.

and the conflation of the monarch with the sun, coexist in the poem as two ways to read the dazzling crystal canopy. Either way, the result is glorification of the emperor and, through metonymic association, of the empire through visual means.

The crystal pavilion captures light and orchestrates its movement. This object demonstrates how glass served to promote Russian imperial might through spectacle and the evocation of powerful elemental forces. Moreover, the presence of glass creates a kaleidoscope of meanings— we can imagine the wavering light refracted in the facets of the crystal: one interpretation arises, then another one takes its place. Thus, Derzhavin can create ambiguity even in the midst of lavish panegyrics.

The golden age of Russian glassmaking dates through the first half of the nineteenth



century, if size and splendor can serve as measures of greatness. From to the crystal pavilion to the world's largest candelabrum, ever more massive glass constructions were created; the enormous crystal vases, fountains, and columns of this period anticipate by a century the monumental style of High Stalinism. Glass was the ideal medium to add luster to the nation's self-image. The material moved from interiors to exteriors; in 1826, the Crystal Bed, which functioned as a strategic gift to a hostile political power and a spectacular illustration of Russian imperial might, was an artifact whose biography marks this transition from interior to exterior.

As the nation's glass industry developed, the increasingly widespread use of windows allowed people to imagine a perfect future based on communal glass houses. In the twentieth

century, images of glass palaces fueled utopian fantasies in Russia and across Europe. In the context of architectural innovation, glass became an international language. According to Robert Hughes, it was the fragility of glass that helped it become the utopian building material par excellence in Europe. In the wake of the devastation of World War I, some architects came to believe that covering the globe with glass houses would bring about peace on earth because no one would dare raise a hand against such lovely, delicate glass constructions.[13] The beauty of glass would save the world.

An article in the Constructivist journal *Contemporary Architecture* (3, 1926) opens with a manifesto-like description of the glass houses of the future: "Instead of a sleeping, inert, stony massive monument—a supple, dynamic, tense and reasoning organism."[14] The authors present glass as a material that imbues a building with a peculiar animacy. Hughes juxtaposes the age-old reverence for stained-glass windows with modern architects' infatuation with glass as a construction material: "It suggested a responsive skin, like the sensitive membrane of the eye, whereas brick and stone were impervious, a crust against the world." Akin to stained glass, it was regarded by some with a nearly religious fervor. In 1914, Paul Scheerbart argued that replacing brick buildings with glass ones would bring about "a paradise on earth."[15]

At the turn of the twentieth century many believed that the very essence of what it means to be human could be changed through the transformation of our material environment. In 1918, Adolf Behne proclaimed that glass architecture would compel mankind toward transformation, and that human beings would come to share the physical aspects of the material that surrounds

[13] Robert Hughes 178.
[14] "Steklo v sovremennoi arkhitekture," *Sovremennaia arkhtitektura* 3 (1926): 63.
[15] Scheerbart was a German poet, science fiction writer, and eccentric visionary best known for his 1914 treatise, *Glass Architecture*. This text profoundly influenced such architects as Walter Gropius and Bruno Taut, a member of the Glass Chain group who built the famous Glass Pavilion (Werkbund Exhibition, Cologne, 1914) in Scheerbart's honor and subsequently carried out important architectural work in Russia in the 1920s and 1930s.

them: "Glass will transform [the European]. Glass is sheer and angular, yet in its hidden potential it is gentle and delicate. The new European will have these qualities too: clear determination and utmost gentleness."[16] Artists, architects, and other visionaries believed that the transparency of glass was good for body and soul. Glass houses would expose the populace to the beneficent rays of the sun.[17] At the same time, the transparency of those buildings was associated with moral purity, openness, and democracy, attributes that the inhabitants would take on as well. Thus the literal would magically become the figurative.

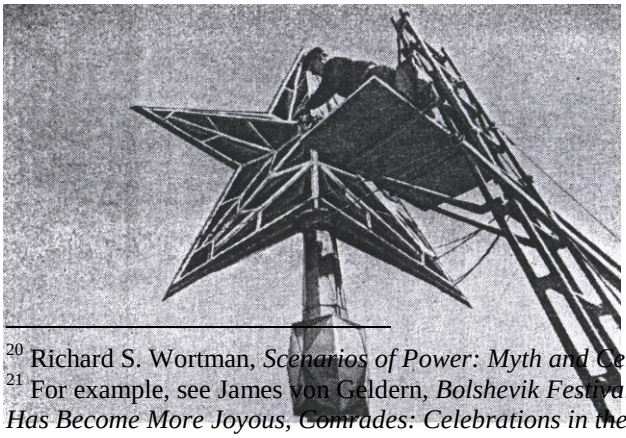
In 1920 the avant-garde poet Velemir Khlebnikov imagined the house of the future as "a container of molded glass, a mobile dwelling-module" that can move from place to place with lightness and ease, fitting into empty metal frameworks. Khlebnikov's essay "We and Our Buildings" [*My i doma*] (1914-15) narrates: "Every city had …a half-occupied iron framework waiting for glass occupants, like a skeleton without muscles."[18] Glass serves as the flesh of these anthropomorphic buildings of the future. What attracts Khlebnikov to the material is the infinite potential for metamorphosis that it possesses. In describing the future house as "a container of molded glass or a mobile cabin […] glass tent […] glass hut […] glass shell,"[19] Khlebnikov keeps changing the word, as if enacting the perpetual movement that is intrinsic to his utopian vision.

Glass lets in, captures, and manipulates light, and the spectacle that it creates can be used to serve those in power. With the growth of the glass industry in Russia, this spectacular potential was harnessed with ever greater success. In the 1920s and 1930s, the Soviet state used

[16] Qtd. in Conrads and Sperlich 134.
[17] Constructivist architects drew an explicit connection between glass and good health in the article "Steklo v sovremennoi arkhitekture," *Sovremennaia arkhitektura* 3 (1926): 63. Frederick Starr documents Konstantin Mel'nikov's strategic use of glass to expose the human body to the sun in *Melnikov: Solo Architect in a Mass Society* (Princeton, 1978) 177.
[18] Khlebnikov, *Collected Works* vol. I, 351.
[19] The original has "ящик из гнутого стекла или походная каюта [...] стеклянный шатёр [...] стекло-хата [...] оболочка" (Khlebnikov, *Tvoreniia* 350-1).

the visual power of light in glass to construct a variant of what Jean Starobinski has called the "solar myth" of the revolution, and thereby to present an exalted vision of Russia's transformation. Applicable here is Richard Wortman's term *scenarios of power,* which refers to performative mythmaking meant to consolidate autocratic power by appealing to "the symbolic sphere of ceremonies and imagery" in imperial Russia.[20] The phenomena under consideration here also have a theatrical dimension; scholars have noted the ideological significance of ritual and performance in the early Soviet period.[21] Borrowed religious symbolism lent these displays and performances much of their power. Richard Stites has documented how the Bolsheviks plundered the symbolic treasure trove of both Russian Orthodoxy and pagan rites in creating Bolshevik rituals in the period immediately following the October revolution.[22]

Ready-made sacred light imagery was applied in written works to Vladimir Lenin and "his" light bulbs to invest both with a religious aura. In the 1930s, the official discourse around the Kremlin stars strove to transfer religious meaning to the Soviet state's own creations. The Kremlin stars were raised in the very period when cathedrals were being demolished on official orders, including major churches in the Kremlin itself.[23] The manmade stars would take their place; they would become the new beneficiaries of the people's devotion. Thus, while the vast crystal palaces of which the Constructivists dreamed did not, for the most part, materialize in the Soviet Union, another use of glass on a



[20] Richard S. Wortman, *Scenarios of Power: Myth and Ceremony in Russian Monarchy* (Princeton, 1995) 1:3.
[21] For example, see James von Geldern, *Bolshevik Festivals, 1917–1920* (Berkeley, 1993) and Karen Petrone, *Life Has Become More Joyous, Comrades: Celebrations in the Time of Stalin* (Bloomington, 2000). Recently, Jeffrey Brooks has written about the "performative culture" of the Stalin era in *Thank You, Comrade Stalin! Soviet Public Culture from Revolution to Cold War* (Princeton, 2001) xvi.
[22] Richard Stites, "The Origins of Soviet Ritual Style," in Claes Arvidsson and Lars Erik Blomqvist, eds., *Symbols of Power: The Esthetics of Political Legitimation in the Soviet Union and Eastern Europe* (Stockholm, 1987).
[23] See Timothy Colton, *Moscow: Governing the Socialist Metropolis* (Cambridge, Mass., 1995) 260–62 and 268.

monumental scale did come to the fore and was used by the new Soviet state to create and consolidate its mystique.

The five red stars on the Kremlin towers are high-maintenance beauties; powered by an intricate system of lamps, ventilators, air pumps, and other mechanisms concealed inside each tower, the stars are perpetually in need of repair. In the words of Mikhail Topolin, an engineer who spent thirty years looking after them, "the stars are like living beings; they need constant care and the warmth of human hands."[24] One calm sunny day, Topolin recalls, two workers climbed up to inspect the star on the Troitskaya tower. The men had to finish all repairs by nightfall, when the star was to shine once more over the Kremlin, taking its place in "the ruby constellation." They had just opened an inspection hatch in the star to look inside, when a thunderstorm suddenly broke out. Suspended more than 250 feet above the ground, the workers clung to the star as bolts of lightning flashed, rain poured down, and the gale force of the wind made it impossible to close the hatch. To prevent the wind and water from harming the fragile interior, the men embraced the star, "shielding the opening with their bodies."[25]

Why did the workers risk life and limb to protect these stars? True, they were guided by an imperative from above to preserve the splendor and visibility of the Soviet symbols; yet Topolin's description seems driven by a genuine feeling for those glowing glass constructions. Glass lit from within can appeal to the emotions and sway hearts and minds. If, following Lenin's formula, communism is Soviet power plus electrification, one might say that in the case of the Kremlin stars, Soviet power is electrification plus glass.

[24] M. A. Topolin, *Kremlevskie zvezdy* (Moscow, 1975) 40.
[25] Ibid., 42.

The Kremlin stars were originally made not of glass but of metal and semiprecious stones.[26] Early in September 1935, the Council of People's Commissars and the Central Committee of the Communist Party ordered the removal of the double-headed eagles that had perched upon the Kremlin towers since the middle of the seventeenth century. The leadership further decreed that the eagles be replaced by five-pointed stars bearing the hammer-and-sickle

emblem.[27] Models of the stars destined to replace the eagles were designed at the studio of the Bolshoi Theater (underscoring the theatrical nature of the spectacle). Once installed on the towers, these massive emblems of revolution would indeed revolve on their axes, withstanding the strongest of winds. Meteorological considerations were not the whole story, however. As Topolin recounts, when Soviet officials came to examine the model stars, they approved the design "on the indispensable condition that they would be made to revolve, so that Muscovites and guests of the capital could admire them [*liubovat'sia imi*] from anywhere."[28] In the verb Topolin uses, *liubovat'sia,* the aesthetic dimension is intertwined with emotion, affect, love [*liubov'*]. Here we see that their ability to revolve has not only a functional but also an aesthetic-ideological basis.

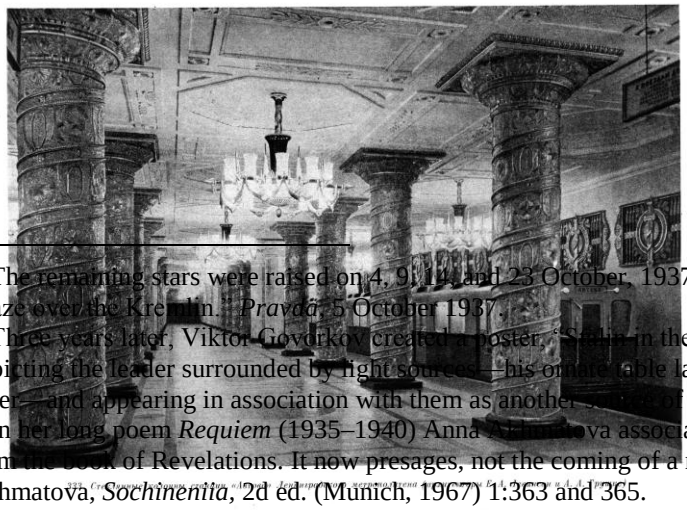
Yet these stars stayed up for less than two years before the government demanded new stars of ruby-red glass that would glow from within. The first glass star was installed on the Vodovoznaya tower on 29 September, and on the following day, *Pravda* reported that Muscovites had "marveled [*liubovalis'*] at the astounding sight"—not of the workers raising the

[26] The following account is based on coverage in *Pravda*, 10, 11, 18, 19, 23, 24, 25, 26, 27, and 28 October 1935 and Topolin, *Kremlevskie zvezdy*, 16–22.
[27] On the red star, see Stites, "Origins of Soviet Ritual Style," and Maria Gough, "Switched On: Notes on Radio, Automata, and the Bright Red Star," in Leah Dickerman, ed., *Building the Collective: Soviet Graphic Design 1917–1937* (New York, 1996) 40.
[28] Topolin, *Kremlevskie zvezdy*, 18.

star, but of the star itself as it "lit up" and "slowly revolved on its axis, standing out boldly against the night sky."[29] This effacement of the worker is appropriate when we consider that while the first set of stars featured the hammer and sickle—the symbol of the workers and peasants in whose name the revolution took place—the second set of stars did not. There was thus a shift in emphasis away from the human labor involved; now all eyes were on the light source that stood for "Soviet power," more specifically, the charismatic power of Stalin, the deity in the Kremlin.[30]

When the five glass stars were installed in 1937, on the very eve of the revolution's anniversary, it seemed as if the state had seized control of nature and timed the stars to rise to mark the most important event in the history of the world. It could not have been a more transparent allusion to the biblical sign of the birth of a new era: the Star of Bethlehem, multiplied by five.

Such physical manifestations of emblems contributed to the sacralization of Soviet power. These gigantic star-shaped lamps evoked the official coat of arms, but they also brought to mind the stars' biblical associations. Moreover, through the combination of their lofty position and brilliant glow, they suggested that the state had the godlike ability to refurnish the heavens. Light held captive in glass was what allowed for such an illusion to be created and sustained.[31]



Avtovo station, the showcase stop on the first line of the Leningrad metro, was dubbed an

[29] The remaining stars were raised on 4, 9, 14, and 23 October, 1937. A typical headline announced: "Ruby Stars Blaze over the Kremlin." *Pravda*, 5 October 1937.

[30] Three years later, Viktor Govorkov created a poster, "Stalin in the Kremlin Cares about Every One of Us," depicting the leader surrounded by light sources—his ominous table lamp on one side and a bright Kremlin star on the other—and appearing in association with them as another source of light.

[31] In her long poem *Requiem* (1935–1940) Anna Akhmatova associates the Kremlin star with the star Wormwood from the book of Revelations. It now presages, not the coming of a messiah, but the apocalypse. See Anna Akhmatova, *Sochinenia,* 2d ed. (Munich, 1967) 1:363 and 365.

"underground Crystal Palace" when it was opened in November 1955. Glass is the main material in the ornamentation of the interior, including columns covered with cut glass that newspapers assured readers was "stronger than marble."[32] The columns, featuring images of five-pointed stars, banners, and sheaves of wheat, were lit by projector lamps concealed in the ornamental ceiling.[33]

Like its Moscow cousin, the Leningrad metro was an ideologically charged space. The first train departed from Avtovo station on November 6, 1955, the eve of the anniversary of the October revolution. On the day when the stations were opened to the public, the front-page editorial in *Leningradskaia Pravda* called the metro a "wondrous gift" to the city from the Communist Party and the Soviet government: "The stern, genuinely artistic beauty of these underground palaces is lit up and warmed by a great love for mankind."

A stylistic disparity within the station serves as an emblem of the end of High Stalinism and the start of the Thaw. During construction, the ornate glass décor was abandoned less than halfway through when the Lomonosov factory in Leningrad could not fulfill the order in time; only 16 of the 46 columns ended up being covered in glass, and the unfinished station was left that way when the opulent style associated with Stalinism ("the monumental-pompous style") became politically incorrect. There is a curious tension in the press accounts between praising the lavish décor of the new metro stations and the campaign against "excesses" in building being trumpeted in the same pages.[34] This discrepancy attests to the complexity of the situation: Soviet

[32] "The columns, covered with decorative glass that is stronger than marble, blaze with thousands of gold sparks." This bit of likely hyperbole made it into a tourist guidebook published as recently as 1990.
[33] Levinson et al. *Khudozhestvennoe steklo i ego primemenie v arkhitekture* (Leningrad: Gosud. izdatel'stvo literatury po stroitel'stvu i arkhitekture, 1953) 138-9.
[34] See Susan Reid, "Destalinization and Taste, 1953-1963," *Journal of Design History* 1997, vol. 10, no. 2, 177.

citizens were not uniformly willing to assimilate the rhetoric of de-Stalinization and give up the fairy-tale dream of the previous era.[35]

On 5 November 1955, the Leningrad metro was given a trial run. The press reported how "schoolchildren filled the underground palaces of the metro"; the children sat in the sky-blue train cars "as if enchanted." The formula "underground palace"—an epithet that would be repeated in subsequent press coverage—brings to mind the "underground kingdom" of Russian fairy tales, turning the metro into an otherworldly, folkloric space. Indeed, the first visitors appear to be "enchanted" as they take in the sights and sounds of the metro.

The epithet "underground Crystal Palace" that was attached to Avotvo station evoked simultaneously the London Great Exhibition building of 1851, Nikolai Chernyshevsky's appropriation of the building as a utopian living space, and Fyodor Dostoevsky's fierce demolition of Chernyshevky's utopia in *Notes from Underground*. I would suggest that Dostoevsky's critique of the Crystal Palace is informed by a visceral response to glass as a material. In *Crime and Punishment*, Dostoevsky estranges Raskol'nikov's murder of the old pawnbroker by depicting the victim's body as a glass vessel: "Blood gushed as if from an overturned glass, and the body toppled on its back."[36] Glass for Dostoevsky is emblematic of thresholds—between poverty and wealth, between life and death; thus he glimpses the frailty of the mortal body in a humble drinking glass. To an artist's penetrating eye, the visible liquid inside a glass can be reminiscent of blood, making one mindful of the human body as breakable vessel. Nikolai Gogol, Dostoevsky's predecessor in many ways, includes an extended simile in *Taras Bulba* (1835) that demonstrates this point. In the midst of a raging battle between the Poles and the Zaporozhian Cossacks, a young Cossack suffers a fatal stab wound: "young blood

[35] The author of a 1957 book on the Leningrad metro uses the same rhetoric of palaces and light (Sokolov 20).
[36] F. M. Dostoevskii. *Prestuplenie i nakazanie*, vol. 7 of *Polnoe Sobranie Sochinenii v Tridtsati Tomakh*, ed. V. G. Bazanov (Leningrad: Nauka, 1972) 63.

gushed out in a torrent, like expensive wine that careless servants were carrying from the cellar in a glass vessel and, having slipped at the very entrance, broke the expensive flask; the wine has spilled on the ground, and the master clutches his head as he comes running…"[37]

Konstantin Paustovsky's fact-based story, "The Master Glassmaker" (1939), features "talking" glass objects that again suggest the animacy of glass. A glassmaking virtuoso from the Gus'-Khrustal'nyi factory brings to his grandmother's hut in the village tiny blown glass samovars, shoes, and flowers that have a remarkable acoustic quality: whenever a visitor would step on a rickety floorboard, "they would ring delicately for a long time, as if they were talking amongst themselves about something from their own world—something glassy and incomprehensible."[38] Vasya's grandmother treats his glass creations as if they were alive. She

tells Paustovsky, "You have to hold them very gently, like a baby sparrow." The author adds, "Aside from the glass toys, a ruddy dog named Jack *lived* in old woman Ganya's hut." Later, when Vasya's grandfather enters the hut, the glass toys "sing plaintively" to announce that the old woman has died.[39] Glass-blowing, the very process by which the material is created, suggests the origin of these corporeal associations. In her work on transparency in nineteenth-century England, Isobel Armstrong juxtaposes the invisibility of the glassblower with the unseen bubbles left in the glass as traces of the worker's breath, his presence.[40] No other material is produced in this way—a

[37] N. V. Gogol, *Taras Bul'ba* (Moscow: Akademiia nauk SSSR, 1963) 73.
[38] K. Paustovskii, "Stekol'nyi master," vol. 6 of *Sobranie sochinenii v vos'mi tomakh* (Moscow: Khudozhestvennaia literatura, 1969) 524.
[39] See Paustovsky 524-527 (emphasis added).
[40] Armstrong writes apropos of glassmaking in England, but what she says is quite applicable to the Russian glass industry, which largely took its cues from the English example: "If glass was blown, and in mid-century blown sheet glass, extended to four-foot cylinders, cut and rolled, became the commonest form of manufacture, then the observer

rush of breath gives it shape; it receives the breath of life—as that of God into Adam. This process makes one aware of the relationship between breath and speech. The Russian word for "soul," *dusha*, derives from the notion of breathing, as does the word for inspiration, *vdokhnovenie*—literally "breathing-in." The body and the spirit —the lungs and the breath—unite to pour the animation from one fragile vessel into another.

In 1947, a Soviet government decree was issued about the construction of the glass-spire-topped "tall buildings"; the tempered glass called Stalinite was invented; and Vera Mukhina, the sculptor best known for the gigantic *Worker and the Collective Farm Girl* (1937) that graced the USSR pavilion at the World Exhibition in Paris, crafted a bust of Nikolai Kachalov, the leading Soviet glass scientist (appropriately, she used glass). Mukhina had been entranced with the notion of sculpting in glass for decades, since her youth, when she had seen the blown glass creations of Murano as well as the stained-glass windows at Sainte-Chapelle. Following her return to the Soviet Union in the late 1920s, Mukhina tried without success to fashion a female torso out of glass.[41] This frustration spurred her to explore the sculptural potential of this material.

Mukhina was able to realize her vitreous dreams at the end of the 1930s, when she designed the Kremlin crystal service, with vessels in the shape of tulips, asters, and other flowers. Mukhina introduced a new cutting technique to produce facets that reflected and let light through at the same time. She also insisted that the Soviet Union should employ artists in the glass factories, following the Western model. In 1940, the sculptor teamed up with Kachalov and writer Alexei Tolstoi, and penned an appeal to the government calling for a rebirth of

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would look through the residues of somebody else's breath. Look through in two senses: one would look past, and look by means of, the breath which had distended red-hot glass and which was now sealed within it" (128).

[41] She is cited as saying that she had "dreamed of a torso made of glass since 1927" (Batanova and Voronov 72.)

glassmaking as an art form in the Soviet Union. The Sovnarkom responded with the bequest of an experimental glass workshop in Leningrad.

The workshop was up and running by fall of 1940. Mukhina spent many hours overseeing its operations.[42] In 1952, she finally succeeded in casting her long-dreamt-of female torso in glass. Mukhina had worried that the transparency inherent to the material would be problematic in an art form meant to be viewed in the round: "One has to consider that all the rear parts will show through the material, and will be visible from the front," she wrote to Kachalov.[43] But by all accounts the hyaline figure was a success; after an exhibition, Mukhina reported proudly that no visitor could resist touching it: "There was not a single person who didn't caress the torso. It appealed to them."

The glass woman proved irresistible, just as the crystal columns of Avtovo (built in the same decade) invited caresses from passersby; thus, a long-time resident of Leningrad recalls tracing the patterns of stars and other ideological symbols: "As a child I liked to run my fingers over the smooth shapes on those columns."[44] Glass resembles ice but warms to the touch, and this is part of its fascination. Architectural discourse frequently presents glass as a kind of skin, and this material indeed has a sensual potential. On the face of it, glass seems unlikely to have such associations— its brittleness repels the touch; and its dangerous potential to break into shards seems to alienate it from any association with the living, breathing body. Yet if we look deeper, as Mukhina did, we discover the corporeality of glass. Robert Herrick's metaphysical poem "The Lily in a Crystal" (1648) is an early example of such

[42] See Asharina et al., *Russian Glass of the 17th-20th Centuries*, 52-3.
[43] Voronova 164.
[44] Maria Zavialova, personal correspondence, 29 May 2009.

awareness. The poem presents a series of images before spelling out its argument about beauty improved through artifice. Herrick presents his last image in a way that draws attention to how glass plays with vision: "Put purple grapes or cherries in- / To glass, and they will send / More beauty to commend /Them, from that clean and subtle skin, /Than if they naked stood /And had no other pride at all / But their own flesh and blood /And tinctures naturall."

"Clean and subtle skin" is a striking metaphor for glass, making the cold and fragile material animate. Recall how Hughes articulated the appeal of glass to modernist architects as "a responsive skin."[45] In characterizing the veneration of glass shared by twentieth-century architects, Hughes draws an important parallel to stained glass windows as objects of worship. Robert Sowers describes the windows of the Gothic cathedral of Sainte-Chappelle as "dissolved into the continuous wall of glass that surrounds three sides of the building. The stained glass *is* the wall, and the viewer finds himself possessed by a luminous energy that seems almost animate."[46] The play of light in glass is what makes the material seem alive. A long-standing association between glass and body is found in the literature of the Middle Ages. When light passes through a stained glass window, it takes on the color of the glass. In the writings of the church fathers and medieval poets, this optical phenomenon inspired a simile: the union of light and color was likened to the mystical union of the spirit and the flesh (as manifested in Christ, who possessed both a human and a divine essence).[47] Thus, light was seen as analogous to the spirit, and glass, to the body. This mystical association may be at the root of Scheerbart's adoration of colored glass and his insistence that it will transform those who dwell within it.

[45] Robert Hughes 175-176.
[46] Robert Sowers, *The Language of Stained Glass* (Forest Grove: Timber Press, 1981) 40.
[47] See Carla Gottlieb, *The Window in Art: from the Window of God to the Vanity of Man. A Survey of Window Symbolism in Western Painting* (New York: Abaris, 1981) 135.

In the early Soviet period, the fantasy of a New Man suited to live in the New World gave rise to the concept of transforming "human material"; the human body was envisioned in terms of a construction material that can be refashioned into something better.[48] Cement and steel were two well-known examples, as seen in Gladkov's novel *Cement* (1925) and Ostrovsky's novel *How the Steel Was Tempered* (1932-34). In the late Soviet period, a documentary tale about glassworkers proposed glass as a metaphor for "human material" undergoing transformation, presenting the ordeals that glass endures in the process of becoming a splendid work of art (from cutting and fire to acid baths) as analogous to what a person must go through to become "a real somebody" and "filled with light, like the facet of a crystal."[49] The line "filled with light" hints at religious imagery and the hope of transcending one's embodied and opaque condition. We recall Khlebnikov's analogy between glass and body and the Soviet architects' characterization of the glass building as a living organism. The perceived "humanness" of glass has to do with the way in which it is created, with an artisan's animating breath, and the forms that it takes, as vessels suggestive of body and skin. In the words of the German Romantic writer Novalis, "people are crystal vessels for the soul."[50]

Artists from Chernyshevsky to the Constructivists invested glass with utopian associations. Glass functions as a skin; glass vessels evoke the divided condition of being alive—the sense that our bodies are containers for soul, spirit, mind. We feel an affinity for this material as an idealized form of our own material. So we impose upon it utopian qualities that it can never hope to have. Glass embodies so many contradictions: strength, stability, a monumental potential—the promise of immortality; and at the same time, fragility always on the verge of

[48] This idea was championed by ideologues such as Bukharin (in 1917) as well as avant-garde artists such as Sergei Tretiakov (who stated that the Futurists sought to "re-forge" mankind).
[49] See Iurii Koginov, *Almaznaia gran': dokumental'naia povest'* (Moscow: Profizdat, 1977) 75, 188.
[50] Cited in Iampol'skii, *Nabliudatel'* 134, fn. 56.

annihilation. These contradictions speak to us of our own situation, poised as we are between safety and peril, desiring both protection and freedom.