

THE GRAVEYARD OF UTOPIA: SOVIET URBANISM AND THE FATE OF THE INTERNATIONAL AVANT-GARDE

Comrades!

The twin fires of war and revolution have devastated both our souls and our cities. The palaces of yesterday's grandeur stand as burnt-out skeletons. The ruined cities await new builders[...]

To you who accept the legacy of Russia, to you who will (I believe!) tomorrow become masters of the whole world, I address the question: with what fantastic structures will you cover the fires of yesterday?

— Vladimir Maiakovskii, "An Open Letter to the Workers"¹

Utopia transforms itself into actuality. The fairy tale becomes a reality. The contours of socialism will become overgrown with iron flesh, filled with electric blood, and begin to dwell full of life. The speed of socialist building outstrips the most audacious daring. In this lies the distinctive character and essence of the epoch.

— I. Chernia, "The Cities of Socialism"²

Between 1928 and 1937, the world witnessed the convergence of some of the premier representatives of European architectural modernism in Moscow, Leningrad, and other cities throughout the Soviet Union. Never before had there been such a concentration of visionary architectural talent in one place, devoting its energy to a single cause. Both at home and abroad, the most brilliant avant-garde minds of a generation gathered in Russia to put forth their proposals for the construction of a radically new society. Never before had the stakes seemed so high. For it was out of the blueprints for this new society that a potentially *international* architecture and urbanism could finally be born, the likes of which might then alter the face of the entire globe. And from this new built environment, it was believed, would emerge the outlines of the New Man, as both the outcome of the new social order and the archetype of an emancipated humanity. With such apparently broad and sweeping implications, it is therefore little wonder that its prospective

¹ Maiakovskii, Vladimir. "[Otkrytoe pis'mo rabochim.](#)" From *Gazeta futuristov*. March 15th, 1918.

² Chernia, I. "Goroda sotsializma." From *Revoliutsia i kultura*, № 1. January 1930. Pg. 16.

realization might have then attracted the leading lights of modernist architecture, both within the Soviet Union and without. By that same account, it is hardly surprising that the architectural aspect of engineering a postcapitalist society would prove such a captivating subject of discussion to such extra-architectural discourses as politics, sociology, and economics.

The bulk of the major individual foreign architects and urbanists who contributed to the Soviet cause came from Germany. Such luminaries as Walter Gropius,³ Ludwig Hilberseimer, and Peter Behrens each contributed to Soviet design competitions. Former Expressionists — now turned modernists — like Bruno Taut, his brother Max, Arthur Korn, Hans Poelzig, and Erich Mendelsohn all joined the greater project of socialist construction in the USSR.⁴ Major architects also arrived from other parts throughout Western Europe, eager to participate in the Soviet experiment. Foremost among them, hailing from Switzerland, was the French-Swiss archmodernist Le Corbusier, whose writings on architecture and urbanism had already become influential in Russia since at least the mid-1920s. From France additionally appeared figures like André Lurçat and Auguste Perret,⁵ lending their talents to the Soviet cause. The preeminent Belgian modernist Victor Bourgeois actively supported its architectural enterprise as well.

Besides the major individual figures attached to this effort, there existed several noteworthy aggregations of international architects and urbanists, under the heading of “brigades.” The German socialist Ernst May, mastermind of the highly-successful *Neue Frankfurt* settlement, traveled to Russia along with a number of his lesser-known countrymen, including Eugen Kaufmann, Wilhelm Derlam, Ferdinand Kramer,⁶ Walter

³ Gropius’ participation in the Soviet project was much more limited than the others mentioned here. He submitted an entry in 1932 for the Palace of the Soviets competition, and would later go on a three-day lecture tour in Leningrad in 1933, but otherwise he was less interested in prospects of building in the USSR than his compatriots. Jaeggi, Annemarie. [“Relations between the Bauhaus and the Russian Avant-garde as Documented in the Collection of the Bauhaus Archive Berlin.”](#) From *Heritage at Risk, Special Edition: The Soviet Heritage and European Modernism*. (Hendrik Verlag. Berlin, Germany: 2006). Pg. 155.

⁴ Borngräber, Christian. “Foreign Architects in the USSR.” *Architectural Association Quarterly*. (Volume 11, № 1. London, England: 1979). Pgs. 51-53.

⁵ See [his submission](#) to *Sovetskaia arkhitektura*. (Volume 2, № 2/3. Moscow: May 1932).

⁶ A well-known architect, and also a friend and associate of the Marxist social theorist Theodor Adorno.

Kratz, and Walter Schwagenscheidt. The Austrians Margarete Schütte-Lihotzky (designer of the famous “Frankfurt Kitchen”), her husband Wilhelm Schütte, and Anton Brenner also accompanied May in his journeys.⁷ Together with the Hungarian Bauhaus student Alfréd Forbát,⁸ the German-Swiss builder Hans Schmidt, and the Bauhaus and De Stijl veteran Mart Stam, originally from Holland, these architects comprised the famous “May’s Brigade” of city planning. Many other German architects and city-planners, still less well-known, belonged to May’s group as well: Hans Burkart, Max Frühauf, Wilhelm Hauss, Werner Hebebrand, Karl Lehmann, Hans Leistikow, Albert Löcher, Ulrich Wolf, Erich Mauthner, Hans Schmidt, and Walter Schulz, to list a few.⁹

Hannes Meyer, another Swiss German, also departed for Moscow, after being suddenly dismissed from his position as director of the Bauhaus on grounds of his leftist political sympathies.¹⁰ He took with him seven of his best students from Dessau, who were themselves of quite varied backgrounds: Tibor Weiner and Béla Scheffler, both Hungarian nationals; Arie Sharon, of Polish-Jewish extraction; Antonín Urban, a Czech architect; and finally Konrad Püschel, Philip Tolziner, René Mensch, and Klaus Meumann, all German citizens.¹¹ These members together comprised the so-called “Red

⁷ Teige, Karel. [*The Minimum Dwelling*](#). Translated by Eric Dluhosch. (The MIT Press. Cambridge, MA: 2004). Pg. 214. Originally published in 1932 in Czech as *Nejmenší byt* by Václav Petr, Prague.

⁸ Leśnikowski, Wojciech. “Functionalism in Czechoslovakian, Hungarian, and Polish Architecture from the European Perspective.” From *East European Modernism: Architecture in Czechoslovakia, Hungary, & Poland between the Wars*. (Thames and Hudson, Ltd. London, England: 1996). Pg. 25.

⁹ Names recalled by Margarete Schütte-Lihotzky in an interview with Christian Borngräber in 1978. Borngräber, “Foreign Architects in the USSR.” Pg. 61.

¹⁰ “You [Oberbürgermeister Fritz Hesse] referred me to the investigation of Bauhaus affairs which the Anhalt Government was demanding as a result of the false report from the town authorities — and called for my immediate resignation. The reason: it was alleged I was bringing politics into the Bauhaus. A Marxist (you said) could never be the Director of the Bauhaus. Immediate cause of dismissal: a voluntary contribution as a private person to the International Workers’ Aid Fund for helping the distressed families of the miners on strike in the Mansfeld coalfield. It was no use reiterating that I had never belonged to any political party.” Meyer, Hannes. “My Dismissal from the Bauhaus: An Open Letter to Oberbürgermeister Hesse, Dessau.” From *Buildings, Projects, and Writings*. Translated by D.Q. Stephenson. (Arthur Niggli Ltd. New York, NY: 1965). Pgs. 103-105. Originally published in German in 1930.

¹¹ Mordvinov, Arkadii. “Baukhauz k vystavke v Moskve.” From *Sovetskaia arkhitektura*. (Volume 1, №

Brigade.” A number of other German architects associated with Kurt Meyer’s (unrelated to Hannes) urban and suburban group were also shown in attendance at the international building conference in Moscow in 1932: Magnus Egerstedt, Josef Neufeld, Walter Vermeulen, E. Kletschoff, Julius Neumann, Johan Niegemann, Hans-Georg Grasshoff, Peer Bücking, and Steffen Ahrends.¹²

The newly formed constellation of Eastern Europe that emerged out of the postwar dissolution of the Russian and Austro-Hungarian empires was also represented in force by some of its leading modernists. From Czechoslovakia, the great Constructivist poet and architectural critic Karel Teige¹³ lent his incisive observations to the Soviet Union’s various attempts at regional and municipal planning. Two of Teige’s close compatriots in the Czech avant-garde, the functionalist architects Jiří Kroha¹⁴ and Jaromír Krejcar,¹⁵ were already active in the Soviet Union at that time. Besides Wiener, Scheffler, and Forbát, who were associated with May’s and Meyer’s groups in Moscow, the Hungarian modernists Laszlo Péri, Imre Perényi,¹⁶ and Stefan Sebök¹⁷ each worked independently for the Soviet state. Finally, the Polish avant-gardists Edgar Norwerth¹⁸ and Leonard Tomaszewski¹⁹ also collaborated with various organs of the government of the USSR during the execution of its second five-year plan.

1/2. Moscow: March 1931). Pg. 10.

¹² “An den internationalen Kongress für neues Bauen. Generalsekretariat.” *Das Neue Stadt*. (Volume 8. № 6/7. Berlin, Germany: 1932). Pg. 146.

¹³ Leśnikowski, Wojciech. “Functionalism in Czechoslovakian, Hungarian, and Polish Architecture from the European Perspective.” From *East European Modernism: Architecture in Czechoslovakia, Hungary, & Poland between the Wars*. (Thames and Hudson, Ltd. London, England: 1996). Pg. 20.

¹⁴ *Ibid.*, pg. 21.

¹⁵ *Ibid.*, pg. 21.

¹⁶ Bonta, János. “Functionalism in Hungarian Architecture.” From *East European Modernism: Architecture in Czechoslovakia, Hungary, & Poland between the Wars*. (Thames and Hudson, Ltd. London, England: 1996). Pg. 171.

¹⁷ Jaeggi, “Relations between the Bauhaus and the Russian Avant-garde as Documented in the Collection of the Bauhaus Archive Berlin.” Pg. 156.

¹⁸ Leśnikowski, “Functionalism in Czechoslovakian, Hungarian, and Polish Architecture from the European Perspective.” Pg. 31.

¹⁹ *Ibid.*, pg. 32.

A number of American architects contributed to the Soviet effort as well. Albert Kahn, the celebrated builder of Detroit — along with his brother, Moritz Kahn — helped design over five hundred factories in the Soviet Union as part of its push toward industrialization.²⁰ Thomas Lamb, the well-established constructor of many of America's first cinemas, and Percival Goodman, an urban theorist who would later build many famous American synagogues, also offered their abilities to the Soviet state.²¹ The pioneering American architect Frank Lloyd Wright, though he would not officially visit Russia until 1937, nevertheless spoke openly about the greatness of the Soviet project during the early 1930s. By the early 1930s, Wright was disillusioned with the capitalist socioeconomic system: "The capitalistic system is a gambling game. It is hard to cure gamblers of gambling and everybody high and low in this country prefers the gambler's chance at a great fortune to the slower growth of a more personal fortune." By contrast, he exclaimed the virtues of the Soviet project: "I view the USSR as a heroic endeavor to establish more genuine human values in a social state than any existing before. Its heroism and devotion move me deeply and with great hope."²²

Despite the great influx of foreign modernists seen during this period, however, the influence of the new architectural avant-garde was hardly alien to the Soviet Union. On the contrary, it had begun to establish itself there as early as 1921 — if one discounts the renowned monument proposed by Tatlin for the Third International in 1918.²³ That year

²⁰ Borngräber, "Foreign Architects in the USSR." Pg. 51.

²¹ See Lamb's submission for the Palace of the Soviets, pg. 77, as well as Goodman's submission (Project № 169), pg. 80. *Sovetskaia arkhitektura*. (Volume 2, № 2/3. Moscow: May 1932).

²² Wright, Frank Lloyd. ["First Answers to Questions by Pravda."](#) From *Collected Writings, Volume II: 1931-1939*. (Rizzoli International Publications, Inc. New York, NY: 1993). Pgs. 141-142. Published originally in 1933.

²³ There is a common misunderstanding regarding the status of Tatlin's famous Monument to the Third International. Tatlin's tower is quite frequently even cited as the *originary* example of Constructivist architecture. While his Monument was quite influential, it is important to remember that Tatlin was an architect neither by training nor profession. This is a point that Lissitzky stressed repeatedly: "Tatlin created his tower...[though] he had no schooling in engineering, no knowledge of technical mechanics or of iron constructions." Lissitzky, El. ["Architecture in the USSR."](#) *El Lissitzky: Life, Letters, Texts*. Translated by Sophie Lissitzky-Kuppers. (Thames & Hudson Press. London: 1980). Pg. 372. Originally published in German in *Die Kunstblatt*, № 2. February 1925.

witnessed the appointment of the architects Nikolai Ladovskii, Nikolai Dokuchaev, and the sculptor Boris Efimov to the faculty of VKhUTEMAS, the well-known Moscow technical school often compared to the Bauhaus in Germany.²⁴ Along with Vladimir Krinskii, Konstantin Mel'nikov, and the international modernist El Lissitzky, Ladovskii and Dokuchaev went on to constitute the avant-garde group ASNOVA (the Association of New Architects) in 1923, though it would only publish the declaration of its existence in 1926. Ladovskii's brightest pupil and laboratory assistant Georgii Krutikov would join the group upon graduating the academy in 1928. Opposed to ASNOVA, the equally-stalwart modernist OSA (Society of Modern Architects) formed the Constructivist school of architectural thought in 1925, led by such outstanding designers as Leonid, Aleksandr, and Viktor Vesnin and their chief theorist Moisei Ginzburg. Il'ia Golosov officially became a member in 1926, followed by two of their exemplary students, Ivan Leonidov and Nikolai Krasil'nikov, in 1927 and 1928 respectively. Though divergent in terms of their fundamental principles, both OSA and ASNOVA were united in their opposition to atavistic architecture and their mutual commitment to modernity.

The overwhelming gravity that the debates over Soviet urbanism held for the avant-garde, their seemingly high stakes, is difficult to emphasize enough. Just as the USSR was first embarking upon its five-year plans, the nations of the West were facing the threefold crisis of global capitalism, of parliamentary democracy,²⁵ and of the European sciences²⁶ in general. At no prior point had the future of the worldwide socioeconomic

And again: "[Tatlin] accomplished [the Monument] without having any special knowledge of construction." Lissitzky, El. *The Reconstruction of Architecture in the Soviet Union*. From *Russia: An Architecture for World Revolution*, translated by Eric Dluhosch. (MIT Press. Cambridge, MA: 1984). Pg. 29. Originally published in 1930 as *Rußland, Die Rekonstruktion der Architektur in der Sowjetunion*.

Tatlin never developed a theory of architecture. Nor did he even advance any other major architectural proposals throughout the rest of his career. Indeed, the Monument is something of an anomaly with respect to his corpus as a whole.

²⁴ "In 1921 a group of young professors (Ladovskii, Dokuchaev, Efimov) succeeded in constituting an autonomous department in the faculty of architecture at the academy (VKhUTEMAS) in Moscow." Lissitzky, ["Architecture in the USSR."](#) Pg. 372.

²⁵ Schmitt, Carl. *The Crisis of Parliamentary Democracy*. Translated by Ellen Kennedy. (The MIT Press. Cambridge, MA: 2000). Originally published in 1928.

²⁶ Husserl, Edmund. *The Crisis of the European Sciences and Transcendental Phenomenology*. Translated

system of capital seemed so uncertain — never had its basis been so shaken. On nearly every front — economic, political, and epistemological — it faced defeat. Italy, Germany, and finally Spain fell beneath the rising tide of Fascism. Everywhere it seemed that Europe was entering into the darkness of Spenglerian decline.

But by that same score, in a positive sense there had never been a planning project as ambitious as the Soviet centralized economy. It represented a moment of unprecedented opportunity for international modernists to build on the highest possible scale, the chance to realize their visions at the level of *totality*.²⁷ For with the huge projected budgets set aside for new construction toward the end of the 1920s, the modernists saw an opening to implement their theories not just locally, but on a regional, national, and — should the flames of revolution fan to Europe — a potentially international scale. This mere fact alone should hint at the reason so many members of the architectural avant-garde, who so long dreamed of achieving an “international style”²⁸ without boundaries, would be

by David Carr. (Northwestern University Press. Chicago, IL: 1980). Originally published in 1932.

²⁷ In the sense of a unified, homogeneous whole.

²⁸ This is intended not only as a reference to the eponymous book by the two Americans, Henry-Russell Hitchcock and Philip Johnson, but to the countless articles and texts by figures such as Le Corbusier, Gropius, Hilberseimer, and Ginzburg from 1923 on, which make statements like the following:

“[T]he architect, the artist, without mastering the sovereign possibilities of technology, remains clouded in academic aestheticism, becomes tired and convention-bound; the design of accommodations and of cities escapes him. This formalistic development, mirrored in the ‘isms’ that have rapidly succeeded one another in the past few decades, seems to have reached its end. A new essential sense-of-building is unfolding simultaneously in all the cultured countries. Our realization grows of a living form-will [*Gestaltungswille*], taking root in the totality of society [*in der Gesamtheit der Gesellschaft*] and its life, investing all realms of man’s formative activity with a unified goal — beginning and ending in building.” Gropius, Walter. *Internationale Architektur*. (Bauhausbücher, № 1. Munich, Germany: 1925). Pg. 6.

“If one takes a cursory glance at everything that is now taking place in the architectural life of all countries, the first impression will be this: *the world is split into two halves. In one of them, eclecticism still reigns* — having lost any point of departure, having exhausted itself through and through — *perfectly symbolizing the deteriorating culture of old Europe. In the other [half] young, healthy shoots push themselves through* — landmarks, the beginnings of a new life start to emerge, from which it is not difficult to extend the single, unified thread of an international front of modern architecture. Despite all the differences and peculiarities of different countries and peoples, this front really exists. The results of the revolutionary pursuits of the modern architectural avant-gardes of all nations intersect with one another closely in their main lines of

attracted to the Soviet cause. That the number of international representatives of the avant-garde swelled to such an unparalleled degree should come as no surprise, either, given the prospect of imminently realizing their most utopian dreams. In the midst of the collapse of the old order, as heralded by world war, pestilence (Spanish influenza), revolution, and a nearly universal depression, it appeared as if the modernists were being granted their deepest wish — *of erecting a new society upon the ashes of that which had preceded it*. “Our world, like a charnel-house, lays strewn with the detritus of dead epochs,” Le Corbusier had thundered in 1925.²⁹ In the wake of global instability, crash, and catastrophe, the Soviet five-year plan seemed to offer to him and his fellow avant-gardists the chance to wipe the slate clean.

development. They are forging a new international language of architecture, intelligible and familiar, despite the boundary posts and barriers.” Ginzburg, Moisei. [“Mezhdunarodnoi front sovremennoi arkhitektury.”](#) *Sovremennaiia arkhitektura*. (Volume 1, № 2. Moscow, Russia: March 1926). Pg. 41.

“Manifestations of this movement, with certain nuances conditioned by national characteristics, can be found in America as well as in almost every European country: in Germany and Holland, in Austria and Czechoslovakia, in Italy, France, and Russia...There can be no better evidence for the living relevance of the ideas that support this movement. A movement so elemental and so widespread internationally, which has arisen spontaneously in various places with similar goals, may hardly be considered a transitory and thus frivolous artistic fashion.” Behrendt, Walter Curt. [*The Victory of the New Building Style*](#). Translated by Harry Francis Mallgrave. (Getty Research Institute. Los Angeles, CA: 2000). Pg. 100. Originally published in 1928.

“The new architecture...is based not on problems of style, but on problems of construction...So the surprising agreement in the external appearance of this new international architecture is also evident. It is not a fashionable matter of form, as is often assumed, but the elementary expression of a new conviction of construction. Although often differentiated by local and national particularities and by the person of the designer, in general the product is made subject to the same conditions. Therefore the uniformity of their appearance, their spiritual connectedness across all borders.” Hilberseimer, Ludwig. [*Internationale Neue Baukunst*](#). (Julius Hoffmann. Stuttgart, Germany: 1929). Pg. 1.

“The principles of the [international] style that appeared already plainly by 1922 in the projects and the executed buildings of the leaders, still control today an ever increasing group of architects throughout the world.” Hitchcock, Henry-Russell and Johnson, Philip. *The International Style: Architecture since 1922*. (W.W. Norton & Company, Inc. New York, NY: 1995). Pg. 49. Originally published in 1932.

²⁹ Le Corbusier. *The City of To-morrow and its Planning*. Translated by Frederick Etchells. (Dover Publications, Inc. Mineola, NY: 1987). Pg. 244. Originally published as *Urbanisme* in 1925.

It is therefore little wonder that the tenor of the debates over Soviet urbanism should have been cast in such stark terms. The fate of the entire avant-garde, if not society itself, hung in the balance. Whichever principles won out might ultimately determine the entire course of future building for the USSR, and perhaps the world (pending the outcome of the seemingly terminal crisis in the West). Modernist architects, who had up to that point been mainly concerned with the design of individual structures, and only here and there touched on the greater problem of urbanism, now scrambled to articulate their theoretical stances on the issue of “socialist settlement.” As a number of rival positions emerged, they came into heated conflict with one another. Whole books were written and articles published in popular Soviet journals defending one theory and attacking all that opposed it. And so the disputes did not merely take on the character of modernism combating its old traditionalist rival, but that of a radically fractured unity of the modernist movement itself. The fresh lines of division being carved within the architectural avant-garde did not owe so much to national peculiarities as it did to the *radicality* of the question now being posed before it: *that of the fundamental restructuring of human habitation*. For the issues at hand were not simply the reorganization of already-existing cities, but also the construction of entirely new settlements from the ground up. The intransigent tone that the debates subsequently assumed is thus more a testament to the urgency and sincerity of the modernist theories of the city being put forth than it is to some sort of arbitrary disagreement over matters of trivial importance.

This point is especially important to stress, moreover, in light of some interpretations that have recently dismissed these crucial differences in the avant-garde’s architectural visions of utopia as a *quantité négligible*. Not long ago, the argument was advanced that these theoretical disputes amounted to little more than quibbling pettiness on the part of the members of the avant-garde. According to this version of events, the modernists merely dressed up their personal animosities, jealousies, and professional rivalries in high-sounding rhetoric and thereby ruined any chance for productive collaboration with one another. Moreover, it asserts that it was this very disunity that led to the modernists’ eventual defeat at the hands of the Stalinists. Weakened by the years of petty bickering, this argument maintains, the two main groups representing the architectural avant-garde (OSA and ASNOVA) were easily undercut by the fledgling, proto-Stalinist organization

VOPRA, working in cahoots with the party leadership. Had the members of the avant-garde been willing to set aside their differences, this outlook would have it, they might have prevailed against the combined strength of their opponents.³⁰

Of course, this account almost completely overlooks the international dimension of the debates, choosing instead to narrowly focus on the faculty politics taking place within the walls of the VKhUTEMAS school of design. While this was doubtless an important stage of the debate, it can scarcely be considered the decisive grounds on which the war over Soviet architecture was waged. It is symptomatic that such an interpretation would leap suddenly from the middle part of the 1920s to the final defeat of the architectural avant-garde in the 1937, ignoring practically everything that transpired in between. As a result, it is able to treat the problem as a merely internal affair, concerning only Soviet architects. This then allows the importance of the tensions within the VKhUTEMAS leadership throughout the early- to mid-1920s to be grossly overstated.³¹ Even if the field of inquiry is thus limited, however, the polemics can by no means be reduced to mere cynicism. Such bitterness and resentment could just as easily be an outcome of (rather than a ground for) heated argumentation.

But this notion — that the real differences within the modernists' debates over Soviet architecture and urbanism were largely exaggerated — is swiftly dispelled once one takes note of the extra-architectural interest surrounding their potential results. For architects

³⁰ Hudson, Hugh. *Blueprints and Blood*. (Princeton University Press. Princeton, NJ: 1995). Pgs. 82-83.

³¹ Catherine Cooke, one of the great Anglophone authorities on Soviet architecture (tragically killed in a car crash in 2004), pointed this out in her initial review of Hudson's book. Hudson marks the date of the final deathblow to the avant-garde, somewhat melodramatically, as occurring in 1937, which he considers to have been symbolized by the murder of the former-Left Oppositionist and architectural disurbanist Mikhail Okhitovich, which he uncovered as having taken place during the purges. Cooke, though "grateful" for this "archival nugget," warned that outside of specialists, "others may be mystified as to the significance of the man [Okhitovich] or the weight of the issues he raised, for there is no context here of the eighteen-month public, professional and political debate of which his ideas were a part." This oversight is no coincidence, however. For if Hudson had examined Okhitovich's ideas on city planning he would have been forced to discuss the broader international discourse surrounding Soviet urbanism. As it happens, the 1937 selected by Hudson as the last gasp of the avant-garde in Russia is correct; but because it was when all foreign architects were expelled. Cooke, Catherine. "Review of *Blueprints and Blood: The Stalinization of Soviet Architecture, 1917-1937* by Hugh D. Hudson." *Russian Review*. (Vol. 54, № 1: Jan., 1995). Pg. 135.

were hardly the only ones worried about the form that new Soviet settlements would take. The ideological influence of architecture on society was not lost on non-architects within the Soviet hierarchy. Many thinkers, scattered across a wide range of vocations, were therefore drawn into the discourse on socialist city planning. Quite a few economists participated in the discussion. Besides Leonid Sabsovich, a writer for the state journal *Planned Economy* and a major figure in the debates, economists like Stanislav Strumilin (one of *Planned Economy*'s editors) and Leonid Puzis weighed in on the material aspects of the various schemas of town planning. Professional sociologist Mikhail Okhitovich joined OSA in 1928, and went on to become one of its major spokesmen. The celebrated journalist and author Vladimir Giliarovskii reported on some considerations of nervo-psychological health in the socialist city.³² Even more telling of the perceived centrality of the problem of Soviet urbanism to the five-year plan is the number of high-ranking party members and government officials who wrote on the matter. The Commissar of Enlightenment Anatolii Lunacharskii, Lenin's widow Nadezhda Krupskaja, the old guard Bolshevik Grigorii Zinov'ev, and the doctor and Commissar of Health Nikolai Semashko all devoted lengthy articles to the consideration of different proposed solutions to the issue of urban planning. So clearly, the detailed differences between the various Soviet urban projects concerned more than solely the architects.

Another historiographical point that must be made is that what appears to have been "Stalinist" from the outset could not have been recognized as such at the time. The emergent features of what came to be known as Stalinism — its bureaucratic deformities, thuggery, and cultural philistinism — had not yet fully crystallized by the early 1930s. While it is true that these qualities may have been prefigured to some extent by the failure of the German and Hungarian revolutions after the war, the USSR's consequent isolation, and the cascading effects of the political involutions that followed — none of this could be seen as yet. The betrayed commitment to international revolution, the disastrous (if inevitable) program of "Socialism in One Country," did not bear their fruits until much later. The residual hope remaining from the original promise of the revolution echoed into the next two decades, before the brutal realities of Stalin's regime eventually set in.

³² Giliarovskii, Vladimir. "Problema sotsialisticheskogo goroda i nervno-psikhologicheskoe zdorov'e." *Planovoe khoziaistvo*. (Volume 6, № 3. Moscow, Soviet Union: March 1930). Pgs. 111-116.

In 1930, there was no “Stalinist” architecture to speak of. Even the eclectic designs of the academicians did not fully anticipate what was to come. The contours of what would later be called “Stalinist” architecture — that grotesque hybrid-creation of monumentalist gigantism and neoclassical arches, façades, and colonnades — only became clear after a long and painful process of struggle and disillusionment. Toward the beginning of the decade, a number of possibilities seemed yet to be decided upon, and so the utopian dream of revolution continued to live on.³³

Whatever latent realm of possibility may have still seemed to exist at the moment the Soviet Union initiated its planning program, however, its actual results admit of no such uncertainties. The defeat of modernist architecture was resounding and unambiguous. And while it would survive and even flourish in the West following the Second World

³³ Stites, Richard. *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution*. (Oxford University Press. New York, NY: 1991).

Since Stites already touched on utopian vision in Soviet town planning during the 1920s in chapter nine of this book (pgs. 190-208), it may be wondered why it demands another treatment. First, while Stites’ book offers an excellent framework of analysis for this period (one which I am partially adopting), there are many glaring factual errors in his account. One is quite understandable; he provides Mikhail Okhitovich’s date of birth and death as “1896-1937,” which is true, but then adds that he “died of natural causes.” Pg. 194. Hudson, whose best insights are purely factual, revealed after his visits to the archives in 1992-94 that Okhitovich was actually a victim of the purges. Stites’ other mistakes make less sense. For example, on page 197, he describes Moisei Ginzburg the “main spokesman” for “the principle of ‘rationalism’ in architecture.” Ginzburg was one of the foremost leaders of the Constructivists in OSA, whose theories opposed those of the Rationalists in ASNOVA, led by Ladovskii. On the following page, he lists urban proposals which he attributes to Ladovskii and Varentsov as belonging to OSA, when the former had actually been the president and the latter the secretary of ASNOVA.

Beyond this, however, the reason this subject warrants another study is that even though Stites provides an admirable assessment of the utopian dimension of early Soviet town planning, he leaves out much of the complexity and richness of this topic. First of all, he only looks at the Urbanist and Disurbanist parties in the debate, with one offhand reference to Miliutin’s alternative idea of a “linear city.” He does not once mention ARU, the urban planning group Ladovskii founded in 1929 after parting ways with ASNOVA. Nor does he consider some of the international teams of architects who participated in the utopian project of the early Soviet Union. Finally, because his interests are different from my own, he does not look into the relationship between utopian modernism and its totalizing tendencies as evidenced by the Soviet case. This is doubly important, since I intend to retroactively ground the obstinacy of the debates by it.

War, the avant-garde left something of its substance behind in Russia. Its external form remained — with its revolutionary use of concrete, glass, and other materials, its austere lines and structural severity — but it had been deprived of its inner core, and now stood devoid of content. For architectural modernism had hitherto expressed an inseparable duality, and *deduced its role as both a reflection of contemporary society and an effort to transform it*. These two aspects, its attempt to create a universal formal language that corresponded to modern realities and its sociohistorical mission to fundamentally *reshape* those very realities, were inextricably bound up with one another. When the architectural avant-garde ultimately failed to realize itself by achieving this mission, it became cynical; its moment of opportunity missed, it chose instead to abandon the task of helping remake society. Cast out of the Soviet Union, the modernists let go of their visions of utopia and made their peace with the prevailing order in the West. They pursued traditional avenues like public contracts and individual commissions to accomplish each of their proposals. No longer did they dream of building a new society, but focused on limited projects of reform rather than calling for an all-out revolution. Emptied of its foundational content, however, modernism gradually gave way to post-modernism as architecture became even further untethered from its basis. Reduced to a set of organizational forms, modernist design grew increasingly susceptible to criticisms of its apparently “dull” and “lifeless” qualities. Modernism’s capitulation to the realities of bourgeois society doomed it to obsolescence. The modern itself had become *passé*.

Framed in this way, this paper will assert that the outcome of the debates over Soviet urbanism in the 1930s sealed the fate of the international avant-garde. All of its prior commitments to general social change were reneged. Modernism’s longstanding duty to solve the problem of “the minimum dwelling,”³⁴ which for Marxists was closely tied into Engels’ work on *The Housing Question*,³⁵ was relinquished after only the first few CIAM

³⁴ The problem of the *Existenzminimum* was pursued by members of CIAM such as Walter Gropius and Karel Teige throughout its early years.

See Teige, [The Minimum Dwelling](#), and Gropius, Walter. [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Translated by Roger Banham. *The Scope of Total Architecture*. (MacMillan Publishing Company. New York, NY: 1980). Originally published in 1929.

³⁵ Engels, Friedrich. [The Housing Question](#). Translated by C.P. Dutt. *Marx and Engels Collected Works, Volume 47: Friedrich Engels, 1873-1876*. (International Publishers. New York, NY: 1995).

conventions (1929-1931). Its resolution to put an end to wasteful (even criminal³⁶) ornamentation and make all building more functional was scaled back to a mere stylistic choice, rather than a general social practice. Likewise, modernism's call for a uniform, standardized, and industrialized architecture of the home was replaced by a tendency to custom-design each individual dwelling — usually the wealthier ones — as its spare, geometric style became chic among the upper classes. The mass-production of housing, serialized with interchangeable parts, was instead taken up by companies building in a more traditional style, hoping to turn a cheap profit housing students or the poor. Those bleak modernist housing complexes that *were* created all too often became places to merely stuff away the impoverished classes, cramped and out of sight. (That such places would become areas of high concentration for drug use and petty crime is only fitting). Finally, the quest for a universal architectural language was abandoned. This language was adopted exclusively by those particular architects who identified themselves with the modernist movement, and even then it was pursued on only a piecemeal basis.

The Soviet Union alone had presented the modernists with the conditions necessary to realize their original vision. Only it possessed the centralized state-planning organs that could implement building on such a vast scale.³⁷ Only it promised to overcome the clash of personal interests entailed by the “sacred cow” of private property.³⁸ And only it had

³⁶ Loos, Adolph. *Ornament and Crime: Selected Essays*. Translated by Michael Mitchell. (Ariadne Press. New York, NY: 1997).

³⁷ Le Corbusier, in a letter to Lunacharskii in July 1932, wrote that the Soviet Union was the “only one possessing the institutions that permit the realization of modernist programs.” Le Corbusier. [“Letter to Anatolii Lunacharskii, May 13th, 1932.”](#) Translated by Michael Wolfe and Michael Vogel. Taken from S. Frederick Starr's publication of the original French letter in his article [“Le Corbusier and the USSR: New Documentation.”](#) *Cahiers du Monde russe et soviétique*. (Vol. 21, № 2: April-June, 1980). Pg. 218.

³⁸ This point was mentioned by a number of thinkers as relevant to the Soviet Union's advantage over its counterparts in the West, where private property still reigned: “Only a new organization of society can facilitate the creation of new architectural forms — forms essential by today's standards. A standardized type of apartment and the implementation of collective housing can take place only in a socialist society, a society unencumbered by private property or by the social and economic unit of the bourgeois family.” Teige, Karel. [Modern Architecture in Czechoslovakia](#). Translated by Irena Murray and David Britt. *Modern Architecture in Czechoslovakia and other writings*. (Getty Research Institute. Los Angeles, CA: 2000). Pg. 108. Originally published as *Moderní architektura v Československu* in Prague, 1929.

the sheer expanse of land necessary to approximate the spatial infinity required by the modernists' international imagination.³⁹ The defeat of architectural modernism in Russia left the country a virtual graveyard of the utopian visions of unbuilt worlds that had once been built upon it. It is only after one grasps the magnitude of the avant-garde's sense of loss in this theater of world history that all the subsequent developments of modernist

"The nonexistence of private land ownership with its accompanying conflict of private interests creates the conditions for unimpeded city and regional planning for densely populated areas, based solely on community welfare and the modification of these plans as the need arises and at any given moment of time. In the same way, state control of the economy in general, and the concentration of all large construction enterprises under central control in particular, allow a planned effort directed at the industrialization of construction, standardization, and the systematic establishment of building standards." Ginzburg, Moisei. ["Contemporary Architecture in Russia."](#) Translated by Eric Dluhosch. *Russia: An Architecture for World Revolution*. Pg. 156. Originally published in *Die Baugilde* in October 1928.

"The German city planner would be surprised to no end if he could watch his Russian colleague at work. What! No twenty regulations, laws, and restrictions obstructing rational planning in a spiderweb of private property lines? Really free land? And no twenty-four hour municipal authorities who must be consulted each time the planner wishes to establish a building line? No jurisdictions, and no hangovers, and what has been planned can really be built? ...Only by freeing the best creative energies of the city planner from the shackles of private property restrictions can their full flowering in their entire social, technical, and artistic dimension be assured. In our country, city planning is what the word says: mere city *planning*. In Russia city planning is in fact city *building*." Wagner, Martin. ["Russia Builds Cities."](#) Translated by Eric Dluhosch. *Russia: An Architecture for World Revolution*. Pg. 208. Originally published in *Tagebuch*, July 25th, 1931 (Berlin, vol. XXX).

"The key to the solution of [the housing] problem lies in the question of private property in particular, and of the production and social situation in general. Within the framework of the prevailing system, all questions of social policy, whether they concern workers' rights or housing demands, are only by-products of the class struggle; any occasional successes result only in a partial alleviation of the evils of greed and usury. Because they never touch the root cause of the problem or change anything in the basic constitution of the system, they remain a palliative and a superficial treatment of symptoms, never leading to a real cure. Since the housing question, as an inseparable part of the housing crisis, is inextricably linked to the current economic system, it cannot be eliminated unless this system is eliminated and a new one established." Teige, *The Minimum Dwelling*. Pg. 60.

³⁹ In a journal entry dated July 14th, 1927, Erich Mendelsohn recorded that "[t]he endless space of Russia makes dream and aspiration — idea and action — impenetrable in the negative sense, infinite in the positive." Mendelsohn, Erich. *Erich Mendelsohn: Journals and Notebooks*. (Triangle Architectural Publishing. New York, NY: 1992). Pg. 90.

architecture in the twentieth century become intelligible. For here it becomes clear how an architect like Mies van der Rohe, who early in his career designed the Monument to the communist heroes Karl Liebknecht and Rosa Luxemburg in 1926, would curry favor with the Nazis in the 1930s,⁴⁰ and then later become the man responsible for one of the swankiest monuments to high-Fordist capitalism, the Seagram's Building of 1958. And here one can see how Le Corbusier, embittered by the Soviet experience, would briefly flirt with Vichy fascism during the war before going on to co-design the United Nations Building in New York.

⁴⁰ Mies had joined the German Society of Friends of the New Russia, a mostly communist organization, in 1923. During the 1930s, however, he cooperated with the National Socialists. Mallgrave, Harry Francis. *Modern Architectural Theory: A Historical Survey, 1673-1968*. (Cambridge University Press. New York, NY: 2005). Pg. 273.

A STRUCTURAL OVERVIEW OF THE PROCEEDING WORK

The following study will be divided into two major sections. These will then be followed by a brief conclusion surveying their results and drawing out any further implications. Both sections are intimately related to one another. Along the way, a number of figures appearing in the one will recur in the other. Reference will be had throughout to some of the claims previously established or in anticipation of those yet to be made. The principle underlying this division is not simply one of organizational clarity, however; the objects under investigation in each section demand separate treatment, as they vary in terms of size, scope, and generality. Moreover, the historical forces and valences operative in the second section require prior exposition in the first.

To be a bit clearer, the first section will seek to analyze the historical *phenomenon* of the avant-garde, and to relate it to the societal conditions out of which it emerged. It will begin by examining the broadest features of the nineteenth-century European society in which architectural modernism first took shape, and then proceed to detail the specific dynamics that led to its appearance. This will necessarily involve, however, a description of modernism's immediate predecessor in the field of architecture: academic eclecticism, or traditionalism. As the discursive backdrop against which the avant-garde would later define itself, an understanding of the origins and peculiarities of traditionalism is crucial to any interpretation of the modernist movement. From there, we can relate modernism in architecture to its disciplinary context, as well as to concurrent developments in the realm of abstract art and industrial technology. Both of these would exercise a distinct influence over the avant-garde as it first began to appear in prewar Europe. Modernism's connection with socialist political tendencies and the larger "ideology of planning" that fomented during this time will also be spelled out.⁴¹ Finally, the focus will shift from an overview of the international avant-garde in general to a survey of Soviet modernism in particular. The internal divisions of the Soviet avant-garde will serve to expose some of

⁴¹ The great Italian architectural historian and Marxist Manfredo Tafuri in particular has analyzed the way in which "architectural ideology became *the ideology of the plan*," which was then "put into crisis and supplanted when, after the crisis of 1929, with the...launching in Russia of the First Five-Year Plan." Tafuri, Manfredo. *Architecture and Utopia: Design and Capitalist Development*. Translated by Barbara Luigia La Penta. (MIT Press. Cambridge, Massachusetts: 1976). Pgs. 48-49.

the principal tensions and contradictions that existed as part of architectural modernism's fundamental reality and concept.

Section two will take up the major forces and agents introduced in section one as belonging to the avant-garde phenomenon and highlight a defining *moment* in its history: namely, the debates over Soviet urbanism in the late 1920s and early 1930s. The USSR, as the stage of this historical drama, will need to be adequately contextualized. The paper will thus discuss it in terms of its overall place within the prevailing socioeconomic order of world capitalist intercourse, its political exigencies, and its program of revolutionary planning. Within this context, the convergence of domestic and international groups and individuals around the question of urbanism and regional reorganization will be shown in all its complexity and variety. It will demonstrate the sheer range of modernist theories of urban-planning by taking a look at the most original and provocative proposals. The precise relationship of these architectural schemes to the greater Soviet project of the "revolutionization of everyday life" will be elucidated as well.⁴² Tracing the shifting course of the debates, the different political and practical obstacles facing the avant-garde will be brought into sharper relief. The state intervention into these affairs and the slow turn toward a more rigidly prescribed and conservative architectural doctrine will also be documented. Parallel developments taking place across the arts, literature, theater, and cinema during the cultural revolution will be noted as well. This section will close with a dissection of the various defeats of the international avant-garde in Russia and the final deathblow it was dealt, remarking on some of its immediate consequences.

Finally, the conclusion will consider the aftermath of the debates on Soviet urbanism and the ultimate effect it had on the international avant-garde. Remembering the way in which architectural modernism first emerged, and how the movement was constituted, the questions will be posed: How was the historical trajectory of the avant-garde affected by its encounter with the Soviet enterprise? To what extent was it irrevocably altered? To what extent did it come out unscathed? The impact of modernism's failed romance with

⁴² This common notion, filed under the general rubric of *reorganizatsiia byta* and other similar slogans, was perhaps best examined by the Hungarian philosopher René Fülöp-Miller in 1927. Fülöp-Miller, René. *The Mind and Face of Bolshevism*. (Chiswick Press. London, England: 1927). See especially chapter ten, on "The Revolutionizing of Everyday Life." Pgs. 185-222.

revolutionary socialism in the USSR will be assessed according to the subsequent path of architectural development in the West. The fate of the international avant-garde after its failure to realize itself in Soviet urbanism — the loss of its utopian element — can then be gauged with respect to the fate of society in general after the Stalinist betrayal of Marxist cosmopolitanism. The degree to which Stalinism would later absorb aspects of modernist art and architecture (in a sort of perverse sublation), as contended by authors like Groys and Paperny, will also be evaluated here.⁴³

⁴³ “Under Stalin the dream of the avant-garde was in fact fulfilled and the life of society was organized in monolithic artistic forms, though of course not those that the avant-garde had favored.” Groys, Boris. *The Total Art of Stalinism: Avant-Garde, Aesthetic Dictatorship, and Beyond*. Translated by Charles Rougle. (Princeton University Press. New York, NY: 1992). Pg. 9.

Despite the correctness of his interpretation, Groys’ celebration of Stalinist aesthetic “radicalism” often borders on the perverse: “In actual fact...the Stalinist ideologists were far more radical than the cultural revolutionaries [avant-gardists], who had received a very bourgeois upbringing and who were in fact Westernizers aspiring to make Russia a kind of better America. The radicalism of Stalinism is most apparent in the fact that it was prepared to exploit the previous forms of life and culture, whereas even the avant-garde detractors of the past knew and respected the heritage to such a degree that they would rather destroy than utilize or profane it.” *Ibid.*, pg. 42.

“Viewed from the perspective of the avant-garde’s theoretical self-interpretation...Stalinist culture both radicalizes and formally overcomes the avant-garde; it is, so to speak, a laying bare of the avant-garde device [Shklovskii] and not merely a negation of it.” Pg. 44.

“Le Corbusier and other members of the CIAM wrote a letter to Stalin lobbying him to intervene in order to ‘stop this sensational challenge to the public from being executed.’ Stalin, as it turned out, was the last person they should have asked. As architectural historian Dmitrii Khmel’nitskii recently discovered, the whole design belonged to Stalin himself. None of the official authors, says Khmel’nitskii, — Iofan, Shchuko or Gel’freikh — was capable of such ‘clear spatial idea, vigor, strength, dynamism, and at the same time such powerful barbarism, such neophyte courage in dealing with form, function and surface.’

If we are to believe Khmel’nitskii, then Stalin appears to have been a greater modernist than Le Corbusier, Wright, Ginzburg or Vesnin. His barbarian creation did not imitate any known style of the past, his Palace was to surpass the Empire State Building by a few feet, he did not collaborate, he worked incognito (just like Roark on the housing project), he disregarded community life and was not interested in people. Moreover, his structure was supposed to be age-resistant: ‘Centuries will not leave their mark on it,’ wrote the official historian of the Palace Nikolai Atarov. ‘We will build it so that it will stand *without aging*, forever.’” Paperny, Vladimir. [“Modernism and Destruction in Architecture.”](#) *Art Margins*. (2006).

THE DIALECTIC OF MODERNISM AND TRADITIONALISM: THE DEVELOPMENT OF THE INTERNATIONAL AVANT- GARDE IN ARCHITECTURE

Modernist architecture is incomprehensible without reference to its opposite: eclecticism, or traditionalist architecture. Each, however, is equally a product of modernity. Though traditionalism lacks modernism's seemingly inherent connection to its namesake, the former was no less a result of modern society than the latter, and even arrived at an earlier point in history. Both emerged out of an internal dynamic operating at the heart of capitalist modernity, one that conditioned the very spatiotemporal fabric of social life. Traditionalism owed to one of the elements constituting this dynamic, while modernism owed to the other. While each of these elements existed from the moment of capitalism's inception in Western Europe, it would not be until the social formation reached a higher stage of maturity that they would recognizably rise to the surface. Only after the effects generated by one of the sides of this underlying process made themselves sufficiently felt did architecture begin to reflect its objective characteristics.

Eclecticism in architecture first appeared toward the beginning of nineteenth century. It would achieve increasing hegemony over the domain of constructive practice as the disciplines of art and architectural history began to firmly establish themselves within the academies. As theorists surveyed the field of European architecture, they discerned a range of distinct historical "styles." These they believed to correspond to the civilizations that produced them, as the expression of their age. Identifying the dominant features of these styles, they compiled an ever more exhaustive dataset, detailing the fine points and minute variations that occurred within them. With a progressive degree of refinement, these classificatory systems proceeded to plot each style along the historical continuum, assigning them precise dates and periodicities. Their specific attributes, as well as the different techniques employed to create them, were also elaborated.

Viewing the mass of historical information collected before their eyes, nineteenth-century architects now saw what appeared to be a vast inventory of styles, forms, and techniques. Starting from this broad basis in the architectural traditions of the past, contemporary practitioners could now borrow and mix various stylistic elements from

each to achieve a new aesthetic effect. So not only would builders seek to reproduce structures belonging to one particular period in its purity, but would freely juxtapose features from a number of different traditions. For these architects viewed themselves as the inheritors of the entire history that had preceded them. The classical, the Gothic, the Romanesque — these were simply distinct modes of building that could be mastered and combined by the builders of the present. And so the latter half of the nineteenth century witnessed an intense proliferation of hybrid and heterogeneous forms, a heightened sense of the importance of ornamentation, and increasing historicism in the building arts.

Modernism understood itself not only as a polemical response to the eclecticism and historicism of its day, but as also arising out of positive advances that had taken place within modern society. Indeed, while the architectural avant-garde would spend much of its time decrying the academies (“those hothouses where they fabricate blue hydrangeas and green chrysanthemums, where they cultivate unclean orchids”⁴⁴), it would never fail to mention its indebtedness to the achievements of the “machine age.” The progress of industrial technologies, the invention of new building materials — these would help form the bedrock of modernist architectural theory. The avant-garde would fiercely advocate the standardization of parts, the utilization of glass and ferroconcrete, and the overall industrialization of the building process. Only by emulating these aspects of modernity could they create an architecture adequate to their age.

But at the same time, the modernists were just as strongly influenced by concurrent developments in modern abstract painting. The painters’ stress on repeating geometric patterns and formal simplicity was also taken up by the architects. This abstract spatiality in avant-garde thought was mirrored in its temporal dimension: while no doubt aware of the historical succession of styles, modernism considered itself to be their negation. Most modernists had deep respect for the building practices of the past. They simply believed that their own work rendered these past practices obsolete. For the modernists, they felt

⁴⁴ Le Corbusier. *Toward an Architecture*. Translated by John Goodman. (The Getty Research Library. Los Angeles, CA: 2006). Pg. 95. Originally published as *Vers un architecture* in 1923.

Compare with Ginzburg’s similarly-phrased denouncement of traditionalist buildings as “*the anemic fruits of faux-classical eclecticism [nurtured] in...academic greenhouses.*” Ginzburg, [“The International Front of Modern Architecture.”](#) Pg. 42.

that the technical and social revolutions of their time had landed them at a sort of Year Zero, whereafter the procession of human experience could be more uniformly organized, rationalized, and homogenized. The ideal of industrial efficiency was captured by the Taylorist system of scientific time-management, for which the architectural avant-garde sought to provide spatial expression.⁴⁵ The optimization of floor layouts, thoroughfares, and household conveniences was thus one of its primary concerns.

Though these preliminary sketches of modernism and traditionalism in architecture must be regarded as provisional, they nevertheless point to some of the principal features that remain to be explained by the ensuing study. The difficulty will consist primarily in showing how a single social formation, capitalism, could give birth to these two opposite tendencies within architectural thought. This twofold development, as mentioned earlier, must be seen as emerging out of the dynamic of late nineteenth-century capitalism, which had by that point extended to encompass the whole of Europe. The dynamic responsible for both architectural modernism and traditionalism can be termed, for the purposes of the present essay, “the spatiotemporal dialectic of capitalism.”⁴⁶ For it was this unique spatiotemporal dialectic of the capitalist mode of production — along with the massive social and technological forces it unleashed — that would form the basis for the major architectural ideologies that arose during this period. Although the complete excogitation of this concept requires more space than the present inquiry can allow, some of its most pertinent points can still be summarized here in an abbreviated form.

(One terminological caveat should be mentioned before moving on, however. For the purposes of this paper, the notions of “modernity” and “globality” will be seen as bearing an intrinsic relationship to capitalism. Modernity, this study will maintain, is merely the *temporal* register of capitalism, while globality is its *spatial* register. In accordance with this assertion, modernization and globalization are both aspects of capitalization.)

⁴⁵ “Modernism in architecture is supposed to be based on the worldview and techniques that stem from an engineering model, one that includes scientific management as a key component. Accordingly, modernism emerged to the extent that engineering influenced the education, training, and professionalization of architects.” Guillén, Mauro F. *The Taylorized Beauty of the Mechanical: Scientific Management and the Rise of Modernist Architecture*. (Princeton University Press. Princeton, NJ: 2008). Pgs. 33-35.

⁴⁶ For a more detailed exposition of this dynamic underlying modern society, please see the longer paper I devoted to the subject. Wolfe, Ross. [“The Spatiotemporal Dialectic of Capitalism.”](#) 2011.

The Spatiotemporal Dialectic of Capitalism

Capitalism does odd things to time. On the one hand, it standardized the measurement of time to obey the artificial pulse of the mechanical clock. This standardization was at the same time part of a larger project of *rationalization* that took place under the auspices of capitalism as it spread throughout Europe in the eighteenth and nineteenth centuries. For the first time in history, society was synchronized according to a single regime of time; its movement was as clockwork. This new temporal order replaced the traditional system of timekeeping, based as it was on the arbitrariness of convention and the natural cycles of the changing seasons and daylight. This sort of time, abstracted from all events that might take place under its watch, can be referred to as *Newtonian* time — pure, uniform, untainted by the messiness of historical change.

On the other hand, however, capitalism after a certain point seems to have generated a new sense of historical consciousness separate from the abstract, Newtonian time with which it coincides. This was brought about by an aspect inherent to the composition of capital itself, located specifically in its value-dimension. For once capital began to revolutionize the basis of the production of what Marx termed “relative surplus-value,” a series of accelerating social and technological innovations began to send shockwaves throughout the rest of society. This was correspondingly experienced as a sequence of convulsive social transformations, continuously uprooting the time-honored organic social relations that preceded the rise of capitalism. As capitalist production developed further into the early nineteenth century, this dynamic became increasingly pronounced. Since these successive transformations could now be seen as occurring within the space of a single generation, a new consciousness of time arose around the notion of progressive “phases,” “stages,” or “epochs” of history. Opposed to both the mode of abstract time manifested by capitalism as well as the kind of historical temporality that preceded it, this can be referred to as *historical* time as it exists under capitalism.

Beginning with the former of these temporalities, some background is useful. Before the advent of capitalism, the workday was regulated by the organic rhythms of sunup and sundown, by the rooster’s crow and the dim fade into twilight. Time was measured, not by the mechanical regularity of the clock, but by much more arbitrary and conventional standards. For example, in seventeenth-century Chile, “the cooking-time of an egg could

be judged by an Ave Maria said aloud.”⁴⁷ Even at the level of months and days, the calendar was less important than the events that occupied it. Planting-time, harvest-time, and the celebration of religious and secular holidays — these were the patterns by which precapitalist societies understood the passage of time. “In terms of the human organism itself,” observed Lewis Mumford, “mechanical time is [physiologically] foreign: while human life has regularities of its own, the beat of the pulse, the breathing of the lungs, these change from hour to hour with mood and action.”⁴⁸ The digital precision of time-measurement, to which we have become so accustomed today, would have been an utterly alien concept to a person born prior to the rise of capitalism.

The mechanical calculation of time can be traced to the fourteenth century, when public clocks were mounted in cities and large commercial towns. Their impact on society at this point was still limited, however; the clocks’ accuracy was often dubious. Some improvements were made in the seventeenth century with the introduction of the pendulum in the grandfather clock by Christiaan Huygens in 1656, which allowed for the isochronous measurement of time. Still, their circulation throughout society remained minimal.⁴⁹ The broader dissemination of chronometric devices took place in the first half of the eighteenth century, and only then it was typically the gentry who would own a pocket-watch, as a symbol of their status. But it was the industrial revolution that first made the exact measurement of time socially universal. As Mumford explained, “[t]he popularization of time-keeping, which followed the production of the cheap standardized watch, first in Geneva, was essential to a well-articulated system of transportation and production.”⁵⁰ The British Marxist E.P. Thompson verified Mumford’s claim when he later wrote: “Indeed, a general diffusion of clocks and watches is occurring (as one would expect) at the exact moment when the industrial revolution demanded a greater synchronization of labour.”⁵¹

⁴⁷ Thompson, E.P. “Time, Work-Discipline, and Industrial Capitalism.” *Past & Present* 38. (1967). Pg. 58.

⁴⁸ Mumford, Lewis. *Technics and Civilization*. (University of Chicago Press. Chicago, IL: 2010). Pg. 15.

⁴⁹ Thompson, “Time, Work-Discipline, and Industrial Capitalism.” Pgs. 63-65.

⁵⁰ Mumford, *Technics and Civilization*. Pg. 17.

⁵¹ Thompson, “Time, Work-Discipline, and Industrial Capitalism.” Pg. 69.

And why was the precise measurement of time so vital to a society founded on the exchange of commodities? Why did the workday have to be so artificially broken down into abstract units of time? For exactly the reason Marx explained when he wrote that

A use-value, or useful article...has value only because abstract human labour is objectified [*vergegenständlicht*] or materialized in it. How, then, is the magnitude of this value to be measured? By means of the quantity of the “value-forming substance,” the labour, contained in the article. This quantity is measured *by its duration, and the labour-time is itself measured on the particular scale of hours, days, etc.* [my emphasis]

Of course, this duration is not determined by how long it takes this or that particular individual to complete the production of a commodity. “What exclusively determines the magnitude of the value of any article,” Marx then continued, “is therefore the amount of labour socially necessary, or the labour-time socially necessary for its production.”⁵² Marx makes it clear that this time is *abstract*, in the sense that value is determined by the time necessary to produce a commodity through abstract, homogeneous human labor.⁵³

Here it may be worthwhile to briefly reflect on the way capitalism transforms the temporal dimension of social experience. On the one hand, it *homogenizes* time into a set of quantitatively equivalent metric units — minutes, seconds, hours, days. These units are effectively interchangeable; one minute lasts exactly the same duration as any other minute, regardless of the time of day. Such time, abstracted from any concrete events or occurrences that may take place in that time, is essentially universal — devoid of any particulars or peculiarities.⁵⁴ It is Newtonian time: pure, repetitive, and scientific. It is unsullied by natural or historical accident. As the Marxist theoretician Moishe Postone puts it,

“Abstract time,”...by which I mean uniform, continuous, homogeneous, “empty” time, is independent of events. The conception of abstract time, which became increasingly dominant in Western Europe between the fourteenth and seventeenth centuries, was expressed most

⁵² Marx, Karl. *Capital: A Critique of Political Economy*. Translated by Ben Fowkes. (Penguin Books. New York, NY: 1982). Pg. 129.

⁵³ *Ibid.*, pg. 150.

⁵⁴ “Before the rise and development of modern, capitalist society in Western Europe, dominant conceptions of time were of various forms of concrete time: time was not an autonomous category, independent of events, hence, it could be determined qualitatively, as good or bad, sacred or profane.” Postone, Moishe. [*Time, Labor, and Social Domination*](#). (Cambridge University Press. New York, NY: 1993). Pg. 201.

emphatically in Newton's formulation of "absolute, true and mathematical time [which] flows equably without relation to anything external."⁵⁵

This time is, moreover, also *cyclical*. Of course, it cannot be claimed that nature has no cycles or rhythms of its own; but these natural cycles are organic and matters of quality. The artificial cycles of abstract time are mathematic and matters of quantity. Every day has twenty-four hours, and every hour sixty minutes. Each minute in turn has sixty seconds, and all these remain invariable quantities. Once one minute is over, another begins, and once an hour has passed another has started. Such is the nature of abstract, cyclical time.

All this is well and good conceptually, but when *historically* did this new sense of time-consciousness become normalized? At what point did the majority of society come to march to the tick of a synchronous clock? Our investigation thus far has suggested that it became increasingly prevalent and normative along with the contiguous spread of capitalism during the industrial revolution. But this brings us into a longstanding debate within the study of horology. To this point, it would seem that we have downplayed or dismissed the prior *invention* of the clock, such that our treatment of the subject has failed to acknowledge the *longue durée* of timekeeping itself. But there is often a great disconnect between the mere moment an innovation occurs and the generalization of its consequences to the rest of society. "Although abstract time arose socially in the late Middle Ages, it did not become generalized until much later," asserts Postone. "Not only did rural life continue to be governed by the rhythms of the seasons, but even in the towns, abstract time impinged directly upon only the lives of merchants and the relatively small number of wage earners."⁵⁶ Only later did this profoundly *ahistorical* mode of thinking about time arise historically, as part of the deep social transformations that were taking place at the time. The compulsion to *synchronize* the whole of society only took effect with the advent of capitalism. As Postone writes emphatically, "[t]he tyranny of time in capitalist society is a central dimension of the Marxian categorial analysis."⁵⁷

⁵⁵ *Ibid.*, pg. 202.

⁵⁶ *Ibid.*, pg. 212.

⁵⁷ *Ibid.*, pg. 214.

By the middle part of the nineteenth century, this form of time-consciousness, or time-discipline, had spread to virtually all of the more mature capitalist nations in Europe and America. Over the course of the latter half of the century, this way of timekeeping exercised an ever-greater degree of control over the thinking and behavior of the citizens of these nations. Toward the beginning of the twentieth century, the practice of time-discipline would be apotheosized in its most systematic form by Frederick Winslow Taylor, who advocated a mode of scientific oversight and monitoring of all time-expenditure of employees. In his *Principles of Scientific Management*, he wrote that “[t]he enormous *saving of time* and therefore increase in the output which it is possible to effect through *eliminating unnecessary motions* and *substituting fast for slow and inefficient motions* for the men working in any of our trades can be fully realized only after one has personally seen the improvement which results from *a thorough motion and time study, made by a competent man*.”⁵⁸ At this point, the exactitude of one’s use of time was to be internalized and automated to the utmost degree, leading to an ideal of the standardization of all labor. The most thorough practitioners of Taylor’s theory, the husband-and-wife tandem of Frank and Lillian Gilbreth, perfected this method.⁵⁹

Just as society under capitalism was manifesting this abstract form of time, however, it was simultaneously giving birth to a new form of concrete time, distinct from the sense of concrete time that existed before the preponderance of commodity exchange in society. This concrete sense of time was not that of habit, convention, or task-orientation. It was rather a newfound sense of historical time, understood as a linear chain of events, or as a succession of “stages” leading up to the present. Along with this newfound sense of concrete, historical time came a new *consciousness* of time, specific to capitalism. As the historian T.S. Ashton observed, “[a] new sense of time was one of

⁵⁸ Taylor, Frederick Winslow. *The Principles of Scientific Management*. From *The Early Sociology of Management and Organizations, Volume 1: Scientific Management*. (Routledge, Taylor & Francis Group. New York, NY: 2005). Pg. 129. My emphases. Originally published in 1912.

⁵⁹ “Through motion study and fatigue study and the accompanying time study, we have come to know the capabilities of the worker, the demands of the work, the fatigue that the worker suffers at the work, and the amount and nature of the rest required to overcome the fatigue.” Gilbreth, Frank and Gilbreth, Lillian. [*Applied Motion Study: A Collection of Papers on the Efficient Method to Industrial Preparedness*](#). (Sturgis & Walton Company. New York, NY: 1917). Pgs. 14-15.

the most striking psychological features of the industrial revolution.”⁶⁰ What lay behind this new historical consciousness?

For one, it was the increasing dynamism exhibited by the new form of society under which they were living, such that time-honored social institutions and traditional practices now underwent a visible series of sudden and spasmodic transformations. Longstanding social relations were often uprooted and replaced within the span of a single lifetime. As Marx and Engels famously recorded in the *Manifesto*, “[t]he continual transformation of production, the uninterrupted convulsion of all social conditions, a perpetual uncertainty and motion distinguish the epoch of the bourgeoisie from all earlier ones.” This shift in the underlying socioeconomic basis of society entailed a corresponding shift in the ideological superstructure: “All the settled, age-old relations with their train of time-honoured preconceptions and viewpoints are dissolved; all newly formed ones become outmoded before they can ossify. Everything feudal and fixed goes up in smoke, everything sacred is profaned.”⁶¹

Zygmunt Bauman has thus rightly credited “[t]he considerable speeding up of social change” as a necessary condition for the creation of this historical consciousness. This speeding up, he added, “was duly reflected in the...novel sense of history as an endless chain of irreversible changes, with which the concept of progress — a development which brings change for the better — was not slow to join forces.”⁶² The notion of progressive historical development was aided, moreover, by the ongoing technical revolutions taking place in the field of production. This concept of a progression of stages was then conversely projected backward through time, in the interpretation of history. It is therefore no surprise that this period saw the emergence of thinkers like Giambattista Vico⁶³ and Georg Wilhelm Friedrich Hegel,⁶⁴ who looked to the past and

⁶⁰ Ashton, T.S. [*The Industrial Revolution*](#). (Oxford University Press. New York, NY: 1998). Pg. 80.

⁶¹ Marx, Karl and Engels, Friedrich. *Manifesto of the Communist Party*. Translated by Terrell Carver. *Later Political Writings*. (Cambridge University Press. New York, NY: 1993). Pg. 4.

⁶² “It was only [the] idea of perfectibility [made possible by the concept of progress] which paved the way for utopia.” Bauman, Zygmunt. *Socialism: The Active Utopia*. (George Allen & Unwin Limited. London, England: 1976). Pgs. 18-19.

⁶³ Vico believed that history could trace the path of “every nation” successively prefigured in the “human mind”: “Our Science...comes to describe...an ideal eternal history traversed in time by the history of every

interpreted it as an unfolding of qualitatively distinct “stages” or “phases” — as modes of consciousness passing the torch of civilization from one society to the next.

But what was the actual dynamic in capitalism that necessitated this series of convulsive transformations? For it is easy to say that capitalism forced this state of chronic instability, but it is much harder to actually trace out the dialectical aspect of capitalism that compels its continuous flux. And so the specific origin of this dynamic must be discovered, as it is rooted in a dimension of capital itself.

A brief investigation into the constitution of capital will reveal that this dynamic is located in the *value-dimension* of capital. Value, when it appears in the form of capital, ceaselessly strives to augment itself through a process of *self-valorization*.⁶⁵ It here becomes clear that the Lukácsian simultaneous subject-object of history is not Labor as constituted by the proletarian class, but Capital as constituted by self-valorizing value, which assimilates the non-identical to itself through its own activity while remaining at all times identical with itself.⁶⁶ As Marx wrote, “[capital] is constantly changing from one form to another, without becoming lost in this movement; it thus becomes

nation in its rise, progress, maturity, decline and fall...[T]he first indubitable principle...posited is that this world of nations has certainly been made by men, and its guise must therefore be found within the modifications of our own human mind.” Vico, Giambattista. *The New Science*. Translated by Thomas Goddard Bergin and Max Harold Fisch. (Cornell University Press. Ithaca, NY: 1948). Pg. 93. §349. Originally published in 1744.

⁶⁴ For Hegel, history was the objective constitution of the “structured shapes” of “consciousness” or Spirit: “[C]onsciousness...has for [its] middle term the system of structured shapes assumed by consciousness as a self-systematizing whole of the life of Spirit — the system that we are considering here, and which has its objective existence as world-history.” Hegel, G.W.F. *The Phenomenology of Spirit*. Translated by A.V. Miller. (Oxford University Press. New York, NY: 1977). Pg. 178. §295. Originally published in 1807.

Hegel would later refine this notion: “[The mind of a nation] is in time...But as a restricted mind its independence is something secondary; it passes into universal world-history...— the judgment of the world.” Hegel, G.W.F. *The Philosophy of Mind: Part Three of the Encyclopedia of the Philosophical Sciences*. Translated by William Wallace and A.V. Miller. (Oxford University Press. New York, NY: 1971). Pg. 277. §548. Originally published in 1830.

⁶⁵ “The circulation of money as capital is an end in itself, for the valorization of value takes place only within this constantly renewed movement. The movement of capital is therefore limitless.” Marx, *Capital, Volume 1*. Pg. 253.

⁶⁶ Postone, [*Time, Labor, and Social Domination*](#). Pgs. 75-77.

transformed into an automatic subject.” Value is still the operative concept in its form as capital, however: “In truth,...value is here the subject of a process in which...it changes its own magnitude, throws off surplus-value from itself considered as original value, and thus valorizes itself independently. For the movement in the course of which it adds surplus-value to itself is its own movement, its valorization is therefore self-valorization.” It thereby obtains an almost magical character: “By virtue of being value, it has acquired the occult ability to add value to itself.”⁶⁷

Capital achieves this valorization through the purchase of labor as a commodity. Productive labor thus enters the process of capitalist circulation as a socially mediating activity necessary for augmenting capital. “[C]apital has one sole driving force, the drive to valorize itself, to create surplus-value, to make its constant part, the means of production, absorb the greatest possible amount of surplus labor.”⁶⁸ Labor, which alone possesses the ability to enhance the value originally invested in its purchase,⁶⁹ produces surplus-value for its temporary owner in either of the following ways: 1) by an absolute increase in the time spent laboring beyond the socially average time necessary to reproduce the value advanced;⁷⁰ or 2) by a relative decrease in the time required to produce an equivalent value below that same social average, since “the prolongation of the surplus labor must...originate in the curtailment of the necessary labor-time,” assuming the length of the working day remains constant.⁷¹ The latter of these methods can only be accomplished by an increase in the productivity of labor. This increase, in turn, is achieved by technical or organizational means, either by the introduction of new machine technologies or a more efficient division of labor.⁷²

⁶⁷ Marx, *Capital, Volume 1*. Pg. 255.

⁶⁸ *Ibid.*, pg. 342.

⁶⁹ “[Labor is] a commodity whose use-value possesses the peculiar property of being a source of value.” *Ibid.*, pg. 270.

⁷⁰ “The prolongation of the working day beyond the point at which the worker would have produced an exact equivalent for the value of his labor-power, and the appropriation of that surplus labor by capital — this is the process which constitutes the production of absolute surplus-value. It forms the general foundation for the capitalist system.” *Ibid.*, pg. 645.

⁷¹ *Ibid.*, pg. 431.

⁷² “The technical and social conditions of the [labor] process and consequently the mode of production

Historically, capital at first relied on the production of absolute surplus-value through the extension of the working day in order to valorize itself, until labor negotiations and parliamentary legislation managed to secure a normal working day through the famous Factory Acts. These set a legal limit on the maximum number of hours a worker could be assigned in a day.⁷³ Thereafter, capitalist production was generally forced to make do with the generation of relative surplus-value, which it achieved by the successive institution of cooperative action between workers, the detail division of labor in manufacturing, and the implementation of heavy machinery in large-scale industry.⁷⁴

At this point, our digression into the inner workings of capitalism reconnects with the investigation of the unprecedented *historical consciousness* linked to the inner dynamic of capital. For it is the category of value undergirding capitalist society that is the source of its dynamism; the dynamic character of value in the form of capital is built into its very concept. The dialectical tension which characterizes capital always exists *in potentia* as part of its logic, but begins to unfold more rapidly with the general stabilization of the workday and the increased stress placed upon the generation of relative surplus-value.⁷⁵ Since relative surplus-value demands that the technical and social basis of production be constantly revolutionized so that productivity can be increased, but at the same time the rate of surplus-value thereby gained begins to vanish as soon as these technical and organizational advances are generalized, there is an overall “speeding up” of the production process. These frequent, usually violent speed-ups give rise to what Postone has called the “treadmill effect” of capitalist production, involving a “dialectic of transformation and reconstitution.”⁷⁶

itself must be revolutionized before the productivity of labor can be increased.” *Ibid.*, pg. 432.

“[T]he production of relative surplus-value completely revolutionizes the technical processes of labor and the groupings into which society is divided.” *Ibid.*, pg. 645.

⁷³ *Ibid.*, pgs. 389-416.

⁷⁴ Chapters 13, 14, and 15 respectively. *Ibid.*, pgs. 439-640.

⁷⁵ “With the development of relative surplus value...the directional motion that characterizes capital as self-valorizing value becomes tied to ongoing changes in productivity. An immanent dynamic of capitalism emerges, a ceaseless expansion grounded in a determinate relationship between the growth of productivity and the growth of the value form of the surplus.” Postone, [*Time, Labor, and Social Domination*](#). Pg. 283.

⁷⁶ “The peculiarity of the dynamic — and this is crucial — is its *treadmill effect*. Increased productivity

This is how an historical consciousness in the modern sense first manifested itself in society. For it was only with the further elaboration of the dialectic immanent to relative surplus-value that the concept of history as an unfolding progression of stages even became available. Postone explains: “Considered temporally, this intrinsic dynamic of capital, with its treadmill pattern, entails an ongoing directional movement of time, a ‘flow of history.’ In other words, the mode of concrete time we are examining can be considered *historical time*, as constituted in capitalist society.”⁷⁷ This mode of concrete time described by Postone serves to ground what the contemporary philosophers Reinhart Koselleck and Jürgen Habermas have called “modern time-consciousness,” which would only begin to first show itself around 1800, but which in its understanding of itself rightly traced its origins to the fifteenth and sixteenth centuries.⁷⁸ This was made manifest in the qualitative recognition of itself as the *neue* rather than the *neueste Zeit*,⁷⁹ as reference to

increases the amount of value produced per unit of time — until this productivity becomes generalized; at that point the magnitude of value yielded in that time period, because of its abstract and general temporal determination, falls back to its previous level. This results in a new determination of the social labor hour and a new base level of productivity. What emerges, then, is a dialectic of transformation and reconstitution.” *Ibid.*, pg. 289.

⁷⁷ *Ibid.*, pg. 293.

⁷⁸ “From the eighteenth century on, it was possible to formulate the postulate of acceleration, or for those left behind, the postulate of drawing level or overtaking. The fundamental experience of progress, embodied in a single concept around 1800, is rooted in the knowledge of noncontemporaneities which exist at a chronologically uniform time.” Koselleck, Reinhart. “Neuzeit.” Translated by Keith Tribe. *Futures Past: The Semantics of Historical Time*. (Columbia University Press. New York, NY: 2004). Pg. 238.

“Hegel used the concept of modernity first of all in historical contexts, as an epochal concept: The ‘new age’ is the ‘modern age.’ This corresponded to contemporary usage in English and French: ‘modern times’ or *temps modernes* denoted around 1800 and the three centuries preceding. The discovery of the ‘new world,’ the Renaissance, and the Reformation — these three monumental events around the year 1500 constituted the epochal threshold between modern times and the middle ages...[T]he secular concept of modernity expresses the conviction that the future has already begun: It is the epoch that lives for the future, that opens itself up to the novelty of the future. In this way, the caesura defined by the new beginning has been shifted into the past, precisely to the start of modern times. Only in the course of the eighteenth century did the epochal threshold around 1500 become conceptualized as the beginning.” Habermas, Jürgen. *The Philosophical Discourse of Modernity: Twelve Lectures*. Translated by Frederick Lawrence. (The MIT Press. Cambridge, MA: 1990). Pg. 5.

⁷⁹ Koselleck, “Neuzeit.” Pg. 235.

one's own historical age as *nostrum aevum* was recast as *nova aetas*, the new age, later captured by its conception of itself as modernity (*Moderne, modernité, Modernität*).⁸⁰

Reviewing these two distinct senses of time that emerge out of capitalism, we may briefly state the characteristics that differentiate them and determine the extent to which they interact. Some differences between the two should be obvious. One is abstract and homogeneous, the other concrete and heterogeneous. The one is cyclical and repetitive, while the other is linear and unprecedented, irreversible, and unreplicable in its exact constitution. Abstract, Newtonian time is scientific, and can be measured mechanically, by the gears in a watch. Concrete, historical time, on the other hand, must be comprehended either organically (in precapitalist societies) or dialectically (under capitalism), as a dynamic sequence of forces and events.

But despite all their differences, it is not as if these two forces are divided by an unbridgeable chasm. Rather, they are intricately and dialectically intertwined. If anything, the two separate temporal elements combine to create the unique structure of capitalist development through history. While on the one hand society is being propelled forward through a series of irreversible transformations, on the other, the repetitious pattern of day-to-day, hour-to-hour routines of social production continue according to their usual cycles. And so it is proper, when speaking of the dialectical motion of capitalism, to describe it as following a *cyclolinear* path of production and circulation punctuated by periods of boom and crisis. The “historical” element of capitalist time allows the way in which capitalism manifests itself to change over time, such that distinct phases of capitalism can be identified (liberalism/monopolism/imperialism/Fordism/neoliberalism or “flexible accumulation”). The homogeneous, “repetitive” element of time under capitalism allows it to remain capitalism throughout all of its various phases, founded on the same principle of the supervaluation of value.

There is a spatial duality inherent in capitalism analogous to the temporal dialectic that was just covered. For there are two distinct types of space engendered by capitalism — both an abstract, global, and empty space as well as a concrete, hierarchical space composed of concentrated and distributed masses. As with both the concrete and abstract components of capitalist temporality, these stem from the basic character of capital.

⁸⁰ Habermas, *The Philosophical Discourse of Modernity: Twelve Lectures*. Pg. 8.

The former of these, abstract space, as constituted under capitalism, can be referred to as “Cartesian” space, just as abstract time was called “Newtonian.” And just as Newton considered the abstract time he described to be “empty” (i.e., devoid of real happenings or events), the abstract space that Descartes described was conceived as “empty” (i.e., devoid of real bodies). Or, in his own words, this sort of spatiality is “comprised in the idea of a space — not merely a space which is full of bodies, but even a space which is called ‘empty.’”⁸¹ This space unfolds temporally, as capitalism spreads throughout the world. It carries the traits of universality and homogeneity: it makes no difference what particular, heterogeneous forms of culture and society it encounters. The abstract space of capitalism absorbs them regardless and makes them more like itself. Nor does it honor any national or traditional boundaries; geographical barriers likewise mean nothing to it.

The concrete space of capitalism, on the other hand, describes the very real spatial disparities and inequalities that emerge out of the inner dynamic of capital. It accounts for the antithesis of town and country, the unevenness of capitalist development, and the huge urban agglomerations that resulted from the concentration of capital in different areas of the world. This more concrete form of spatiality could be called, moreover, the “topographical” space of capitalism. For even within the limits of a single municipality, this type of space can be witnessed in the various sectors that comprise the city: the dirty factories and centers of production, the clean, slick financial district, workers’ housing, the more “upscale” estates of the urban elites, and the palliative parks and green spaces, which serve to interrupt the dense overcrowding of the city. Concrete space would also help locate the centers of state power — the government buildings, judicial courts, and jails. Finally, it would include the main conduits of capitalist intercourse, the highways and backstreets, the subway systems of major cities, the train stations, bus stations, and railroad networks.

The abstract dimension of capitalist spatiality is expressed by its global quality. For capitalism, from the moment of its appearance, was in *concept* a global phenomenon. This is so despite the fact that it *did* empirically emerge under historically determinate, localizable conditions. Circumstances would have it that these conditions first fermented

⁸¹ Descartes, René. *Principles of Philosophy*. Translated by John Cottingham. From *The Philosophical Writings of Descartes, Volume 3*. (Cambridge University Press. New York, NY: 1985). Pg. 228.

in England between the fourteenth and seventeenth centuries.⁸² But it could nevertheless be contended that no matter where it arose, once primitive accumulation had reached the point where capital was able to reproduce itself with a surplus such that it could be reinvested, the socioeconomic system and the relations it entailed were bound to spread and eventually wrap the globe. To the extent that capitalism could be imagined to have hypothetically emerged in a different part of the world (even on a different planet), the *logic* of capitalist reproduction would in any case eventually require its extension beyond any spatial boundaries that had previously contained it.

The necessity of precapitalist social formations is a matter of debate; it is unclear whether there are necessary “stages” a nation or region must go through before arriving at capitalism. However, there can be no doubt that capitalism possesses this totalizing and compulsively expansive character once it comes into its own. In this sense, it can be distinguished from all the socioeconomic forms that preceded it, since these different systems can be said to have existed in relative isolation from one another. Oppositely, “[with capitalism, w]e are dealing with a new sort of interdependence, one that emerged historically in a slow, spontaneous, and contingent way,” explains Moishe Postone. “Once the social formation based upon this new form of interdependence became fully developed, however (which occurred when labor power itself became a commodity), it acquired a necessary and systematic character; it has increasingly undermined, incorporated, and superseded other social forms, while becoming global in scale.”⁸³

For all these reasons mentioned above, the claim that capitalism possesses an innate *globality* can be justified. Insofar as capitalism could have potentially emerged anywhere

⁸² “We have seen how money is transformed into capital; how surplus-value is made through capital, and how more capital is made from surplus-value. But the accumulation of capital presupposes surplus-value; surplus-value presupposes capitalist production; capitalist production presupposes the availability of considerable masses of capital and labour-power in the hands of commodity producers. The whole movement, therefore, seems to turn around in a never-ending circle, which we can only get out of by assuming a primitive accumulation (the ‘previous accumulation’ of Adam Smith) which precedes capitalist accumulation; an accumulation which is not the result of the capitalist mode of production but its point of departure.” Marx, *Capital, Volume I*. Pgs. 873. The conditions by which primitive accumulation arose are described between pgs. 877-895.

⁸³ Postone, [*Time, Labor, and Social Domination*](#). Pg. 148.

and at any time that the conditions necessary for its existence obtained, the space it inhabits can be said to be *abstract*. The fact that it would expand outwardly and swallow all other social forms that come into its orbit, irrespective of their specific, concrete, distinguishing features, also attests to its *abstractness*. Regardless of national, geographical, or artificial boundaries, capitalism is able to transgress every border. “Through rapid improvement in the instruments of production, through limitless ease of communication, the bourgeoisie drags all nations, even the most primitive ones, into civilisation,” Marx and Engels wrote in the *Manifesto*. “Cut-price commodities are the heavy artillery with which it batters down all Chinese walls, with which it forces undeveloped societies to abandon even the most intense xenophobia. It forces all nations to adopt the bourgeois mode of production or go under; it forces them to introduce so-called civilisation amongst themselves, i.e. to become bourgeois. In a phrase, [*capitalism*] creates a world in its own image.”⁸⁴

Indeed, quite early in their careers, Marx and Engels recognized the *international* character of the capitalist mode of production. What in 1848 was limited to only a few of the more developed nations in Europe and North America would within the course of a century reach the remotest parts of the globe. Marx and Engels noted that capitalism had this unifying effect on all the nations and cultures of the world, such that for the first time there was truly a *world* market. Through this, the two young authors contended, this new global interdependence revealed itself:

Through the exploitation of the world market the bourgeoisie has made the production and consumption of all countries cosmopolitan. It has pulled the national basis of industry right out from under the reactionaries, to their consternation. Long-established national industries have been destroyed and are still being destroyed daily. They are being displaced by new industries — the introduction of which becomes a life-and-death question for all civilised nations — industries that no longer work up indigenous raw materials but use raw materials from the ends of the earth, industries whose products are consumed not only in the country of origin but in every part of the world. In place of the old needs satisfied by home production we have new ones which demand the products of the most distant lands and climes for their satisfaction. In place of the old local and national self-sufficiency and isolation we have a universal commerce, a universal dependence of nations on one another. As in the production of material things, so also with intellectual production. The intellectual creations of individual nations become common currency. National

⁸⁴ Marx and Engels, *Manifesto of the Communist Party*. Pg. 5. My emphasis.

partiality and narrowness become more and more impossible, and from the many national and local literatures a world literature arises.⁸⁵

With the consolidation of the capitalist mode of production, no longer were there so many discrete, disconnected, and incomparable societies existing in relative isolation from each other. In their stead there arose a single, monolithic, and all-encompassing entity called Society. Only in the late-eighteenth and early-nineteenth centuries did authors first begin writing of “society” as such, rather than with reference to this or that particular society. And so also was it only with Comte, Marx, Spencer, Durkheim, and Weber — from the middle part of the nineteenth century to the beginning of the twentieth — that the discipline of “sociology” carved out its place amongst the division of the human sciences.

“Bourgeois society carried out the process of socializing society,” wrote the Marxist theorist, Georg Lukács. “Capitalism destroyed both the spatio-temporal barriers between different lands and territories and also the legal partitions between the different ‘estates’...Man becomes, in the true sense of the word, a social being. Society becomes *the* reality for man.”⁸⁶ Society treats its members, its constituent parts, as belonging to “a general whole that is substantially homogeneous — a totality.”⁸⁷ No longer do they appear as divided into qualitatively different estates in which membership was more or less determined by birth. Neither is society absolutely divided along national or regional lines, into fundamentally distinct *societies*. Instead, as Adorno noted, “‘Society’ in the stronger sense...represents a certain kind of intertwinement which leaves nothing out; one essential characteristic of such a society — even though it may be modified or negated — is that its individual elements are presented as relatively equal.” Adorno then specified that “the concept of society...[is] an essentially bourgeois term, or a ‘concept of the third estate.’”⁸⁸ Society, it would seem, is only as old as capitalism.

⁸⁵ *Ibid.*, pgs. 4-5.

⁸⁶ “In its universe there is a formal equality for all men.” Lukács, Georg. “What is Orthodox Marxism?” From *History and Class Consciousness: Studies in Marxist Dialectics*. Translated by Rodney Livingstone. (The MIT Press. Cambridge, MA: 1972). Pg. 19.

⁸⁷ Postone, [Time, Labor, and Social Domination](#). Pg. 72.

⁸⁸ Adorno, Theodor. *Introduction to Sociology*. Translated by Edmund Jephcott. (Stanford University Press. Stanford, CA: 2000). Pg. 30.

But what is it specifically about capitalism that compels its stretch outward, absorbing non-capitalist societies along the way? What is the root of its cosmopolitanism? It was the later Marx, in his groundbreaking *Grundrisse* for the critique of political economy, who would pinpoint the specific aspect of capitalism that lay behind its international movement. The lynchpin of capitalism's global spatiality was to be "located" in its drive to open up new markets, in the realm of circulation, to reach greater and greater distances by revolutionizing the means of transport and communication. "The more production comes to rest on exchange value, hence on exchange, the more important do the physical conditions of exchange — the means of communication and transport — become for the costs of circulation," observed Marx. "*Capital by its nature drives beyond every spatial barrier*. Thus the creation of the physical conditions of exchange — of the means of communication and transport — the annihilation of space by time — becomes an extraordinary necessity for it."⁸⁹

As the critical geographer and Marxist scholar David Harvey has noted, the centrifugal movement of capitalism relies upon a general improvement of the means of transport and communication, such that the turnover time (production + circulation time) required for commodities to realize their value is consequently shortened. Proportionate to the shortening of this turnover time, moreover, is the widening of the *scope* of capital's potential reach. "The reduction in realization and circulation costs helps to create, therefore, fresh room for capital accumulation," writes David Harvey. "Put the other way around, capital accumulation is bound to be geographically expansionary and to be so by progressive reductions in the costs of communication and transportation."⁹⁰ The result of this continuous expansion is the creation of the "world market" Marx had talked about in the *Manifesto*. As Marx would later put it: "If the progress of capitalist production and the consequent development of the means of transport and communication shortens the circulation time for a given quantity of commodities, the same progress and the

⁸⁹ Marx, Karl. *Grundrisse: Introduction to the Critique of Political Economy*. Translated by Martin Nicolaus. (Random House, Inc. New York, NY: 1973). Pg. 524. My emphasis.

⁹⁰ Harvey, David. "The Geography of Capitalist Accumulation: a Reconstruction of the Marxian theory." From *Spaces of Capital: Towards a Critical Geography*. (Edinburgh University Press. Edinburgh, England: 2001). Pg. 244.

opportunity provided by the development of the means of transport and communication conversely introduces the necessity of working for ever more distant markets, in a word, for the world market.”⁹¹ And so it is by the creation of this global market that capitalism inevitably “conquers the world,” imposing its logic onto the preexisting social structures with which it comes into contact. “Marx...argued,” Harvey reminds us, “that the historic tendency of capitalism is to destroy and absorb non-capitalist modes of production at the same time as it uses them to create fresh room for capital accumulation.”⁹²

The space of capitalist imperialism thus seeks to consume everything that lies outside of its radius. It is a *homogenizing* space — it takes all that is different, heterogeneous, and external to it and makes them more like itself. The non-capitalist structures that capitalism brushes up against lose their identity to its all-encompassing logic. If the abstract temporal aspect of capital can be called “Newtonian,” its abstract spatial component can be called Cartesian — almost an empty grid of length, breadth, and width. Considered in itself, it is thus a sort of vacuous *res extensa*, conceptually distinguishable from the objects that occupy it. In relation to the concrete objects it pulls into its fold, this space is wholly abstract, ethereal, and invisible. Yet it wraps them in its essence, imbuing them with its likeness. And so too does it encapsulate the social relations that are objectified in these products and their built environment. The space of capitalism leaves nothing untouched.

In his major work on the subject of spatiality, *The Production of Space*, the famous French Marxist Henri Lefebvre developed his own notion of “abstract space.” From our description of the phenomenon above, it can be seen how his understanding of abstract space roughly coincides with the account given here. “Abstract space,” wrote Lefebvre, “is not defined only by the disappearance of trees, or by the receding of nature; nor merely by the great empty spaces of the state and the military — plazas that resemble parade grounds; nor even by commercial centres packed tight with commodities, money and cars. It is not in fact defined on the basis of what is perceived.”⁹³ In other words,

⁹¹ Marx, *Capital: A Critique of Political Economy, Volume 2*. Translated by David Fernbach. (Penguin Books. New York, NY: 1992). Pg. 329.

⁹² Harvey, “The Geography of Capitalist Accumulation: a Reconstruction of the Marxian theory.” Pg. 251.

⁹³ Lefebvre, Henri. *The Production of Space*. Translated by Donald Nicholson-Smith. (Blackwell

this abstract space cannot be identified by the concrete objects that inhabit it. As Lefebvre observed, the change undergone by society once engulfed by the abstract space of capital is more immediately noticeable in the altered *relations* of production rather than the actual products themselves. Lefebvre thus noted the manner in which “[t]he reproduction of the social relations of production within this [abstract] space inevitably obeys two tendencies: the dissolution of old relations on the one hand and the generation of new relations on the other.”⁹⁴ Wherever the abstract space of capital enters new territories, it tends to create the *same* concrete contradictions that exist throughout the capitalist mode of production. “It is in [abstract] space that the world of commodities is deployed,” wrote Lefebvre, “along with all that it entails: accumulation and growth, calculation, planning, programming. Which is to say that abstract space is that space where the tendency to homogenization exercises its pressure and its repression with the means at its disposal.”⁹⁵

Another strong tendency of abstract space was highlighted by Lefebvre is its *quantitative* (and indeed “geometric”) character. In this, he parallels our own definition of abstract space as Cartesian. Like abstract time, this quantitative feature of abstract space gradually overtakes the qualitative spaces that exist before it. “Abstract space is measurable,” wrote Lefebvre. “Not only is it quantifiable as geometrical space, but as social space, it is subject to quantitative manipulations: statistics, programming, projections — all are operationally effective here. The dominant tendency, therefore, is towards the disappearance of the qualitative, towards its assimilation subsequent upon such brutal or seductive treatment.”⁹⁶ This space is eminently calculable, in its distances, its vortices, its contours.

The concrete dimension of spatiality under capitalism is less important to the present study, but a short overview of its features still may be given. Whatever the preexisting antagonisms of precapitalist societies may have been, once a new territory has been

Publishing. Cambridge, MA: 1991). Pg. 50. Lefebvre’s notion of abstract space was slightly more bound up with Fordist bureaucratic structures than my own, but in general is largely identical.

⁹⁴ *Ibid.*, pg. 52.

⁹⁵ *Ibid.*, pg. 307.

⁹⁶ *Ibid.*, pg. 352.

enveloped by capitalism's ever-expanding abstract spatiality, it imposed its own pattern of contradictory relations upon it. The concrete institutions and forms of association that had been established prior to the spread of commodity-production to a region may have survived the sequence of violent upheavals that capitalism forced upon it, but their essence was forever changed. In some cases old contradictions vanished, only to see new contradictions arise. Whereas the abstract space of capital is conceptually empty, the people and objects that inhabit it are concretely embodied, and their contradictory and antagonistic relations to one another are concretely manifested.

Descending from the abstract globality of capitalism's spatiality to the highest levels of its concrete incarnation, we arrive at the modern nation-state. We find ourselves asking a question that Lefebvre posed at a pivotal moment in his *Production of Space*. "How and why," he asked, "is it that the advent of a world market, implying a degree of unity at the level of the planet, gives rise to a fractioning of space — to proliferating nation states, to regional differentiation and self-determination, as well as to multinational states and transnational corporation which, although they stem this strange tendency towards fission, also exploit it in order to reinforce their own autonomy? Towards what space and time will such interwoven contradictions lead us?"⁹⁷

Indeed, one of the most concrete, yet contradictory, spatial novelties of the capitalist era was the invention of the nation-state. It would not be an exaggeration to claim that the modern nation-state was (and remains) the concrete political expression of the bourgeoisie. This new national consciousness, or *Volksgeist*,⁹⁸ came into conflict not only with aristocratic-monarchical structures that had preceded it, but also with more regional and linguistic identities that did not conform to the established geographical

⁹⁷ *Ibid.*, pg. 351.

⁹⁸ "The principles of *the spirits of nations* [*Volksgeister*] are in general of a limited nature because of that particularity in which they have their objective actuality and self-consciousness as *existent* individuals, and their deeds and destinies in their mutual relations are the manifest [*erscheinende*] dialectic of the finitude of these spirits. It is through this dialectic that the *universal spirit*, *the spirit of the world*, produces itself in its freedom from all limits, and it is this spirit which exercises its right — which is the highest right of all — over finite spirits in *world history* as *the world's court of judgement* [*Weltgericht*]." Hegel, Georg Wilhelm Friedrich. *The Philosophy of Right*. Translated by H.B. Nisbet. (Cambridge University Press. New York, NY: 1991). Pg. 371, §340.

boundaries of a given nation. At this point, in its unifying capacity, nationalism played an eminently *progressive* role in dissolving the feudal bonds of vassalage, and along with it the extended kingdoms and fiefdoms that had formed during the medieval era.

However, no sooner did the form of the nation-state attain ascendance over these antiquated social systems than it was superseded at the social and economic level by world capitalist intercourse. At this point, national structures were forced to negotiate the international character of commodity-production and universal trade while defending their own basis (and spatial borders) in terms of common populist bonds — whether ethnically or linguistically defined. Contradictions also arose between nations and the spatial distribution of capitalist development, with some parts of the world enjoying a high concentration of capital — with all the wealth and technological innovations brought with it — while others experienced a dearth. “Within [the] global framework, as might be expected,” remarked Lefebvre, “the Leninist principle of uneven development applies in full force: some countries are still only in the earliest stages of the production of things (goods) in space, and only the most industrialized and urbanized ones can exploit to the full the new possibilities opened up by technology and knowledge.”⁹⁹

Some of the contradictory spaces that one finds under capitalism were not wholly *engendered* by capitalism. In fact, one of them predated capitalism by several centuries. The antithesis of town and country, for example, existed long before the abstract space of capitalism spread its net over both of these spaces, ever since feudal times. This antagonism remained prominent under capitalism, for example, but now in an exacerbated form. The town, formerly almost totally dependent on the countryside for food and provisions, now gained the upper hand. The countryside, in which most of the population had lived up to that point, now found itself subjugated to the rule of the town, with huge numbers of the dislodged peasantry moving to the cities to find work.

Nor did the character of the city itself remain the same. Once the seat of all *political* authority in medieval times, the *commercial* character of the city began to predominate over it in the era of mercantilism. This in turn was increasingly usurped by the *industrial* function of the city, as factory clusters became more prominent in the towns and the thin

⁹⁹ Lefebvre, *The Production of Space*. Pg. 65.

outline of blackened smokestacks rose to dominate the skyline.¹⁰⁰ Needless to say, these transitions were not accomplished according to any preestablished plan, and so new sites of construction were grafted upon the older neighborhoods and districts. The result was an intense agglomeration of contradictory structures existing alongside each other, the accumulated debris of past ages. The old beside the new, the antiquated beside the modern, the sleek utilitarian warehouses next to the most atavistic façades — in short, the most concrete anachronisms imaginable could be witnessed in close proximity to one another. The historical accretions of centuries of development piled upon one another, leaving the face of the city irrevocably transformed.

The concrete, contradictory space of capitalism can therefore be seen at work on two different levels: in the tension between the national and the international as well as the antithesis between town and country. These contradictions will remain important to our inquiry insofar as the avant-garde strove to eliminate them. Now that the abstract and concrete spatiotemporal elements of capitalism have been explained, however, we may finally proceed to their reflection within the domain of architecture. Despite the complex and theoretical character of this account thus far, this digression into the sociohistorical roots of the avant-garde phenomenon nevertheless provides crucial context — as well as a robust framework — for the interpretation that will follow.

A chart reviewing the various traits belonging to the spatial and temporal aspects of capitalism, along with their relationship to both the traditionalist and modernist forms of architecture, may be found on the following page. Though schematic in nature, these categorical clusters can nevertheless be held to be roughly applicable.

¹⁰⁰ “It was the rise of the mercantile city, which was grafted onto the political city but promoted its own ascendancy, that was primarily responsible. This was soon followed by the appearance of industrial capital and, consequently, the *industrial city*... We know that industry initially developed near the sources of energy (coal and water), raw materials (metals, textiles), and manpower reserves. Industry gradually made its way into the city in search of capital and capitalists, markets, and an abundant supply of low-cost labor. It could locate itself anywhere, therefore, but sooner or later made its way into existing cities or created new cities, although it was prepared to move elsewhere if there was an economic advantage in doing so. Just as the political city resisted the conquest — half-pacific, half-violent — of the merchants, exchange, and money, similarly the political and mercantile city defended itself from being taken over by a nascent industry, industrial capital, and capital itself.” Lefebvre, Henri. *The Urban Revolution*. Pg. 13.

DIALECTICS OF CAPITALISM	
General	
Rational Systematic Universal	Irrational Anarchic Particular
Temporal	
Abstract Homogeneous Cyclical Scientific Mechanical	Concrete Heterogeneous Linear Historical Dialectical
Spatial	
Abstract Homogeneous Global/International Decentralized/Dispersed Egalitarian Expansion	Concrete Heterogeneous Local/National Centralized/Concentrated Hierarchical Contraction
Architectural	
Modernism	Traditionalism

FIGURE 1: The Spatiotemporal Dialectic of Capitalism and Architecture¹⁰¹

¹⁰¹ As mentioned toward the end of the above subsection, the historical instances this study will examine as its objects cannot be thought to embody all of the categories associated with their type in its purity.

Ultimately, the signifiers “modernism” and “traditionalism” constitute contrasting *ideal types*, in the Weberian sense: “This conceptual pattern brings together certain relationships and events of historical life into a complex, which is conceived as an internally consistent system. Substantively, this construct in itself is like a *utopia* which has been arrived at by the analytical accentuation of certain elements of reality. Its relationship to the empirical data consists solely in the fact that where...relationships of the type referred to by the abstract construct are discovered or suspected to exist in reality to some extent, we can make the *characteristic* features of this relationship pragmatically *clear* and *understandable* by reference to an *ideal-type*. This procedure can be indispensable for heuristic as well as expository purposes.” Weber, Max. “‘Objectivity’ in Social Science and Social Policy.” Translated by Edward A. Shils and Henry A. Finch. *The Methodology of the Social Sciences*. (The Free Press. New York, NY: 1949). Pg. 90.

Traditionalist Architecture

Traditionalism in architecture, the broad outlines of which we described at the beginning of this section, can now be fleshed out in more detail. This may be done, moreover, with a view to the social forces from whence it sprang.¹⁰² For it is not difficult to see how the historical consciousness engendered by capitalist modernity must have contributed to the nineteenth-century recognition of the distinct architectural epochs that preceded it. There had, of course, been some cognizance of the central features of classicism dating back to at least the Renaissance. It would not be until the end of the eighteenth century, however, that the history of architecture would present itself as a sequence of civilizational styles. Naturally, this followed from the more general conception of history as a succession of discrete stages, in which certain “nations” or peoples held sway. This could only appear as such under the aegis of that linear, punctuated temporality peculiar to modernity. The

¹⁰² Let it not be thought, therefore, that this investigation of rival architectural ideologies emerging under capitalism is nothing more than a “history of ideas.” By exposing the spatiotemporal dialectic of capitalism, which is materially produced by the economic forces of this social formation, we have grounded these superstructural forms of thought we are examining in a definite socioeconomic base. As Marx famously wrote: “In the social production of their lives men enter into relations that are specific, necessary, and independent of their will, relations of production which correspond to a specific stage of development of their material productive forces. The totality of these relations of production forms the economic structure of society, the real basis from which rises a legal and political superstructure, and to which correspond specific forms of social consciousness. The mode of production of material life conditions the social, political, and intellectual life-process generally. It is not the consciousness of men that specifies their being, but on the contrary their social being that specifies their consciousness...With the alteration of the economic foundation the whole colossal superstructure is more or less rapidly transformed. In examining such transformations one must always distinguish between the transformation in the economic conditions of production, to be established with the accuracy of physical science, and the legal, political, religious, artistic[, architectural,] or philosophical, in short ideological forms in which men become conscious of this conflict and fight it out.” Pgs. 159-160.

By this same accord, however, let us not fall into the trap of crudely deducing every ideological aspect of architecture directly from some class or economic foundation. This is a mistake that is all-too-often made by vulgar Marxism. The relationship between base and superstructure is hardly a one-way street, and ideas that rise objectively into the heavens of thought often retroactively act on their material bases. Different superstructural elements (political, religious, artistic) often attain a sort of phantom independence, as well, and interact with one another without having to be rerouted back through economic channels.

famed chronicler of modern architecture in the twentieth century, Sigfried Giedion, would thus historiographically remark in his lectures of 1938 that “[i]n the arts, periods are differentiated by the ‘styles’ which became fixed and definite in each stage of development. And the study of the history of styles was the special work of nineteenth-century historians, a work most skillfully carried through.”¹⁰³

Presumably, these styles had always existed. They were simply lying inert, waiting to be discovered. Historians prior to the nineteenth century, it seemed, had just failed to see what had been standing before them the whole time, and therefore could not grasp the evolution of past architectural forms in all their richness, complexity, and variety. In fact, there were very few historians before this time to have even taken up the question of the history of architecture. Those who *had* investigated this issue at any length had evidently proved unable to properly understand the connection these forms had to the different civilizations that had produced them. Only with figures like Johann Winckelmann and Giovanni Piranesi did the first inkling of such an understanding appear. As a result, the majority of premodern architectural theorists felt themselves to be dealing with timeless and immutable principles such as “proportion” (*proportio*), “symmetry” (*symmetria*), “eurhythmics” (*eurhythmia*), and “distribution” (*distributio*). From the rediscovery of Vitruvius’ *Ten Books on Architecture* in the Renaissance down to its subsequent exegesis and elaboration by the great master Leon Battista Alberti,¹⁰⁴ the subject of history in the discipline of architecture factored in only peripherally.¹⁰⁵ But with the newfound sense of historical consciousness rising out of the temporal dialectic of modernity, the manifold styles of architecture revealed themselves with increasing clarity.

It may be fairly objected, however, that these apparently distinct stylistic “epochs” of architectural creation were not at all self-evident, and that they were instead the artificial

¹⁰³ Giedion, Sigfried. *Space, Time, and Architecture: The Growth of a New Tradition*. (Harvard University Press. Cambridge, MA: 1982). Pg. 21. Lectures first delivered between 1938-1939.

¹⁰⁴ Alberti, Leon Battista. *On the Art of Building in Ten Books*. Translated by Joseph Rykwert, Neil Leach, and Robert Tavernor. (The MIT Press. Cambridge, MA: 1991).

¹⁰⁵ In Book II, Vitruvius declared that aspiring architects should be trained in history, but only so that they might have a firmer knowledge of ornamentation and its symbolic justification. Pollio, Vitruvius. *Ten Books on Architecture*. Translated by Ingrid D. Rowland. (Cambridge University Press. New York, NY: 1999). Originally published 46 BCE.

invention of later thinkers. In their attempt to organize and make sense of the past, it is argued, these historians imposed flimsy or arbitrary criteria on the objects of their study so that they could be more easily classified and grouped together. This was all part of the modern project of drafting secular “metanarratives” in the nineteenth century, intended to somehow ratify or legitimate the present. “[T]he diachronical periodization of history is typically a modern obsession,” noted Jean-François Lyotard, the French philosopher.¹⁰⁶ According to postmodernists, of course, the notion of history as a sequence of inevitable stages leading up to the present has itself lost its legitimacy — “the grand narrative has lost its credibility, regardless of what mode of unification it uses.”¹⁰⁷ One of the results of its delegitimation, as the Marxist critic Fredric Jameson has pointed out, is that the general validity of qualitative demarcations between historical periods has been radically undermined. It “raise[s] the whole issue of periodization and of how a historian (literary or other) posits a radical break between two henceforth distinct periods.”¹⁰⁸ Can one really pinpoint a specific moment as marking the end of one era and the beginning of another? “One of the concerns frequently aroused by periodizing hypotheses,” Jameson explained in his treatise on *Postmodernism*, “is that these tend to obliterate difference and to project an idea of the historical period as massive homogeneity (bounded on either side by inexplicable chronological metamorphoses and punctuation marks).”¹⁰⁹

In light of such postmodern objections or concerns, does it therefore follow that the modern understanding of history as a progression of distinct periods or epochs is a total fabrication, the sequence of architectural styles wholly a lie? To be sure, the historians of the nineteenth century did not dream up their notion of successive “ages” of world history out of thin air. There was a certain objectivity that held sway in their investigations of

¹⁰⁶ Lyotard, Jean-François. “Re-writing Modernity.” *SubStance*. (Vol. 16, № 3, Issue 54: 1987). Pg. 4.

¹⁰⁷ Lyotard, François. *The Postmodern Condition: A Report on Knowledge*. Translated by Brian Massumi and Geoff Bennington. (Manchester University Press. Manchester, England: 1984). Pg. 37.

¹⁰⁸ Jameson, Fredric. “Postmodernism and Consumer Society.” *The Cultural Turn: Selected Writings on the Postmodern, 1983-1998*. (Verso Books. New York, NY: 1998). Pg. 18.

¹⁰⁹ Jameson himself transparently admits to the problematic concept of historical periodization while explicitly making use of it. Jameson, Fredric. *Postmodernism, Or the Cultural Logic of Late Capitalism*. (Duke University Press. Durham, NC: 1991). Pgs. 2-3.

the past. The characteristic features they identified as belonging to a specific age or to a particular style of architecture doubtless possessed some underlying reality. This does not mean, however, that these objects of the modern historians' contemplation were mere *facta bruta* allowing for no alternate explanation. For their very subjectivity had itself been molded by the various social forces prevailing during its day. The categories by which these historians apprehended the past reflected the epistemic structures that existed at their time. If these corresponded to the historical consciousness emerging out of the temporal dialectic of capitalism, such an understanding would only be appropriate.

The unconscious theoretical underpinnings for the traditionalist account of historical architecture — which then forms the point of departure for the practice of architectural traditionalism — are best explained by the concept of “invented traditions,” which was first introduced by the British Marxist Eric Hobsbawm several decades ago.¹¹⁰ “In short, [‘invented traditions’] are *responses to novel situations which take the form of reference to old situations, or which establish their own past by quasi-obligatory repetition*,” wrote Hobsbawm. “It is the contrast between the constant change and innovation of the modern world and the attempt to structure at least some parts of social life within it as unchanging and invariant, that makes the ‘invention of tradition’ so interesting for historians of the past two centuries.”¹¹¹ Notice how Hobsbawm specified the last couple centuries as the ones in which this pattern of constant transformation and upheaval was occurring. This is consistent with our previous claim that modern historical consciousness arose precisely during this period.¹¹² Not only was the view of the past as an unfolding series of stages

¹¹⁰ “‘Invented tradition’ is taken to mean a set of practices, normally governed by overtly or tacitly accepted rules and of a ritual or symbolic nature, which seeks to inculcate certain values and norms of behaviour by repetition, which automatically implies continuity with the past. *In fact, where possible, they normally attempt to establish continuity with a suitable historic past* [my emphasis].” Hobsbawm continues with recourse to an explicitly architectural example: “A striking example is the deliberate choice of a Gothic style for the nineteenth-century rebuilding of the British parliament, and the equally deliberate decision after World War II to rebuild the parliamentary chamber on exactly the same plan as before.” Hobsbawm, Eric. “Inventing Traditions.” *The Invention of Tradition*. (Cambridge University Press. New York, NY: 1983). Pgs. 1-2.

¹¹¹ *Ibid.*, 2. My emphasis.

¹¹² Compare Hobsbawm’s mention of “the constant change and innovation of the modern world” with our

formed on this basis, but also the need for a stable body of *historical traditions* appearing to endure throughout this instability. Distinct from organic customs and conventions that exist in precapitalist societies (some of which occasionally survive modernization), which are hardly set down in stone the way they are once they have been exalted as belonging to “perennial” tradition,¹¹³ “traditions” in the Hobsbawmian sense are rigid, codified, and elaborately formalized.¹¹⁴ In fact, the creation of these strictly circumscribed traditions is far more a feature of modern society than it is of so-called “traditional” society.¹¹⁵ As Hobsbawm himself indicated, the void of Weberian traditional authority¹¹⁶ left by the bourgeois revolutions in Europe during the nineteenth century often meant that fledgling liberal regimes felt it necessary to invent traditions in order to supplement their purely legal authority. “Invented traditions,” he wrote, have become more prevalent “since the industrial revolution,” as more generally longstanding traditions like monarchy, fealty, and serfdom were usurped.¹¹⁷

Applying this concept specifically to the architectural and ornamental histories that took shape during the nineteenth century, it becomes clear that the various styles that they

discussion of the convulsive societal changes taking place during the late eighteenth through the nineteenth and twentieth centuries on page 28, which established the historical consciousness of modernity.

¹¹³ “‘Custom’ cannot afford to be invariant, because even in ‘traditional’ societies life is not so.” *Ibid.*, pg. 2.

¹¹⁴ “Inventing traditions, it is assumed here, is essentially a process of formalization and ritualization, characterized by reference to the past, if only by imposing repetitions.” *Ibid.*, pg. 4.

¹¹⁵ “Such changes have been particularly significant in the past 200 years, and it is therefore reasonable to expect these instant formalizations [‘inventions’] of new traditions to cluster during this period. This implies, against both nineteenth-century liberalism and more recent ‘modernization’ theory that such formalizations are not confined to so-called ‘traditional’ societies, but also have their place, in one form or another, in ‘modern’ ones.” *Ibid.*, pg. 5. I would take this one step further and point out that most invented traditions in “traditional” societies were imposed from without by modern societies during the colonial age.

¹¹⁶ “Authority will be called traditional if legitimacy is claimed for it and believed in by virtue of the sanctity of age-old rules and powers.” Weber, Max. *Economy and Society, Volume 1*. Translated by Ephraim Fischhoff, Hans Gerth, A.M. Henderson, Ferdinand Kogler, C. Wright Mills, Talcott Parsons, Max Rheinstein, Guenther Roth, Edward Shils, and Claus Wittich. (University of California Press. Los Angeles, CA: 1978). Pg. 226.

¹¹⁷ Hobsbawm, “Inventing Traditions.” Pg. 9.

described had not been simply “discovered” by archeologists and observers. They were to some extent, by the very dint of their enshrinement *as* traditions, also “invented.” For all its utility, unfortunately, this terminology is still slightly misleading, because it is not as if the common characteristics identified by these architectural historians as belonging to a particular style had been created by them *ex nihilo*. The buildings and ruins they grouped together usually *did* possess a great deal of structural and stylistic similarity. It is rather that the historians of the nineteenth century were investigating building practices that had been founded upon a fluid and organic set of customs and convention. By taking certain aspects of a given period of building as the ones most typical of that era, however, it was as if they were freezing these architectural “traditions” in a more fixed state than they had ever possessed during their life. In selecting those features of art or architecture that captured a style in its utmost “purity,” as its apogee or apotheosis, modern historians often formalized these practices to a far greater degree than they had been in actuality. Thus could Sir Joshua Reynolds assess the relative quality of the Florentine, Bolognese, Roman, and Venetian schools of Italian painting in expressing the Renaissance ideal.¹¹⁸ So also could John Ruskin declare that “it is in the pause of the star [tracery] that we have the great, pure, and perfect form of French Gothic.”¹¹⁹

¹¹⁸ “[The rendering of drapery] is the great principle by which we must be directed in the nobler branches of our art. Upon this principle the Roman, the Florentine, the Bolognese schools, have formed their practice; and by this they have deservedly obtained the highest praise. These are the three great schools of the world in the epic style. The best of the French school, Poussin, Le Sueur, and Le Brun, have formed themselves upon these models, and consequently may be said, though Frenchmen, to be a colony from the Roman school. Next to these, but in a very different style of excellence, we may rank the Venetian, together with the Flemish and the Dutch schools, all professing to depart from the great purposes of painting, and catching at applause by inferior qualities.” Reynolds, Joshua. *Seven Discourses on Art*. (The Echo Library. Middlesex, England: 2007). Pg. 31.

¹¹⁹ “...at the instant when the rudeness of the intermediate space had finally been conquered, when the light had been expanded to its fullest, and yet had not lost its radiant unity, principality, and the visible first causing of the whole.” Ruskin, John. *The Seven Lamps of Architecture*. (Dover Publications, Inc. New York, NY: 1989). Pg. 59.

Another example of this tendency comes in Ruskin’s discussion of variations within the Gothic: “The capital [of San Michele of Lucca] is of the noblest period of the Venetian Gothic; and it is interesting to see the play of leafage so luxuriant, absolutely subordinated to the breadth of two masses of light and shade.

Before examining specific examples of the architectural periodicities compiled during this time, one further peculiarity can be noted. This occurs in connection with an aspect of the concrete spatiality of capitalism discussed above. For it was the ubiquity of the form of the nation-state and the nationalist sentiments accompanying it that colored modern historians' view of past political entities.¹²⁰ Though nationalism was a relatively recent development, historians understood the past in terms of their present. The modern concept of the "nation" was transposed upon the past. Despite the fact that the "nations" they referred to were often self-contained empires, kingdoms, and principalities, it would nevertheless be an error to think of them as nationalities in the strict sense of the term. Again, however, these historians should not be blamed for making what appears to us as a rudimentary category mistake; this mistake itself bore the mark of its age, the impress of capitalism's concrete spatiality, and could hardly have been otherwise.

And so we can see that on the one hand nineteenth-century architectural discourse temporally divided styles according to their "age," "era," or "epoch," while on the other hand it spatially divided them according to their "nation" of origin. Statements like the following, by the British architectural historian Edward A. Freeman, writing in 1849, are thus symptomatic of this approach to history: "The most remarkable feature in the history of architecture...is the fixedness with which each age and nation adhered to its own form of the art."¹²¹ This assertion leads off Freeman's second chapter, on the "Causes of the Diversity of Styles" in architecture. The following chapter explains how, despite the multiplicity of peoples and distinct societies in any given era, one particular "nation" can gain civilizational ascendance over all its peers. At the same time, Freeman claimed that

What is done by the Venetian architect, with a power as irresistible as that of the waves of his surrounding sea, is done by the masters of the Cis-Alpine Gothic, more timidly, and with a manner somewhat cramped and cold, but not less expressing their assent to the same great law." *Ibid.*, pg. 89.

¹²⁰ "The concept of the nation is a late arrival; it was alien to the Middle Ages." Adorno, Theodor. *History and Freedom: Lectures 1964-1965*. Translated by Rolf Tiedemann. (Polity Press. Malden, MA: 2006). Pg. 103. Indeed, the notion of a concrete "people" — linked to one another through geography, language, or common traditions and enclosed within defined borders — was nowhere to be found in Europe during the age of feudalism. See also our own discussion of the subject on pages 41-42.

¹²¹ Freeman, Edward A. [*A History of Architecture*](#). (Joseph Masters Publishers. London, England: 1849). Pgs. 11-12.

particular ages rise above the others in terms of their significance and value. “In a survey of the world’s history,” he wrote, in a very Hegelian vein, “some periods, some nations, stand forth conspicuous above others for their intrinsic splendour, and their influence in moulding the minds of institutions of other lands and peoples.”¹²² With this concept in mind, Freeman thus divided the succession of architectural styles as “Celtic — Pelagian — Hindoo — Central American — Egyptian — Grecian — Roman — Romanesque — Saracenic — Gothic — Revived Italian [Renaissance].”¹²³

Freeman’s early *History of Architecture* was in many ways typical of the overarching tendency we are trying to demonstrate. For roughly the same pattern can also be found in Louise C. Tuthill’s contemporaneous *History of Architecture from Earliest Times*,¹²⁴ James Fergusson’s massive three-volume *History of Architecture in All Countries from the Earliest Times to the Present* from the 1860s,¹²⁵ Thomas Mitchell’s *Rudimentary Manual of Architecture* of 1870,¹²⁶ N. D’Anver’s *Elementary History of Architecture of All Countries* from 1883,¹²⁷ Arthur Lyman Tuckerman’s 1887 *Short History of*

¹²² *Ibid.*, pgs. 17-18.

¹²³ *Ibid.*, pgs. 23-29.

¹²⁴ Tuthill’s progression: “Egyptian — Hindoo — Persian — Jewish — Chinese — Aboriginal or American — Cyclopean and Etruscan — Grecian — Roman — Middle Ages — the Romanesque or Lombardic, the Saxon and Norman — Gothic — Greco-Roman Revival — the Present.” Tuthill, Louise C. [*The History of Architecture from Earliest Times, Its Present Condition in Europe and the United States*](#). (Lindsay and Blakiston. Philadelphia, PA: 1848).

¹²⁵ Fergusson’s schema: “ANCIENT — Egyptian — Assyrian — Grecian — Etruscan and Roman — CHRISTIAN — French — Belgian and Dutch — German — Scandinavian — English — Spanish and Portuguese — Italian — Byzantine — PAGAN — Persian — Indian — Hindu — Indian Saracenic — Naga — Chinese — Mexican and Peruvian — EASTERN — Buddhist — Jaina — Himalayan — Dravidian — Chalukyan — Indo-Aryan — Indian Saracenic — Chinese.” Fergusson, James. [*A History of Architecture in All Countries from the Earliest Times to the Present Day, Volumes 1, 2, & 3*](#). (John Murray Publishers. London, England: 1865, 1867, & 1876).

¹²⁶ Mitchell’s sequence: “Greek — Roman — Byzantine and Saracenic — Romanesque — Mediæval — Elizabethan — Renaissance.” Mitchell, Thomas. [*A Rudimentary Manual of Architecture, Being a History of the Principal Styles of European Architecture: Ancient, Mediæval, and Renaissance, with Their Chief Variations Described and Illustrated*](#). (Longmans, Green, and Co. London, England: 1870).

¹²⁷ D’Anver’s history: “Indian — Egyptian — Assyrian — Medo-Persian — Asia Minor — Early American — Greek — Etruscan — Roman — Early Christian — Byzantine — Romanesque — Moorish

Architecture,¹²⁸ Clara Erskine Clement's 1886 *Outline of the History of Architecture for Beginners and Students*,¹²⁹ Alfred Hamlin's *Text-Book on the History of Architecture* written in 1896,¹³⁰ Harold Edgell's and Fiske Kimball's co-authored *History of Architecture* from 1918.¹³¹ Minor variations appear between each author's selection of individual styles, but the commonalities between them are too overwhelming to be denied. While certain interpretive choices were made — for example the subsumption of “Babylonian” architecture into “Assyrian” architecture — the sequential periodization of architectural styles was largely the same. There were obvious chronological reasons that lay behind this, of course, and so again it should not be imagined that these divisions were wholly arbitrary. But the very fact of the *presentation* of these styles in such a manner is itself significant, an indication of these authors' historical consciousness.

Nor were the British the only ones compiling such histories of style, either. French historians also produced a number of works in this vein, especially at L'École des Beaux-

— Gothic — Renaissance — Nineteenth-Century.” D'Anver, N. [*Elementary History of Architecture of All Countries*](#). (Simpson Low, Marston, Searle, & Rivington. London, England: 1883).

¹²⁸ Tuckerman's series: “Celtic or Druidical — Egyptian — Asiatic — Greek — Etruscan and Roman — Early Christian — Byzantine — Mahometan — Romanesque — Gothic — Renaissance.” Tuckerman, Arthur Lyman. [*A Short History of Architecture*](#). (Charles Scribner's & Sons. New York, NY: 1887).

¹²⁹ Clement's periodicity: “ANCIENT OR HEATHEN — Egyptian — Assyrian — Babylonian — Persian — Judean — Greek — Etruscan — Roman — CHRISTIAN — Early Christian — Gothic — Byzantine — Saracenic — MODERN — Italian — Spanish — French — English — German — American.” Clement, Clara Erskine. [*An Outline History of Architecture for Beginners and Students*](#). (White, Stokes, & Allen. New York, NY: 1886).

¹³⁰ Hamlin's derivation of styles: “Primitive and Prehistoric — Egyptian — Chaldæan and Assyrian — Persian, Lycian, and Jewish — Greek — Roman — Early Christian — Byzantine — Sassanian and Mohammedan — Early Mediæval — Gothic — Renaissance — Neoclassicism — Recent European — American — Oriental.” Hamlin, Alfred Dwight Foster. [*A Text-Book on the History of Architecture*](#). (Longmans, Green, and Co. London, England: 1896).

¹³¹ Edgell's and Kimball's genealogy of styles runs: “Prehistoric — Preclassical — Greek — Roman — Early Christian — Byzantine — Romanesque — Gothic — Renaissance — Post-Renaissance — Modern — American — Eastern.” Edgell, George Harold and Kimball, Fiske. [*A History of Architecture*](#). (Harper & Brothers. New York, NY: 1918).

Arts. Among the architectural histories and treatises produced during this time, one must include Léonce Reynaud's landmark *Traité d'architecture* from 1850,¹³² Charles Blanc's *Grammaire des arts du dessin* of 1867,¹³³ Eugène-Emmanuel Viollet-le-Duc's 1877 *Lectures on Architecture*,¹³⁴ Roger Peyre's 1894 *Histoire générale des beaux-arts*,¹³⁵ and Auguste Choisy's *Histoire de l'architecture* of 1899. The Germans and Austrians were no less prolific in their production of carefully periodized histories. Carl Schnaase's Hegelian *Geschichte der bildenden Künste* from 1843,¹³⁶ Wilhelm Lübke's *Geschichte der Architektur* of 1858,¹³⁷ Gottfried Semper's 1860 *Style in the Technical and Tectonic Arts, or, Practical Aesthetics*,¹³⁸ and his great critic Aloïs Riegl's own *Problems of Style: Foundations for a History of Ornament*¹³⁹ from 1897 took up the question of historical

¹³² "De l'antiquité — Du moyen age — De la Renaissance — Des les temps modernes." Reynaud, Léonce. [*Traité d'architecture*](#). (Librairie pour l'architecture. Paris, France: 1850).

¹³³ "Le plein cintre — Style byzantine — Style roman — L'art outre-passé/Style arabs — L'ogive/Style gothique." Blanc, Charles. [*Grammaire des arts du dessin: Architecture, sculpture, peinture*](#). (Jules Renouard. Paris, France: 1867).

¹³⁴ "Primitive — Greek — Roman — Western Christian — Byzantine — Renaissance — Nineteenth Century." Viollet-le-Duc, Eugène-Emmanuel. *Lectures on Architecture, Volume 1*. Translated by Benjamin Bucknall. (Sampson Low, Marston, Searle, and Rivington. London, England: 1877).

¹³⁵ "ANTIQUITÉ — Art égyptien — Orient — La Grèce — L'art étrusque et l'art romain — MOYEN AGE — L'art byzantine — L'art musulman et les arts de l'Asie — L'art roman — Art gothique ou ogival — LA RENAISSANCE — Da Giotto à Vinci — La grande époque — TEMPS MODERNES — Dix-septième siècle — Dix-huitième siècle — Dix-neuvième siècle." Peyre, Roger. [*Histoire générale des beaux-arts*](#). (Librairie Charles Delagrave. Paris, France: 1894).

¹³⁶ "Indische — Babylonische — Ägyptischen — Griechen — Etruskische — Cyclopische — Römische — Altchristliche — Byzantinische — Muhammedanische — Karolingische — Mittelalter italienischen — Gothische — Spanische — Englische." Schnaase, Carl. [*Geschichte der bildenden Künste, Banden 1-7*](#). (Verlag von Julius Buddens. Düsseldorf, Prussia: 1843).

¹³⁷ Lübke, Wilhelm. [*Geschichte der Architektur*](#). (E.A. Seemann's Verlagsexpedition. Köln, Prussia: 1858).

¹³⁸ "Egyptian — Chaldean — Assyrian — Indian — Doric — Ionic — Corinthian — Hellenic — Roman — Byzantine — Oriental — Merovingian — Romanesque — Gothic — Renaissance — Modern." Semper, Gottfried. *Style in the Technical and Tectonic Arts, or, Practical Aesthetics*. Translated by Harry Francis Mallgrave, Michael Robinson, and Amir Baghdadchi. (Getty Research Institute. Los Angeles, CA: 2004). Originally published in 1860.

¹³⁹ Riegl, Aloïs. *Problems of Style: Foundations for a History of Ornament*. Translated by Evelyn Kain.

styles in the building arts. Their inquiries yielded many similar results, in terms of their overall progression.

Riegl's *Problems of Style* brings us to an academic field that was closely allied to the history of architecture during this period: namely, the history of ornament. This field was virtually founded by singular act of publication, by Owen Jones, a close friend and colleague of Ruskin's. In 1856, Jones released what would come to be regarded as his masterpiece, *The Grammar of Ornament*.¹⁴⁰ The book was released to rave reviews that appeared in many of the major British newspapers and journals, making it an instant success.¹⁴¹ Not only did it have a profound influence on young designers, however. It also inaugurated the popular new genre of chromolithographic folios devoted to the study of historic ornament. A number of authors followed in Jones' footsteps by writing books like this. Albert Charles Auguste Racinet wrote *L'Ornement Polychrome* in 1869,¹⁴²

(Princeton University Press. Princeton, NJ: 1992). Originally published in 1897.

¹⁴⁰ Jones, Owen. *The Grammar of Ornament: Illustrated by Examples from Various Styles of Ornament*. (Studio Editions. London, England: 1986). Originally published in 1856.

The importance of Owen Jones' *Grammar of Ornament* and its place within the academic order was underscored by Le Corbusier years later, in his 1925 book *The Decorative Arts of Today*: "We had been told: Go and explore in the calm of the library the great compendium by Owen Jones, the *History* [*sic*, the *Grammar*] of Ornament. This, without question, was a serious business. The pure ornaments which man had created entirely out of his head followed one another in sequence. Yes, but what we found there was overwhelmingly man as part of nature, and if nature was omnipresent, man was an integral part of it, with his faculties of man. From imitation to creation. This book was beautiful and true, for in it everything was summed up that had been made, that in a profound sense had been *achieved*: the decoration of the Renaissance Man, of the Gothic, the Romanesque, the Roman, the Chinese, the Indian, the Greek, the Assyrian, the Egyptian, etc. With this book we felt that the problem was posed: Man *creates what moves him*." Le Corbusier, *The Decorative Arts of Today*. Pg. 133.

¹⁴¹ Cf. George Eliot's piece for the Fortnightly Review, and the anonymous reviews for Athenaeum and Fine Arts Quarterly. Eliot, George. "Owen Jones' *Grammar of Ornament*." *Fortnightly Review*. № 1. (May 1865). Pgs. 124-125.

"Owen Jones' *Grammar of Ornament*." *Fine Arts Quarterly Review*. № 1. (June 1866). Pg. 236.

"*The Grammar of Ornament*." *Athenaeum*. (May 1865). Pg. 647.

All these reviews were written after a cheaper, more portable reprint of Jones' original volume had been issued in 1865.

¹⁴² Racinet, Albert Charles Auguste. *Handbook of Ornaments in Color: Volumes 1-3*. Translated by J.A.

Heinrich Dolmetsch wrote *Der Ornamentenschatz* in 1883,¹⁴³ and Alexander Speltz wrote *The Styles of Ornament*.¹⁴⁴ Each of these works similarly aspired to achieve the encyclopedic effect of Jones' original *Grammar*. More formal histories on the subject were also written, such as Ralph N. Wornum's 1855 lecture *Analysis of Ornament*¹⁴⁵ and A.D.F. Hamlin's *History of Ornament*, published in 1916.¹⁴⁶

All that has been established so far tells us much about the architectural *histories* that were written during the nineteenth century. However, it does not say much of the actual *architecture* that was produced simultaneously. For how exactly did traditionalism in architecture evolve out of the ever more elaborate histories of architectural tradition? Indeed, the transition is by no means as obvious as it was been previously suggested. The historians of architecture during this period considered their work very important at a *descriptive* level, but did not thereby endorse the forms they described as the *prescriptive* basis for a new architecture. "[The] example [of past styles]," warned Tuckerman, "teaches us never to copy slavishly, but to initiate old examples only so far as they may suit modern needs, in principle rather than detail, and to eschew the reproduction of defects, however picturesque, so that architecture may be a living art instead of the mummified representation of archæological researches."¹⁴⁷ Whence the traditionalist architects came to their predisposition to historicist eclecticism, then, cannot be so easily derived from the work of the architectural historians.

Nevertheless, the *fact* of architectural traditionalism's tendencies toward historicism and eclecticism remains. No less a figure than Viollet-le-Duc spoke out against it in his time, anticipating many of the criticisms that the modernists would later level at it. And in his vicious excoriation of the architects of his day, he would cite the very wealth of historical knowledge regarding past architecture as an "obstruction" blocking the creation

Underwood. (Van Nostrand Reinhold Company. New York, NY: 1978). Originally published in 1869.

¹⁴³ Dolmetsch, Heinrich. *The Treasury of Ornament: Pattern in the Decorative Arts*. Translated by Richard Phené Spiers. (Portland House. New York, NY: 1989). Originally published in 1883.

¹⁴⁴ Speltz, Alexander. *The Styles of Ornament: Exhibited in Designs, and Arranged in Historical Order, with Descriptive Text*. Translated by David O'Connor. Originally published in 1906.

¹⁴⁵ Wornum, Ralph N. [*Analysis of Ornament*](#). (Chapman and Hall. London, England: 1855).

¹⁴⁶ Hamlin, A.D.F. [*A History of Ornament*](#). (The Century Co. New York, NY: 1916).

¹⁴⁷ Tuckerman, [*A Short History of Architecture*](#). Pg. 166.

of a new style. It would thus seem that Viollet-le-Duc himself identified the historical consciousness of architectural tradition as the root of eclecticist architecture's imitative degeneracy. His call for the development of a new architectural methodology is so unequivocal that it deserves to be quoted at length. Toward the end of his *Lectures on Architecture*, he therefore asked:

Is the nineteenth century destined to close without possessing an architecture of its own? Will this age, which is so fertile in discoveries, and which displays an energetic vitality, transmit to posterity *only imitations or hybrid works*, without character, and which it is impossible to class? Is this sterility one of the inevitable consequences of our *social* conditions? Does it result from the influence on the teaching of the art exercised by an effete coterie? And can a coterie, whether it be young or old, acquire such a power in the midst of vital elements? Assuredly not. Why then has not the nineteenth century its architecture? We are building everywhere, and largely; millions are being expended in our cities, and yet we can only point here and there to a true and practical application of the very considerable means at our disposal.

Since the Revolution of the last century [1789] we have entered on a transitional phase; *we are investigating, searching into the past, and accumulating abundance of materials, while our means and appliances have been increased*. What then is wanting to enable us to give an original embodiment and form to so many various elements? Is it not simply method that is lacking? In the arts, as in the sciences, the absence of method, whether we are engaged in investigating or in attempting to apply the knowledge we have acquired, occasions an embarrassment and confusion proportional to the increase of our resources; *the abundance becomes an obstruction*. Every transitional period however must have a limit; it must tend towards an aim of which we get a glimpse only when, weary of searching through a chaos of ideas and materials brought from every quarter, we set to work to disentangle certain principles from this disorderly mass — to develop and apply them by the help of a determinate method. This is the work that devolves upon us, and to which we should devote ourselves with uncompromising persistency — struggling against those deleterious elements which are invariably engendered during all transitional periods, just as miasmas exhale from matter in a state of fermentation.

The arts are diseased; architecture is dying in the midst of prosperity, notwithstanding the presence of energetic vital principles; it is dying of excesses and a debilitating regime. The more abundant the stores of our knowledge, the more strength and rectitude of judgment is needed to make a productive use of them, and the more necessary is it to recur to rigorous principles. The disease from which architectural art suffers dates from a remote period; it has not been developed in a single day; we see it increasing from the sixteenth century to our own times; from the time when, after a very superficial study of the architecture of ancient Rome — certain of whose externals were made objects of imitation — our architects ceased to make the alliance of the form

with the requirements and the means of construction the chief consideration. Once out of the way of truth, architecture has been more and more misled into degenerating paths.¹⁴⁸

Incidentally, Viollet-le-Duc would not be the only one to identify the imitative aspect of the Renaissance and its reverence for classical forms as the beginning of the decline of architecture. Though impressive in its formal accomplishments, the otherwise-celebrated Renaissance was viewed as symptomatic of an ideological regression. Wright would thus later remark, in the opening years of the twentieth century, that “with the beginning of the sixteenth century, the malady of architecture is visible. It becomes classic art in a miserable manner; from being indigenous, it becomes Greek and Roman...It is this decadence which we call the Renaissance...*It is the setting sun which we mistake for dawn.*”¹⁴⁹ This same sentiment was simultaneously expressed by Hermann Muthesius in 1901: “What was achieved in Renaissance building-art could be but a pale image of a superior original art — a claim that will be evident to every visitor to Italy who observes how any single antique building (the Roman Coliseum or the Pantheon, for example) eclipses the entire building-art of the Renaissance.”¹⁵⁰

It was probably Muthesius who best summarized the development of what he referred to as “style-architecture” [*Stilarchitektur*] in his famous book, *Style-Architecture and Building-Art: Transformations of Architecture in the Nineteenth Century and Its Present Condition*. To some extent, he adopted this term from one of his architectural idols he met while he was living in England, W.R. Lethaby. Lethaby was known to often refer contemptuously to what he called “the catalogued styles.”¹⁵¹ In a retrospective on the

¹⁴⁸ Viollet-le-Duc, [*Lectures on Architecture*](#). Pgs. 446-447.

¹⁴⁹ While Wright would express his admiration for the works of the Renaissance masters, he believed that architecture was in terminal decline at this point because the invention of the printing press had rendered the building façade anachronistic. Wright, Frank Lloyd. “The Art and Craft of the Machine.” *The Essential Frank Lloyd Wright: Critical Writings on Architecture*. (Princeton University Press. Princeton, NJ: 2008). Pgs. 24-25. Originally published in 1901.

¹⁵⁰ Muthesius, Hermann. *Style-Architecture and Building-Art: Transformations of Architecture in the Nineteenth Century and Its Present Condition*. Translated by Stanford Anderson. (The Getty Center for the History of Art and Humanities. Los Angeles, CA: 1994). Pg. 51.

¹⁵¹ Lethaby, W.R. From a 1915 speech to the Architectural Association in London. Quoted in Banham, Reyner. *Theory and Design in the First Machine Age*. (The MIT Press. Cambridge, MA: 1980). Pg. 44.

traditionalist architectural construction that went on during this time, Muthesius dated the beginning of the modern discourse on styles to 1762.¹⁵² He followed its development through Schinkelite Hellenism in Germany, neoclassicism in France and England, Louis XIV-XVI French revivalism, restoration mania on the continent, Nordic Romanticism and the neogothic, German Renaissance, all the way up to post-1870s eclecticism proper.¹⁵³ During this last phase, there took place what Muthesius termed a “battle of the styles”: “Like a hungry herd, architects and artisans of the last two decades grazed over all periods of artistic development subsequent to the German Renaissance for their models. A stylistic battle began, in which the late Renaissance, Baroque, Rococo, Zopf, and Empire were slaughtered indifferently.”¹⁵⁴ The result of this battle was what later architects would pejoratively call “eclecticism” (what Muthesius called “architectural formalism”). It would reign until the end of the century: “Architectural formalism appeared most directly in the stylistic hunt that began with the German Renaissance of the 1870s and cursorily rushed through all the styles of the last four hundred years.”¹⁵⁵

Thus was the outcome of traditionalism in architecture. Most construction took place under the order of the “catalogued styles” described by Lethaby. These styles, which had been so thoroughly compiled by the historians of the nineteenth century, were accepted by the architects of the time as canonical embodiments of a particular nation or epoch. This reflected the new historic and national consciousness that had been awakened by capitalism. Toward the end of the nineteenth century, following the “battle of the styles” described by Muthesius, exclusive adherence to one style or another was itself replaced by a casual borrowing from multiple styles all at once. “Styles were regarded as matters of habit, and any claim of exclusiveness was now regarded as outmoded,” the historian Leonardo Benevolo recorded. “[T]he architect’s prerogative...was the freedom to choose this form or that..., dependent on feeling, not on reason.”¹⁵⁶ Such unlimited freedom on

¹⁵² “The work on the antiquities of Athens by the English architects Stuart and Revett, which appeared in 1762, forms the milestone of this new discovery.” Muthesius, *Style-Architecture and Building-Art*. Pg. 53.

¹⁵³ *Ibid.*, pgs. 54-68.

¹⁵⁴ *Ibid.*, pg. 69.

¹⁵⁵ *Ibid.*, pg. 77.

¹⁵⁶ Benevolo, Leonardo. *The History of Modern Architecture, Volume I*. Translated by H.J. Landry. (The MIT Press. Cambridge, MA: 1992). Pg. 122. Originally published in 1960.

the part of the architect lent itself to capriciousness and accident, since the forms used were all subject to the builder's fancy. This is what so enraged the modernists.¹⁵⁷

Modernist Architecture — Negative Bases

One of the motive forces in the move toward modernist architecture, its *negative* thrust, was its categorical rejection of the traditionalist architecture that preceded it. Certainly, the formation of the architectural avant-garde in the early twentieth century had its very positive basis in social processes going on at the time, in economic industrialization and the newfound understanding of “space-time” expressed by abstract art. But exploration into the more positive underpinnings of modernist architecture will be saved for the next subsection; for now, we will confine ourselves to an investigation of its negative bases. For while the modernists could easily point to aspects of modern society that they stood *for*, they could just as easily point to eclecticist architecture as an example of that which they stood *against*. Because so much of the ground for the modernist project was staked out polemically, this side of its development deserves separate treatment.

But eclectic historicism in architecture was not all that the avant-garde stood against. In a broader sense, as a sort of analogue to its architectural rival, the standpoint adopted by the modernists placed them in critical relation to bourgeois society as a whole. While this did not amount to an outright opposition to capitalism as such, there were still many features associated with early twentieth-century bourgeois society of which they strongly disapproved. As it happened, many of the same things that the modernists criticized in traditionalist architecture were reproduced on a larger scale at the level of society. For the apparent anarchy, capriciousness, and confusion of production that seemed to govern capitalism was mirrored in the arbitrariness and stylistic disorder of eclecticism. A more generalized feeling of discontent — the haunting sense that the productive forces of the present remained enchained to the dead labor of the past — loomed over the avant-garde with respect to both society as well as architecture. The “[t]radition from all the dead generations weigh[ed] like a nightmare on the brain of the living.”¹⁵⁸

¹⁵⁷ This “opened the way for the dissolution of the entire cultural heritage of the Académie.” *Ibid.*, pg. 123.

¹⁵⁸ Marx, Karl. *The Eighteenth Brumaire of Louis Napoleon*. Translated by Terrell Carver. *Later Political Writings*. (Cambridge University Press. New York, NY: 1993). Pg. 32.

Though one might reasonably contend that the modernists' stance against bourgeois society was built on the positive basis of leftist movements existing at the time, their discontent with the society of their day did not lead them into any determinate tendency. While there were many committed communists within the avant-garde (Teige, Ginzburg, Lurçat, Meyer), there were also many who belonged to the less radical Social-Democrats (Bourgeois, May, Hilberseimer, Taut), and a number who had no tangible affiliation with any party at all (Gropius). In certain cases, the positive link between the architectural modernists and anti-capitalist political parties was more apparent. The connection of the architectural avant-garde to the Bolshevik political vanguard in the Soviet Union was especially obvious, despite their divergent temporalities.¹⁵⁹ In Germany, the ties between SDP ideology and modernist architecture was likewise quite strong, as Manfredo Tafuri rightly pointed out.¹⁶⁰ Often times, as he observed, the modernists simply countered the "anarchy" of capitalism with the ideology of "the plan."¹⁶¹ From this, it would seem that the modernists were defined more by an inchoate anti-capitalism than they were by any particular political alternative, at least any that immediately presented itself in the 1920s.

The most immediate point of reference for the avant-garde's negative definition was, as would seem natural, traditionalist architecture. The prevailing atavistic practices in architectural construction toward the turn of the century had to be torn down before a new practice could be built up. And this the modernists pursued with zeal. "For nearly two centuries," Ginzburg declared in 1923, "architectural creativity in Europe has lived parasitically off its past." The reproduction of motifs and patterns stemming from the stylistic traditions of the past, he argued, was an exercise in necromancy — the social

¹⁵⁹ Susan Buck-Morss noted that "[t]he 'time' of the cultural avant-garde [in revolutionary Russia was] not the same as that of the vanguard party." Buck-Morss, Susan. *Dreamworld and Catastrophe: The Passing of Mass Utopia in East and West*. (The MIT Press. Cambridge, MA: 2002). Pg. 49.

¹⁶⁰ "Nazi propaganda was to speak of the Frankfurt settlements as *constructed socialism*. We must see them as realized social democracy." Tafuri, *Architecture and Utopia*. Pg. 115.

¹⁶¹ "Dada's ferocious decomposition of the linguistic material and its opposition to prefiguration: what were these, after all, if not the sublimation of automatism and commercialization of 'values' now spread through all levels of existence by the advance of capitalism? *De Stijl* and the Bauhaus introduced the *ideology of the plan* into a design method that was always closely related to the city as a productive structure. Dada, by means of the absurd, demonstrated — without naming it — the necessity of a plan." *Ibid.*, pg. 93.

foundations on which these styles had been erected had disappeared, and along with them the vitality they had originally possessed.¹⁶² For many of the modernists, this led them to reject the concept of “style” altogether. As Le Corbusier would proclaim: “Architecture has nothing to do with the ‘styles’...Louis XV, XVI, XIV and Gothic are to architecture what feathers are to a woman’s head; they are pretty sometimes, but not always, and nothing more.”¹⁶³ Modernist architecture thus sought to divorce building processes from notions of fashion, taste, ornamentation, and “style.” All these elements, it held, were extraneous to the actual practice of architecture. “The concept of ‘form,’” wrote Adolf Behne in 1926, “does not deal with accessories, decoration, taste, or style (from Gothic to Biedermeier) but with the consequences arising from a building’s ability to be an enduring structure.”¹⁶⁴

Indeed, among the international modernists there was a certain ambivalence when it came to the prospect of inventing a new “style.”¹⁶⁵ On the one hand, they felt themselves

¹⁶² “At a time when the other arts somehow managed to move forward, systematically transforming their revolutionary innovators into ‘classics,’ architecture persisted, with unparalleled stubbornness, in refusing to tear its sights away from the ancient world or from the epoch of the Italian Renaissance. Academies of art were concerned with nothing more, it seems, than weeding out young people’s enthusiasm for the new and leveling their aptitude for creative work without, however, teaching them to see in the creations of the past the system of legitimate development that always flows inevitably out of the vital structure of the epoch and thus derives its true meaning only in that context. Consequently, such ‘academic’ training yielded two results: the pupil lost touch with modernity and, at the same time, remained alienated from the true spirit of the great creations of the past.” Ginzburg, Moisei. [Style and Epoch](#). Translated by Anatole Senkevitch. (The MIT Press. Cambridge, MA: 1982). Pg. 38. Originally published in 1923.

¹⁶³ Le Corbusier, *Toward an Architecture*. Pg. 101. Compare to Hermann Muthesius’ prior statement: “The world lies under the spell of the phantom ‘style-architecture.’ It is hardly possible for people today to grasp that the true values in the building-art are totally independent of the question of style, indeed that a proper approach to a work of architecture has absolutely nothing to do with ‘style.’” Muthesius, *Style-Architecture and Building Art*.

¹⁶⁴ Behne, Adolf. [The Modern Functional Dwelling](#). Translated by Michael Robinson. (The Getty Center for the History of Art. Los Angeles, CA: 1996). Pg. 137. Originally published in 1926.

¹⁶⁵ Even Theo van Doesburg, founder of the *De Stijl* movement in Holland, felt it necessary upon reflection to distinguish between the antiquated and outmoded sense of “style” and the modern sense of a “new style” dissolving the old: “[I]n a paradoxical way: the De Stijl idea as the idea of a new style, as an addition to the multitude of existing evolutionary possibilities, is meaningless and anachronistic. The De Stijl idea as the

tasked with the problem of formally expressing the essence of their age, of creating a language of architecture adequate to modern life. Walter Curt Behrendt would thus write of *The Victory of the New Building Style*, the title of his 1928 reflective on the successful development of modernist architecture.¹⁶⁶ Despite his opposition to “the styles,” so also could Le Corbusier write with confidence that “[o]ur era fixes its style every day. It is right before our eyes.”¹⁶⁷ In Russia, Ginzburg arrived at much the same notion in his outstanding work *Style and Epoch*, where he first outlined the “prerequisites for the new style,” the acceptance of which demanded the negation of architecture’s servility to past forms.¹⁶⁸ The signatories of the international “Call for Elementarist Art,” issued in 1922, addressed this paradox concretely. “Reject the styles,” they implored. “We demand freedom from the styles to reach the STYLE.”¹⁶⁹ Muthesius, lecturing fifteen years earlier in Berlin, would state that while a style could not be consciously sought out, one could nevertheless emerge out of the social *Zeitgeist*.¹⁷⁰ Hannes Meyer, who would later

dissolution of all styles within one elementary plasticism is significant, spiritually alive, and in advance of its time.” Doesburg, Theo van. [“De Stijl, Jubilee Number.”](#) Translated by Hans L.C. Jaffé. *De Stijl*. (H.N. Abrams. New York: 1971). Originally published in *De Stijl*, pgs. 2-9, 1927. Pg. 219.

¹⁶⁶ “[I]n the struggle for the new style that we have so respectfully considered, the architecture has solid ground under its feet now that it has entered on the path that all original creations follow. If it continues along this path...then the blessing of *art*...will be bestowed of its own accord on the works of the new style, of the machine style, of — if one wishes to call it thus — the *technical* style.” Behrendt, [The Victory of the New Building Style](#). Pg. 142.

¹⁶⁷ Le Corbusier, *Toward an Architecture*. Pg. 156.

¹⁶⁸ “A new style does not emerge all at once. It begins in various facets of human life, which frequently are totally unrelated to one another...[T]he new elements manage, on the strength of their vitality and purely organic legitimacy, gradually to entice more and more facets of the old world until, finally, nothing can stem the tide. The new style becomes a fact, and those refusing to accept that fact condemn themselves to a complete and grievous isolation: no homage to past cultures can alter the situation; the world, steeped in its bold sense of legitimacy, recognizes only itself. This provides the key to its creative power and to the triumph of its march of conquest.” Ginzburg, [Style and Epoch](#). Pg. 76.

¹⁶⁹ Hausmann, Raoul; Arp, Hans; Puni, Ivan; and Moholy-Nagy, László. [“A Call for Elementarist Art.”](#) Translated by Stephen Bann. *The Tradition of Constructivism*. (Da Capo Press. New York, NY: 1974). Pg. 51. Originally published in *De Stijl* 1922 (Vol. IV, № 10).

¹⁷⁰ “Styles do not grow up overnight and cannot be invented to order. They can only be the fruit of periods of serious striving, when inner forces are made explicit...Nor can style be anticipated; it can only grow up

rise to the position of Bauhaus director, echoed these sentiments in 1926 by writing: “Each age demands its own form. It is our mission to give our new world a new shape with the means of today. But our knowledge of the past is a burden that weighs upon us, and inherent in our advanced education are impediments tragically barring our new paths. The unqualified affirmation of the present age presupposes the ruthless denial of the past.”¹⁷¹

On the other hand, however, many feared the conceptual *rigor mortis* that might set in with modernism’s formalization as a new “style” or “tradition.” Despite the inherent negativity that a new style would express with respect to the old, the members of the avant-garde hoped to prevent the petrification of its stylistic elements into a lifeless and formulaic system. The modernists, to be sure, aimed at a universal language of form, but they would take great measures to ensure that these forms would not ossify and be held apart from life. “Wherever possible,” advised Muthesius, “we should for now ban completely the notion of style.”¹⁷² This was, in particular, a concern of the Bauhaus brand of modern architecture, which suddenly (and unexpectedly) found that its forms had become stylish in late Weimar society. The brilliant Hungarian critic Ernő Kállai would thus reflect in his article, “Ten Years of Bauhaus”:

What, during the early years at Weimar, used to be the vehemently disputed activity of a few outsiders has now become a big business boom. Houses and even whole housing settlements are being built everywhere; all with smooth white walls, horizontal rows of windows, spacious terraces, and flat roofs. The public accepts them, if not always with great enthusiasm, at least without opposition, as the products of an already familiar “Bauhaus style”...Today everybody knows about it. Houses with lots of glass and shining metal: Bauhaus style. The same is true of home hygiene without home atmosphere: Bauhaus style. Tubular steel armchair frames: Bauhaus style. Lamp with nickel-coated body and a disk of opaque glass as lampshade: Bauhaus style. Wallpaper patterned in cubes: Bauhaus style. No painting on the wall: Bauhaus style.

as the all-embracing expression of the spirit of the age.” Muthesius, Hermann. “The Meaning of the Arts and Crafts.” Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 39. Lectures originally delivered in 1907.

¹⁷¹ Meyer, Hannes. [“The New World.”](#) Translated by D.Q. Stephenson. *Buildings, Projects, and Writings*, (Teufen AR/Schweiz. Arthur Niggli Ltd.: 1965). Pg. 93. Originally published in 1930.

¹⁷² Muthesius, *Style-Architecture and Building-Art*. Pg. 81.

Incomprehensible painting on the wall: Bauhaus style. Printing with sans-serif letters and bold rules: Bauhaus style. everything written in small letters: bauhaus style. EVERYTHING EXPRESSED IN BIG CAPITALS: BAUHAUS STYLE.¹⁷³

According to the precepts of its founder, this was a most unwelcome development. “The object of the Bauhaus,” asserted Gropius, “was not to propagate any ‘style,’ system, dogma, formula, or vogue, but simply to exert a revitalizing influence on design. We did not base our teaching on any preconceived ideas of form, but sought the vital spark of life behind life’s ever-changing forms.” Even less ambiguously, he stated that “[a] ‘Bauhaus Style’ would have been a confession of failure and a return to that very stagnation and devitalizing inertia which I had called it into being to combat.”¹⁷⁴ Gropius’ successor, Meyer, would reiterate the school’s social commitment as follows: “work means our search for the harmonious form of existence. we are not seeking a bauhaus style or a bauhaus fashion.”¹⁷⁵ But the members of the Bauhaus school were not the only ones to warn against the reduction of modernist architecture to a set of readymade forms and solutions to be applied to every imaginable situation. Already by its fourth issue in 1926, the iconic Constructivist journal *SA* declared that it was not content to “merely push that ‘objective’ hodgepodge of prerevolutionary tripe that has today unfortunately become fashionable as ‘the constructive style.’”¹⁷⁶

Regardless of how they came down on the question of “style,” however, the avant-garde was almost uniformly opposed to the lavish ornamentation that had characterized nineteenth-century architectural production. By 1908, the first major volley had been fired in the modernists’ war against overdecorative eclecticism by the Austrian Adolf Loos, in his seminal essay on “Ornament and Crime.” “[O]rnamēt is no longer a natural

¹⁷³ Kállai, Ernő. [“Ten Years of Bauhaus.”](#) Translated from the German by Wolfgang Jabs and Basil Gilbert. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pg. 637. Originally published in 1930.

¹⁷⁴ Gropius, Walter. [The New Architecture and the Bauhaus](#). Translated by P. Morton Shand. (MIT Press. Cambridge, MA: 1965). Pg. 92. Originally published in 1932.

¹⁷⁵ Meyer, Hannes. [“bauhaus and society.”](#) Translated by D.Q. Stephenson. *Buildings, Projects, and Writings*. (Teufen AR/Schweiz. Arthur Niggli Ltd.: 1965). All lower-case in the original. Originally published in 1929.

¹⁷⁶ Author uncredited. “*Stroitel’naia promyshlennost’ kritikuēt SA.*” [Sovremennaiia arkhitektura. \(Volume 1, № 4. Moscow, Soviet Union: 1926\).](#) Pg. 105.

product of our culture,” sneered Loos, “[s]uch that it is a phenomenon either of backwardness or degeneration.”¹⁷⁷ But while Loos’ text would provide perhaps the most bombastic condemnation of ornament, he was not the first to call for a scaling back of decorative forms in artistic and architectural production. Otto Wagner, his predecessor in Vienna and one of the great initiators of architectural modernism, had already anticipated this austere gesture through his advocacy of simple, practical, and indeed “military” forms in his book *Modern Architecture*, published in 1896.¹⁷⁸ Muthesius spoke out with force against “the ornament craze,” lamenting that “[w]e were and are still today fixed in the ornamental phase of the craft arts; the so-called new ornament has now simply stepped in and replaced the previously fashionable Rococo ornament. Still the concept of ornament prevails everywhere.”¹⁷⁹ Karl Grosz, one of the many influenced by Muthesius in the *Deutscher Werkbund*, extended this line of criticism further. In a 1911 article he wrote on “Ornament,” he asserted: “The use of ornamental decoration for objects of mass consumption is strictly speaking a devaluation... Industry can only achieve its real goals if the following principle is remembered: everything of a decorative nature must possess artistic and technical quality.”¹⁸⁰

These initial critiques of nineteenth-century ornamental extravagance were taken up again after the war, this time with even greater ferocity. What had begun as merely a call to bring decorative excesses back into order, a primarily moralistic critique,¹⁸¹ was now elevated into a matter of architectural principle. Decrying “romantic” and “baroque”

¹⁷⁷ Loos, “Ornament and Crime.”

¹⁷⁸ “If the work being created is to be a true reflection of our time, the simple, the practical, the — one might almost say — military approach must be fully and completely expressed, and for this reason alone everything extravagant must be avoided.” Wagner, Otto. *Modern Architecture: A Guidebook for His Students to this Field of Art*. Translated by Wolfgang Hermann. (The Getty Center for the History of Art and the Humanities. Los Angeles, CA: 1988). Pg. 85. Originally published 1896.

¹⁷⁹ Muthesius, *Style-Architecture and Building-Art*. Pg. 88.

¹⁸⁰ Grosz, Karl. “Ornament.” Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 47. Originally published for 1911.

¹⁸¹ “In Europe during the [1890s] a demand for morality in architecture arose in many different countries. As [Henry] van de Velde puts it, people say the reigning architecture as a ‘lie,’ all posturing and no truth, and that a greater purity of expression was needed.” Giedion, *Space, Time, and Architecture*. Pg. 25.

tendencies in early twentieth-century construction, the Dutch architectural modernist and innovator J.J.P. Oud thus complained that “as long as...beauty is equated with ornament then the slogan ‘all ornament is founded upon construction’ has not been supplanted.”¹⁸² Five years later, his one-time colleague and leader of *De Stijl*, Theo van Doesburg, would assert plainly: “The new architecture is anti-decorative.”¹⁸³ The following year, Le Corbusier came out with his major work devoted to the subject, *The Decorative Art of Today*. Here he eulogized the oncoming extinction of ornamentation in design: “Without a revolution, barricades, or gun-fire, but as a result of simple evolution accelerated by the rapid tempo of our time, we can see decorative in its decline, and observe that the almost hysterical rush in recent years towards quasi-orgiastic decoration is no more than the final spasm of an already foreseeable death.”¹⁸⁴ In 1929, Roman Khiger, a Constructivist architect and Ginzburg’s successor as editor of *SA*, would go so far as to write that “[i]n the organic epochs of history architecture was never decorative or ornamental, but always

¹⁸² Oud, J.J.P. [“Orientation.”](#) Translated by Hans L.C. Jaff . *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 140. Originally published in *De Stijl* 1919, Vol. III, № 5, p. 46.

¹⁸³ Doesburg, Theo van. [“Towards a Plastic Architecture.”](#) Translated by Hans L.C. Jaff . *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 187. Originally published in *De Stijl* 1924, Vol. VI, № 6/7, pgs. 78-83.

¹⁸⁴ Le Corbusier. *The Decorative Arts of Today*. Translated by James I. Dunnett. (The MIT Press. Cambridge, MA: 1987). Pg. 96. Originally published as *L’Art d coratif d’aujourd’hui* in 1925.

Le Corbusier’s critique of ornamentation is deeply indebted to Loos’ “Ornament and Crime.” Compare the following lines from Loos: “The Papuan tattoos his skin, his boat, his paddles, in short everything he can get his hands on. He is not a criminal. The modern man who tattoos himself is either a criminal or a degenerate.” Loos, “Ornament and Crime.”

Now with the example of Le Corbusier: “[T]he Papuan who inscribes on his paddle the figure of an albatross and a surging wave [is] making an act of devotion toward nature...We are at the dawn of the machine age. A new consciousness disposes us to look for a different satisfaction from that afforded by the bud carved on the capitals in churches.” Le Corbusier, *The Decorative Arts of Today*. Pgs. 120, 126.

Both these examples can be read as a sort of response to the theory of Gottfried Semper, who argued materialistically that the ornamentation of objects evolved from the ornamentation of the body through tattoo and piercing: “[I]t would not be too great a paradox to ascribe the origin of certain traditional surface ornaments to the art of tattooing.” Semper, Gottfried. *Concerning the Formal Principles of Ornament and Its Significance as Artistic Symbol*. Translated by David Britt. From *The Theory of Decorative Art: An Anthology of European & American Writings, 1750-1940*. (Yale University Press. New Haven, MA: 2000). Pg. 93.

— constructive.”¹⁸⁵ Whether or not this held true throughout history, architecture could no longer remain decorative and ornamental in the modern age, as Behrendt pointed out. “[The new] way of designing,” he maintained, “no longer permits chance ornament, superfluous adornment, or applied decoration.”¹⁸⁶ Gropius drew a definitive conclusion from this fact, writing that modern architecture “bodies itself forth, not in stylistic imitation or ornamental frippery, but in those simple and sharply modeled designs in which every part merges naturally into the comprehensive volume of the whole.”¹⁸⁷

One final aspect of traditionalist architecture — besides its excessive ornamentation and historicist stylization — united the architectural avant-garde in opposition. This was its *institutionalization* in the high academies that trained young architects and accustomed them to its practice. Everywhere the modernists revolted against “beautiful academic art, *ars academica*, *les beaux arts*, which modernity dethrones.”¹⁸⁸ In many cases, this led the avant-garde to oppose “Art” as such, at least insofar as it had been hypostatized and canonized by the academies. “WE DECLARE UNCOMPROMISING WAR ON ART,” Aleksei Gan thus exclaimed in 1922, in the opening pages of his foundational book on *Constructivism*.¹⁸⁹ Though most architects would refrain from such brazenly iconoclastic antiaestheticism,¹⁹⁰ the modernists by and large did not hesitate to attack the academies. “[T]here are, in all countries,” wrote Le Corbusier, “national, regional, municipal schools

¹⁸⁵ Khiger, Roman. “O sotsiologii iskusstva.” [*Sovremennaiia arkhitektura. \(Volume 4, № 3. Moscow, Soviet Union: 1929\).*](#) Pg. 116.

¹⁸⁶ Behrendt, [*The Victory of the New Building Style.*](#) Pg. 126.

¹⁸⁷ Gropius, [*The New Architecture and the Bauhaus.*](#) Pg. 43.

¹⁸⁸ Teige, Karel. [“Constructivism and the Liquidation of ‘Art.’”](#) Translated by Alexandra Büchler. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930.* (The MIT Press. Cambridge, MA: 2002). Pg. 583. Originally published as ‘Konstruktivism a likvidace urnenf,’ *Disk*, No. 2, 1925.

¹⁸⁹ Gan, Aleksei. *Konstruktivizm.* (Moscow, Soviet Union: 1922). Pg. 1.

¹⁹⁰ Ginzburg would not long thereafter scale back Gan’s assault on art, writing that “we shall likewise attempt to evaluate modern ‘constructivism’ as an artistic phenomenon. Perhaps now we shall be better able to comprehend both the menacing slogan advanced by the Russian Constructivists and its bravado, which are quite natural psychologically and quite familiar to the art historian: there has never, it seems, been a young movement which feeling its power, did not wish in its own time and place to press for the abolition of everything that did not conform to its precepts.” Ginzburg, [*Style and Epoch.*](#) Pgs. 100-101.

for architects that muddle young minds and teach them the falsehood, fakery, and obsequiousness of courtiers. National schools!”¹⁹¹ Lissitzky, in one of his earliest essays on architecture, maintained that these institutions had taken the vital practices of building and artificially divorced them from life. He claimed that “[e]ver since they transplanted our living, naturally-cultivated creations into the hothouses of the academies, everything truly creative has passed these conservatories by.”¹⁹² Le Corbusier’s friend and official historian of avant-garde architecture, Sigfried Giedion, similarly wrote that “academic incrustations bear the blame” for architecture lagging behind the other modern arts in France.¹⁹³ The academies were thus seen as obstructions rather than effective means to the realization of an architecture adequate to modern times. “With a few notable exceptions,” wrote Behrendt, “the *official educational institutions* — the academies and the technical colleges — charged with acquainting the next generation with the new building problems now pay no attention to this present responsibility...Historical styles, however, are discussed all the more.”¹⁹⁴ Nikolai Dokuchaev, one of the chief theorists of the Rationalist movement within the Soviet avant-garde, wrote that besides ASNOVA and OSA, “academic epigonism and eclecticism” reigned in the field of architecture.¹⁹⁵

Many modernist theorists extrapolated from the specific state of architecture under the influence of post-1762 traditionalism and its institutionalization in the academies to view these as mere surface manifestations bespeaking a deeper crisis within bourgeois civilization. Karel Teige expressed this viewpoint with exceptional clarity:

¹⁹¹ Le Corbusier, *Toward an Architecture*. Pg. 94.

¹⁹² Lissitzky, El. [“The Catastrophe of Architecture.”](#) *El Lissitzky: Life, Letters, Texts*. Translated by Sophie Lissitzky-Kuppers. (Thames & Hudson Press. London: 1980). Pg. 370. Originally published in *ISO*, № 1, Moscow, March 1921.

¹⁹³ “The role of France is well established in the painting and literature of the nineteenth century. This is not at all as clear with architecture. The academic incrustations bear the blame. They dazzled all formally educated souls. When the new architecture will have advanced far enough to allow a broader survey, it may become evident: all the academic incrustations were unable to smother the constructional soul of French architecture!” Giedion, Sigfried. [Building in France, Building in Ferroconcrete](#). Translated from by J. Duncan Berry. (The Getty Center for the History of Art. Los Angeles, CA: 1995). Pg. 100.

¹⁹⁴ Behrendt, [The Victory of the New Building Style](#). Pg. 141.

¹⁹⁵ Dokuchaev, Nikolai. [“Sovremennaja russkaja arkhitektura i zapadnye paralleli \[Part 1\].”](#) *Sovetskoe iskusstvo*. (Vol. III, № 1. Moscow, Soviet Union: January 1927). Pg. 10.

Historical academicism, in which today we rightly see both the true manifestation of nineteenth-century bourgeois culture and the mature expression of its ideological thought, remained hostile to the prosaic, almost scientifically exact and sober work of the classicistic Empire style. The romantic cult of the Gothic, the romanticizing fancy sought in ruins and asymmetrical forms, would lead the art of building astray, away from true architecture. The stylized, historicist architecture that reached its zenith in the 1850s and persisted until the century's end...was affected, unhealthy, exhausted, and decadent. It produced formally decorative and monumentalizing agglomerations, which merely led architecture down a blind alley...[T]he architecture that followed sought only to dazzle us with vacuous academic formulas borrowed from a dead past.¹⁹⁶

Teige's view, that traditionalist architecture was simply an outcropping of the logic of nineteenth-century bourgeois society, must to some extent be confirmed by our own analysis of the concrete side of the spatiotemporal dialectic of capitalism.¹⁹⁷ This bridges modernist architecture's negative basis in traditionalist architecture with its negative basis in bourgeois society as a whole. The identification of historicism and eclecticism as the architectural ideologies of the ruling class was common amongst political leftists within the avant-garde. So wrote the radical Czechoslovakian modernist organization in its *Founding Manifesto* of 1929: "The basis on which the Left Front is being built is revolutionary: the Left Front is an organized and conscious resistance movement of intellectual productive forces against the ruling, disintegrating culture of liberalism, and takes a stand of resolute non-conformism against its traditions, outdated ideas, academies, aesthetics and morals of a disorganized and decaying social system."¹⁹⁸ There was a sense in which the European bourgeoisie already stood for the *status quo*, or worse yet,

¹⁹⁶ Teige, [Modern Architecture in Czechoslovakia](#). Pg. 62.

¹⁹⁷ The extent to which modernist architecture positively reflected the abstract dimension of this dialectic (as will be shown in the next subsection), did not wholly escape political leftists within the avant-garde. In the same way as Marxists traditionally view capitalism as a dynamic system preparing the productive and social means for a postcapitalist society, so also could the technologies and abstract sense of space and time engendered by capitalism be understood as means for a postcapitalist architecture. Of course, the avant-garde's positive grounding in capitalism was not entirely transparent to them, at least in the terms that we have developed here.

¹⁹⁸ [Founding Manifesto of the Left Front](#). Translated by Alexandra Büchler. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pgs. 678-679. Originally published as "Leva fronta," in *ReD*, Vol. III, № 2 (1929).

the “old order” — blocking the path to architecture’s revitalizing of the new society. The image of the bourgeoisie clinging to the tatters of its outdated social structure even in the face of sweeping historical transformations made a deep impression on the avant-garde. Even outside of Bolshevik Russia and their supporters in Eastern Europe, the prevailing attitude of the modernists with respect to bourgeois society was highly critical. Alfréd Kemény, a Polish constructivist, remarking on the revolutionary art of the West, observed that “[t]he revolutionary element in West European art lies on a different plane [than in Russia]. Those artists who operate on that plane do not embrace abstraction as a refuge from the reality of a decaying society. They make realistic works that unmask the decay of bourgeois society and fight against it for a better future.”¹⁹⁹

Beyond the general feeling that bourgeois society was a sinking ship, many of the artists and architects in the avant-garde felt on a more immediate level that the bourgeois fetishization of “taste” stood in the way of cultivating new constructive forms. Giedion, far less radical than many when it came to his politics, recognized bourgeois taste as an impediment to the growth of modern architecture: “The backbone of the young people is still artificially broken in the schools, and the ideal of the Academie des Beaux-Arts survives in the minds of the bourgeoisie.”²⁰⁰ Taking stock of the historical development of the arts under modern capitalism, and the progressive separation of art from life, the Polish theorist Mieczysław Szczuka commented on the bourgeois *mentalité* in a 1927 essay on “Art and Reality.” In particular, he noted the atavistic qualities that it tended to foster, as it sought to anchor itself in ancient history, despite having uprooted the social forms whose traditions it was now laying claim to. “This social situation, this cowardly sneaking one’s way into the ranks of the privileged, results in the great-bourgeoisie having a deeply parvenu attitude to art and life” he asserted. “Typically parvenu is its fixation with all things past, with all kinds of ‘styles,’ with outdated fashions, its searching for beauty in that which is old, which has lost all utility value, and its feeling ashamed of those real, utilitarian values which it has brought in. Hence those aesthetic

¹⁹⁹ Kemény, Alfréd. [“Abstract Design from Suprematism to the Present.”](#) Translated by David Britt. From *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pg. 480. Originally published in 1924.

²⁰⁰ Giedion, [Building in France, Building in Ferro-Concrete](#). Pg. 199.

theories which separate beauty and utility — beautiful is only that which has no longer, or never had, any use (the cult of old ruins etc.).”²⁰¹ In the Soviet Union, lingering bourgeois prejudices of taste were seen as a major roadblock to be overcome in the building of a new, socialist society. Old-fashioned notions of artistic “beauty” and middle-class “coziness” were relics of the old way of life, and had to be scrapped in order to make way for the new. And so the editors of OSA’s *Modern Architecture* declared early on that “issues of quality — these are the questions of a new socialist culture: the question of making a new life for the workers, of combating the atavistic reservoirs of the middle class; issues of derogating petty-bourgeois conceptions of beauty and comfort [*uiute*, more literally ‘coziness’]; and issues of building-up [*narastaniia*] a new cultural stratum, without which there can be no genuine socialist construction.”²⁰²

Bourgeois taste, its propensity for atavism and “style-mongering” (a product of its unique historical consciousness), was not the only thing that the architectural modernists found problematic about modern capitalist society. Of a more general concern was the apparent chaos of its economic conditions, and the productive anarchy that resulted from this. The avant-garde saw in the disorganized and seemingly arbitrary nature of capitalist relations of production the macrocosmic embodiment of the stylistic capriciousness they found in architectural eclecticism. This was reflected on an even higher level in the disorderly arrangement of bourgeois towns and cities. Some of these, to be sure, were inherited from antiquity and the middle ages, and thus possessed a further accumulation of buildings from disparate epochs. But others had experienced this uncoordinated growth and haphazard pattern of development under capitalism alone, as the conflict of private tastes and the rapid turnover of stylistic norms gave rise to a disconcerting heterogeneity of forms within the space of a single city, or even from building to building within a single neighborhood. “All our modern great cities or industrial landscapes are chaotic,” lamented Cornelis van Eesteren, the Dutch urbanist who would later oversee

²⁰¹ Szczuka, Mieczysław. [“Art and Reality.”](#) Translated by Klara Kemp-Welch. From *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pg. 668. Originally published in 1927.

²⁰² Author(s) uncredited (probably Moisei Ginzburg). “Anketa.” [Sovremennaiia arkhitektura. \(Volume 1, № 5/6. Moscow, Soviet Union: 1926\)](#). Pg. 111.

CIAM's project for "The Functional City."²⁰³ With this assessment, Le Corbusier, who would later be one of Eesteren's closest colleagues, no doubt concurred. He diagnosed that "in the last hundred years a sudden, chaotic, and sweeping invasion, unforeseen and overwhelming, has descended upon the great city; we have been caught up in this, with all its baffling consequences, with the result that we have stood still and done nothing. The resultant chaos has brought about that the Great City...is today a menacing disaster."²⁰⁴ For the avant-garde, this disorganized state of affairs — the outcome of the individualistic and unplanned character of modern society — could only be remedied through a thorough process of reorganization. And above all this, *planning*.

"The plan is the basis," recorded Le Corbusier in *Toward an Architecture*. "Without a plan, there is neither grandeur of intention and expression nor rhythm, nor volume, nor coherence. Without a plan there's that sensation, unbearable to man, of formlessness, of something mean, disordered, arbitrary."²⁰⁵ Tafuri, in his inquiry into *Architecture and Utopia*, recognized the ideological character of this will-to-planning, its compatibility with later, more administrative modes of Fordist capitalism, and yet its "ingenuous radicalism" at the same time.²⁰⁶ The solution to the problem of chaotic urban growth

²⁰³ Eesteren, Cornelis van. ["Ten Years of 'Stijl': Art, Technique, and Town Planning."](#) Translated by Hans L.C. Jaffé. *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 228.

²⁰⁴ Le Corbusier. *The City of To-morrow and Its Planning*. Pg. 25.

Le Corbusier later specifies that "the Great City is a recent event and dates back barely fifty years." *Ibid.*, pg. 84.

²⁰⁵ Le Corbusier, *Toward an Architecture*. Pg. 118.

²⁰⁶ "Salvation [from modern capitalist alienation] lies no longer in 'revolt,' but in surrender without discretion. Only a humanity that has absorbed and made its own the ideology of work, that does not persist in considering production and organization *something other* than itself or simply instruments, that *recognizes itself to be part of a comprehensive plan* and as such fully accepts that it must *function* as the cog-wheels of a global machine: only this humanity can atone for its 'original sin'...This sin consists in *man's 'diabolical' insistence on remaining man*, in taking his place as an 'imperfect machine' in a social universe in which the only consistent behavior is that of pure silence...This was exactly the ideology that informed the Futurist manifestos, Dadaist mechanicalism, *De Stijl* elementarism, and international Constructivism. But what is really striking in this ideology of unconditional consensus is its ingenuous radicalism. Among all those literary, artistic, or cinematographic manifestos in favor of the *mechanization of the universe*, there is not one that does not fail to amaze." Tafuri, *Architecture and Utopia*. Pgs. 74-76.

seemed to lie in transferring planning authority to socially minded specialists. “It is only among intelligent professional and public-spirited circles that we can hope to arouse a determination to have done with the noxious anarchy of our towns,” asserted Gropius.²⁰⁷ But it was perhaps Le Corbusier who expressed the ideology of professionalized planning in the most breathtaking terms. In his *Radiant City* of 1933, he wrote:

“What we need, Sir, is a despot!”

Do you too yearn for a king or a tribune? Weakness, abdication, and illusion. The despot a man? Never. *But a fact*, yes.

The calendar is a succession of happy or empty days, of spontaneously occurring events, of unlooked-for incidents. [Note the tacit opposition to organic, heterogeneous time.]

What is the result? The result is that the city is walking on crutches. That it runs into more and more dead ends; that nothing is ever ready; that nothing ever fits. Feverish haste, precipitate action, incoherence, cacophony, submergence: our will is enslaved by the rush of events, all order swallowed up. The human idol you are yearning after could not stem this tide. Only *a fact* can do it. A PLAN. A suitable, long-pondered plan firmly founded on the realities of the age, created with passion and imagination, a work of human divination: man is a being capable of organization.

[...]

I shall tell you who the despot is you are waiting for.

The despot is not a man. The despot is the *Plan*. The *correct, realistic, exact* plan, the one that will provide your solution once the problem has been posited clearly, in its entirety, in its indispensable harmony. This Plan has been drawn up well away from the frenzy in the mayor’s offices or the town hall, from the cries of the electorate or the laments of society’s victims. It has been drawn up by serene and lucid minds. It has taken account of nothing but human truths. It has ignored all the current regulations, all existing usages and channels. It has not considered whether or not it could be carried out in accordance with the constitution now in force.

And this plan is your despot: a tyrant, a tribune of the people. Without other help, it will plead its cause, reply to objections, overcome the opposition of private interest, thrust aside outworn customs, rescind outmoded regulations, and create its own authority. The authority will follow the plan, not precede it. Such and such a plan, such and such requirements for its execution: creation of an authority adequate to them.

The plan is an emanation of modern society, an answer to its needs, an urgent necessity. It is a product of technology.

Insist on the organization of that Plan. It alone is the despot you need.²⁰⁸

²⁰⁷ Gropius, [*The New Architecture and the Bauhaus*](#). Pg. 110.

²⁰⁸ Le Corbusier. *The Radiant City: Elements of a Doctrine of Urbanism to be Used as the Basis of our Machine-Age Civilization*. Translated by Pamela Knight, Eleanor Levieux, and Derek Coltman. (The

And so it was that the chaos and disorganization plaguing modern towns and countries came to be viewed by Le Corbusier and many of his fellow architectural modernists as the result of a fundamentally diseased social order: bourgeois society, or capitalism. This shows up even more explicitly in lines like the following: “Since I am a professional man, I make plans according to my professional concepts; this is where my judgment is good. If everyone did the same thing and the plans were coordinated by an authority in charge of the public interests, the result would, of course, *be a Five-Year Plan*, impossible to implement. *Impossible because of our present social system!* So now what?”²⁰⁹ While his rhetoric would never approach such lofty proclamations as those of Le Corbusier, even Gropius would despair, after immigrating to America during World War II, that “the public is still very ignorant of the great benefits awaiting it from good planning. The average citizen is inclined to see an interference with his personal freedom when given direction by government agencies. The necessity continuously to inform him why communal planning is to his own best advantage calls for the highest psychological ability in a planner.”²¹⁰

Those in the architectural avant-garde who were convinced Marxists already did not hesitate to link the unplanned, chaotic nature of the cities of modern Europe to its social basis in contemporary capitalism. “Quite obviously,” wrote Nikolai Krasil’nikov, the young Soviet Constructivist, “the whole look of a town that forms such a politico-economic center and seedbed for socialist culture will differ significantly from that of the contemporary town which was shaped by capitalism and its anarchically unplanned economy. The arguments of commercial speculation determined the plan and form of its buildings.”²¹¹ Teige, a member of the Communist Party in Czechoslovakia, believed that the unmasking of the chaos of the capitalist system was one of the primary tasks facing Constructivism in architecture. His language was quite similar: “Constructivism asserts

Orion Press. New York, NY: 1964). Pgs. 153-154. Originally published in 1933, out of documents compiled 1930-1933.

²⁰⁹ *Ibid.*, pg. 8. My emphases.

²¹⁰ Gropius, Walter. “The Scope of Total Architecture.” *The Scope of Total Architecture*. (MacMillan Publishing Company. New York, NY: 1980). Originally published in 1945.

²¹¹ Krasil’nikov, Nikolai. “Problemy sovremennoi arkhitektury.” [*Sovremennaiia arkhitektura. \(Volume 3, № 6. Moscow, Soviet Union: 1928\).*](#) Pg. 172.

that the order of our civilization is a coat of paint that conceals the flagrant reality of the individualist anarchy of production.”²¹² Others contrasted the strictures on municipal organization under capitalism with the planning possibilities opened up by the advent of socialism in Russia, however. “[T]he transition from a privately owned, unregulated construction industry to a planned and centralized one, committed to rationalization and the reduction of costs, represents an undeniable advance,” concluded Ginzburg. “The Building Committee of the RSFSR is an agency with unlimited powers responsible for the rationalization of the whole building process.”²¹³ In making these claims, these authors were consciously echoing one of the central tenets laid out by Nikolai Bukharin and Evgenii Preobrazhenskii in their popular handbook on *The ABCs of Communism*. Therein they asserted: “ONE OF THE FUNDAMENTAL TASKS OF THE SOVIET POWER WAS AND IS THAT OF UNITING ALL THE ECONOMIC ACTIVITIES OF THE COUNTRY IN ACCORDANCE WITH A GENERAL PLAN OF DIRECTION BY THE STATE...[O]ne of the great merits of the communist system is that it puts an end to the chaos, to the ‘anarchy,’ of the capitalist system.”²¹⁴

The assimilability of state planning and governmental regulations to market-based economies was at this point unclear to many intellectuals within the avant-garde and in Europe more generally. Nearly all of them underestimated the flexibility of the capitalist system, and the heavily bureaucratized administrative society that predominated under Fordism would give the lie to many of their assertions. At the time, many architects saw their position within the capitalist system as untenable. As Tafuri would later wisely point out, “[o]rganization and planning are...the passwords of both democratic socialism and democratic capitalism.”²¹⁵ This would only become apparent later, however.

²¹² He continues: “Conflicts between the forces and relations (proportions of ownership) of production, the imbalance between production and consumption, reactions to the crisis of capitalism — all these factors paralyze technological progress and the welfare of humanity. Anarchy reigns in capitalist production, anarchy fostered by the chase after increased gain, without any corresponding increase of real productivity values.” Teige, *Modern Architecture in Czechoslovakia*. Pgs. 295-296.

²¹³ Ginzburg, *“Contemporary Architecture in Russia.”* Pgs. 158-159.

²¹⁴ Bukharin, Nikolai and Preobrazhenskii, Evgenii. *The ABCs of Communism*. Translated by Eden Paul and Cedar Paul. (Penguin Books. New York, NY: 1969). Pg. 266. §95. Originally published in 1918.

²¹⁵ Tafuri, *Architecture and Utopia*. Pg. 69.

Modernist Architecture — Positive Bases

The theory and practice of modernist architecture were positively based on two primary phenomena that developed under capitalism: the abstract sense of space and time created by the internal dynamic of capitalism, and the more concrete process of industrialization that took place in Europe over the course of the nineteenth century. The former of these developments, the abstract side of capitalism's spatiotemporal dialectic, first manifested itself spatially in the medium of Cubist and post-Cubist abstract painting (Neo-plasticism, Purism, Suprematism) and temporally in the simultaneous representation of motion and light by movements such as Futurism and Rayonism. This abstract temporal dimension was deepened and refined by the avant-garde's appropriation of Taylorism, the system of "scientific management" in industry founded in America just prior to the First World War.²¹⁶ A discussion of Taylorization's impact on modernist architecture will lead into a more general discussion of the inescapable influence that European industrialization had on its overall development. Specifically, it will examine the modernists' fascination with machine technologies, efficiency, and the principle of standardization. All these aspects of modern society had been brought into existence by nineteenth-century capitalism in the shift from more primitive manufacturing techniques to full-blown industrialism. In this way, modernist architecture can be seen in its *positive* connection to the forces and logic unfolding out of capitalist modernity, in addition to its negative bases that were outlined in the previous subsection. Modernism captured in its architecture the greater project of "rationalization" that was taking place throughout the Western world during this time, as theorized by thinkers such as Weber, Adorno, and Horkheimer.

A tertiary influence may be cited alongside these two main positive bases of avant-garde architecture: the working class. In some sense, the modernists' identification with the European proletariat can be traced to their general disgust with bourgeois society,

²¹⁶ "Like the scientific managers, the modernist architects initially sought to improve building practices but soon realized that method, standardization, and planning enabled them to formulate a new approach to architecture. The overarching idea in scientific management was that of order, one that subsequently captivated the modernist architects because it enabled them to move away from the prevailing eclecticism and to present themselves as organizers, as technocrats who could ameliorate social conflict and improve standards of living." Guillén, *The Taylorized Beauty of the Mechanical*. Pg. 4.

coupled with the widespread leftist idea that the working class could play a revolutionary role in the construction of a new and more rational society. But in another sense, the modernists' valorization of working class must have stemmed from its association with industrial production, which held an obvious positive appeal for avant-garde architects. Though this affirmation of the laboring masses of Europe thus had its sources in both positive and negative aspects of modern society, its general character should be seen as positive. Either way, the avant-garde expressed its solidarity with workers in its quest to provide them with adequate dwelling conditions, and, more broadly, to overcome the chronic shortage of urban housing. The modernists' efforts to this end can be seen in their commitment to the creation of a standard *Existenzminimum* — *l'habitation minimum*, *Kleinstwohnung*, or "minimum dwelling."²¹⁷

Before detailing this more social component of modernist architectural ideology, it is proper to examine the formal properties imparted to it by the abstract spatiotemporal dimension of capitalism. Referring back to the characteristics established beforehand as belonging to the abstract forms of space and time manifested under capitalism,²¹⁸ the extent to which these qualities were expressed by modernist art and architecture will be made clear. The scientific, cyclical, and synchronous character of its temporality; the geometric, centrifugal, and global/international character of its spatiality; their mutual homogeneity — all these categories will be important to bear in mind moving through the following analysis. For these traits, generated by the inherent dynamism of modern society, would embed themselves in the artistic unconscious of a generation of painters and architects. These then would bubble to the surface in the works of the modernists, which expressed the new spatiotemporal sensibility of their age. Such expressions of this new aesthetic orientation should be seen as manifestations of the latent social dynamic of capitalism, however, mediated perhaps by the genius of individual artists.²¹⁹

²¹⁷ See footnote 34 of the present paper.

²¹⁸ Refer back to the schematic chart on pg. 44.

²¹⁹ In his exposition of the unprecedented modernist sense of "space-time," Giedion acknowledged the importance of socioeconomic factors in determining architectural ideology, but urged historians not to dismiss the significance of "emotional" factors: "Social, economic, and functional influences play a vital part in all human activities, from the sciences to the arts. But there are other factors which also have to be taken into account — our feelings and emotions. These factors are often dismissed as trivial, but actually

In his groundbreaking 1938 lectures on *Space, Time, and Architecture*, the modernist and insider historian of the avant-garde movement Sigfried Giedion credited the rise of the new architecture to a newfound sense of “space-time” that congealed around the turn of the twentieth century. According to Giedion, this modern aesthetic²²⁰ sensibility described an abstract, four-dimensional unity of temporalized spatiality, much like the kind outlined in physics by Albert Einstein in 1905. This placed a heavy emphasis on the notion of “simultaneity.”²²¹ Giedion could have easily added the work that was taking place in philosophy in the writings of Henri Bergson around the same time.²²² In either case, he claimed that explicit awareness of this new sense of space and time appeared first in the works of abstract art, years before the artists’ insights were later taken up and applied by modernist architects. In the first decade of the century, Giedion asserted, “[p]ainters very different in type but sharing a common isolation from the public worked steadily toward a new conception of space. And no one can understand contemporary architecture, become aware of the feelings hidden behind it, unless he has grasped the spirit animating this painting.”²²³

their effect upon men’s actions is immense.” Giedion, *Space, Time, and Architecture*. Pg. 430. Without writing off these emotional influences wholesale, we must nevertheless regard them as epiphenomenal to the more fundamental sociohistorical forces which made them possible.

²²⁰ “Aesthetic” also carries spatiotemporal connotations, as in the Kantian “Transcendental Aesthetic”: “In the transcendental aesthetic we will...first *isolate* sensibility by separating off everything that the understanding thinks through its concepts, so that nothing but empirical intuition remains. Second, we will then detach from the latter everything that belongs to sensation, so that nothing remains except pure intuition and the mere form of appearances, which is the only thing that sensibility can make available *a priori*. In this investigation it will be found that there are two pure forms of sensible intuition as principles of *a priori* cognition, namely space and time.” Kant, Immanuel. *The Critique of Pure Reason*. Translated by Paul Guyer and Alan W. Wood. (Cambridge University Press. New York, NY: 1998). Pg. 174.

²²¹ “The presentation of objects from several points of view introduces a principle which is intimately bound up with modern life — simultaneity. It is a temporal coincidence that Einstein should have begun his famous work, *Elektrodynamik bewegter Körper*, in 1905 with a careful definition of simultaneity.” Giedion, *Space, Time, and Architecture*. Pg. 436.

²²² Bergson, Henri. *Duration and Simultaneity: With Reference to Einstein’s Theory*. Translated by Herbert Dingle. (Bobs-Merrill Press. New York, NY: 1965). Originally published in 1906.

²²³ Giedion, *Space, Time, and Architecture*. Pg. 433.

The pioneers of this radically new approach to spatiality, in Giedion's account, were the Cubists. While Cubism was restricted mostly to the medium of painting, and only found itself translated directly into architecture in rare instances,²²⁴ its explosion of linear perspective was a crucial step in the move toward a new spatiality. "The cubists dissect the object, try to lay hold of its inner composition," wrote Giedion. "They seek to extend the scale of optical vision as contemporary science extends the law of matter. Therefore contemporary spatial approach has to get away from the single point of reference." A consequence of this approach is the simultaneous representation of a single object from multiple points of view. Following Giedion, this is what the Italian architectural historian Bruno Zevi called "the Cubist revolution in the concept of space."²²⁵ Giedion continued: "Fragments of lines hover over the surface, often forming open angles which become the gathering places of darker tones. These angles and lines began to grow, to be extended, and suddenly out of them developed one of the constituent facts of space-time representation — the plane."²²⁶ This was one of the major achievements of the Cubists in painting: their move toward a geometric, planar spatiality. In this respect, even the self-styled "Cubist" architects in Czechoslovakia before the war failed to live up to their

²²⁴ Notably, there was a prominent architectural strain of Cubism that appeared in the Czechoslovakian part of the Austro-Hungarian Empire prior to the Great War. As Teige recorded: "The foremost representatives of cubism in Czech architecture were *Pavel Janák, Josef Gočár, Vlastislav Hofman, Josef Chochol, and Jiří Kroha*. These architects transposed the principles of cubism from painting into architecture." Teige, [*Modern Architecture in Czechoslovakia*](#). Pg. 140. Teige further explained: "The aesthetic of cubist architecture is derived from cubist painting. The treatment of space and matter that we can read in cubist paintings is here applied to building." *Ibid.*, pg. 145.

²²⁵ "The Paris [Cubist] painter of the late 1900s reasoned more or less as follows: 'I see and represent an object, for example a box or a table. I see it from one point of view. But if I hold the box in my hands and turn it, or if I walk around the table, my point of view changes, and to represent the object from each new viewpoint I must draw a new perspective of it. The reality of the object, therefore, is not exhausted by its representation in the three dimensions of one perspective. To capture it completely, I must draw an infinite number of perspectives from the infinite points of view possible.' This successive displacement *in time* of the angle of vision adds a new dimension to the three dimensions of tradition. Thus *time* was baptized the 'fourth dimension.'" Zevi, Bruno. [*Architecture as Space: How to Look at Architecture*](#). Translated by Milton Gendel. (Horizon Press. New York, NY: 1957). Pg. 26. Originally published in 1948.

²²⁶ Giedion, *Space, Time, and Architecture*. Pg. 437.

artistic counterparts. As Teige observed, with characteristic astuteness: “Czech cubist architecture failed to assimilate the most fertile lesson of cubism: the adherence to geometry, to [Paul] Cézanne’s truth of geometric archetypes. Czech cubists might have been able to derive the principles of regularity and perpendicularity required by the new architecture from these sources.”²²⁷ Marcel Janco, a Romanian-born Dadaist, in his 1928 “Reflections of Cubism,” was so bold as to assert that architecture would have never freed itself from the decorative arts had it not been for the contribution of Cubism.²²⁸

Thus was the geometric aspect of capitalism’s abstract spatiality given definite form, depicted by the Cubist painters in the first decade of the twentieth century. After the war, a new wave of abstract painters rose up to build upon their accomplishments. Kazimir Malevich founded Suprematism in Russia, Piet Mondrian formulated Neo-Plasticism in Holland, and Amédée Ozenfant established Purism in France. Giedion regarded these painters as merely carrying Cubism forward to its logical conclusion. And as he correctly noted, each of these movements eventually extended themselves into the sphere of architecture. “In France appeared Le Corbusier and Ozenfant; in Russia, Malevich; in Hungary, [László] Moholy-Nagy; in Holland, Mondrian and van Doesburg,” recorded Giedion. “Common to them was an attempt to rationalize cubism or, as they felt was necessary, to correct its aberrations. The procedure was sometimes very different in different groups, but all moved toward rationalization and into architecture.”²²⁹ Each of these painters would eventually address the question of architecture in their theoretical

²²⁷ Teige, [*Modern Architecture in Czechoslovakia*](#). Pg. 141.

²²⁸ “Architecture itself was ‘contaminated’ by the decorative arts. It can certainly be claimed that the groundwork for this event was prepared by a multitude of factors; still, without the cubist experiment it would not have been brought to birth. Certainly the architects Perret and the builder of the abattoirs from Lyon were the inspired forgers of revolutions, but the one who formulated in genial fashion the time’s sentiment, its needs, was Le Corbusier-Saunier: ‘The home is an machine for living.’ The shout of hatred rising against aestheticism was the unification signal that caused architectonic Europe to gather around it. Today, because of the little resistance encountered by it in France, we have many modern accomplishments in Holland, Belgium, and Russia.” Janco, Marcel. [*“Reflections of Cubism.”*](#) Translated by Julian Semilian. From *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pgs. 705-706.

²²⁹ Giedion, *Space, Time, and Architecture*. Pg. 439.

writings. Moreover, each of them would have major modernist architects join them as allies in the search for new tectonic forms. Malevich's paintings inspired El Lissitzky's PROUNs as well as his subsequent move toward architecture. Le Corbusier extended Ozenfant's Purism into his writings on building for *L'Esprit Nouveau*. Oud and van Doesburg for the most part followed Mondrian's conception of Neo-Plasticism in their architectural works of the 1920s.

The members of the *De Stijl* movement in Holland were fully aware of the evolution of modern architecture out of the new spatiotemporal sensibility established by painting. "Only in our time," wrote van Doesburg, "has the leading art form, painting, shown the way which architecture must take in order that it may,...with mechanical means and disciplines, realize in material form what is already present in the other arts in imaginary (aesthetic) form."²³⁰ Mondrian and van Doesburg, both during their years together in *De Stijl* and after their split, authored several programmatic essays on Neo-Plasticism and architecture. The first was written by Mondrian shortly after J.J.P. Oud joined the group in 1922. In it, he challenged the notion that "Neo-Plasticism's 'planar' expression is...inapplicable to architecture." Mondrian stressed the "planar" aspect of Neo-Plasticist architecture's abstracted and absolutized notion of space and time, just as Teige would later. As in his paintings, the relativity of Renaissance linear perspective was abandoned in favor of the standpoint of infinity. "The new vision...does not proceed from one fixed point of view: it takes its viewpoint *everywhere* and is *nowhere limited*," wrote Mondrian. "*It is not bound by space or time...*In practice it takes its viewpoint before the plane (the most extreme possibility of plastic intensification). Thus it sees architecture as a *multiplicity of planes: again the plane.*"²³¹ Doesburg, in his 1924 manifesto "Towards a

²³⁰ Doesburg added that this movement from abstract art to architecture was not limited to Holland: "Not only in Holland but also in Russia (after 1917) this new movement 'from the aesthetic to its material realization' proceeded from the consequential development of painting (in Holland Neo-Plasticism, in Russia Suprematism [Malevich] and [Lissitzky's] *Proun*)...Now at last architects are gaining confidence in the use of their expressive medium." Doesburg, Theo van. ["From the New Aesthetic to Its Material Realization."](#) Translated by Hans L.C. Jaffé. *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 181. Originally published in *De Stijl*, 1922 (Vol. VI, № 1, pgs. 10-14).

²³¹ Mondrian, Piet. ["The Realization of Neo-Plasticism in the Distant Future and in Architecture Today: Architecture, Conceived as Our Total \[Non-Natural\] Environment."](#) Translated by Hans L.C. Jaffé. *De*

Plastic Architecture,” likewise expressed the spatiotemporal element of Neo-Plasticism in architecture: “§10. *Space and time*. The new architecture takes account not only of space, but also of time as an accent of architecture. The unity of time and space gives the appearance of architecture a new and completely plastic aspect (four-dimensional temporal and spatial plastic aspects).” At no point did he forget the indebtedness of modernist architecture to modernist painting, however. “[T]he plastic architect, under which heading I also include the painter, *has to construct in the new field, time-space*.”²³² Even after breaking with van Doesburg in 1924, Mondrian continued to push for Neo-Plasticism in the medium of architecture. Seconding Doesburg’s insistence on the use of color in new construction,²³³ Mondrian proposed the total unity of plane and color: “[A]s the plastic expression of the plane, Neo-Plastic architecture *irresistibly calls* for color, without which the plane cannot be *living reality*.”²³⁴ Doesburg, though his publication of *De Stijl* came to be less important (and less frequent), would continue to be one of best European commentators of modernist architecture, as can be clearly seen from his articles for *Het Bouwbedrijf* in the latter half of the 1920s.²³⁵

Meanwhile, in France, Le Corbusier-Saunier (he would later drop the “Saunier”) and Ozenfant were formulating their own post-Cubist doctrine, “Purism,” through their journal, *L’Esprit Nouveau*. In their co-authored manifesto for the movement, written in 1920, the intrinsic relationship between painterly and architectural modernism is stated explicitly: “[P]ainting is a question of architecture, and therefore volume is its means.”²³⁶

Stijl. (H.N. Abrams. New York: 1971). Pg. 169. Originally published in *De Stijl*, 1922 (Vol. V, № 3, pgs. 41-47; №5, pgs. 65-71).

²³² Doesburg, Theo van. [“Towards a Plastic Architecture.”](#) Translated by Hans L.C. Jaffé. *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 187. Originally published in *De Stijl*, 1924 (Vol. VI, № 6/7, pgs. 78-83).

²³³ “Color planes form an organic part of the new architecture as an element of the direct expression of its time and space relationships. Without color these relationships are no living reality; they are not visible.” *Ibid.*, pg. 188.

²³⁴ Mondrian, Piet. [“The Neo-Plastic Architecture of the Future.”](#) Translated by Harry Holtzman and Martin S. James. *The New Art — The New Life: The Collected Writings of Piet Mondrian*. Pg. 197. Originally published in *L’Architecture vivante*, Autumn 1925.

²³⁵ Doesburg, Theo van. *On European Architecture: Complete Articles from Het Bouwbedrijf, 1924-1931*. Translated by Charlotte I. Loeb and Arthur L. Loeb. (Birkhäuser Verlag. Boston, MA: 1990).

²³⁶ Le Corbusier and Ozenfant, Amédée. [“Purism.”](#) Translated by Robert L. Herbert. *Modern Artists on*

Though both men were originally trained as painters, and though Ozenfant would never venture into architecture, their approach to the link between architecture and painting was nevertheless the inverse of that taken by Doesburg and Mondrian. For Le Corbusier and Ozenfant, architecture did not simply extend the results of modern painting to the realm of building; rather, architecture was already *built into* painting. Both had to be seen in terms of abstract space: “Space is needed for architectural composition; space means three dimensions. Therefore we think of the painting not as a surface, but *as a space*.”²³⁷ The *universality* of such spatial composition was implied by the authors’ search for a “universal language”²³⁸ of forms and colors, its *mathematico-geometric* character shown in its search for a “mathematical order...[to] be sought among universal means.”²³⁹ What is more, the *homogeneous* quality of Purism’s modernist spatiality was conveyed through its ideal of artistic “unity”: “Unity in plastic art...is the homogeneous relationship of the surface or volume with each of the elements brought into play.”²⁴⁰ Many of the concepts Le Corbusier and Ozenfant introduced in this early manifesto later reappeared in the former’s *Towards an Architecture* written three years later, especially in its notions of “volume,” “surface,” and “regulating lines.”²⁴¹ Ozenfant, reflecting on the subject of

Art. (Dover Books. Mineola, NY: 2000). Pg. 62. Originally published in *L’Esprit Nouveau* in 1920.

²³⁷ *Ibid.*, pg. 59.

²³⁸ “The means of executing a work of art is a transmittable and universal language.” *Ibid.*, pg. 54.

²³⁹ *Ibid.*, pg. 54.

Even further: “The choice of surface for...geometric determinations has been a preoccupation of every age.” *Ibid.*, pg. 61.

²⁴⁰ *Ibid.*, pg. 61.

²⁴¹ Volume: “In the expression of volume, color is a perilous agent; often it destroys or disorganizes volume because the intrinsic properties of color are very different, some being radiant and pushing forward, others receding, still others being massive and staying in the real plane of the canvas, etc.” *Ibid.*, pg. 62.

Surface: “[S]urface has important geometric properties; it permits various regulating lines which determine geometric locations of the highest plastic value.” *Ibid.*, pg. 60.

Regulating lines: “[I]n all ages and times, great works of architecture as well as of painting of have been composed by imperious regulating lines of this nature.” *Ibid.*, pg. 61.

These three Purist concepts are brought up again in *Towards an Architecture*. From the chapter “Three Reminders to Architects: 1. Volume”: “Architecture is the masterful, correct, and magnificent play of volumes brought together in light.” Le Corbusier, *Towards an Architecture*, pg. 102.

modernist architecture in his 1928 *Foundations of Modern Art*, declared the artistry of the architect to consist in the spatial precision of his designs: “The architect’s genius is in relating all the internal organs of the house...*Each square centimeter must yield its maximum*, and the rooms must be exactly related if they are to be pleasant to live in: a perfect harmony which though much to be desired, is rarely attained.”²⁴²

Kazimir Malevich’s evolution out of Russian Cubo-Futurism into what he dubbed Suprematism was accomplished as early as 1916.²⁴³ Although he would not foray into architecture until the mid-1920s, the fundamental reconception of space enacted in his paintings had immediate consequences for the development of modernist architecture, first through a fellow Russian painter, El Lissitzky, and second through Lissitzky’s Hungarian associate and collaborator, László Moholy-Nagy. Nevertheless, Malevich prophesied the birth of a Suprematist architecture out of the principles it established previously in painting, in his internationally-renowned book on *The Non-Objective World*, published in German as part of the *Bauhausbücher* series in 1926. “The new art of Suprematism,” he wrote, “which has produced new forms and form relationships by giving external expression to pictorial feeling, will become a new architecture: it will transfer these forms from the surface of canvas to space.”²⁴⁴ Malevich took up this subject at greater length in several articles he contributed to the Ukrainian avant-garde journal *New Generation*, particularly his 1928 essay regarding “Painting and the Problem of Architecture.” As with the Purists in France and the *De Stijl* Neo-Plasticists in Holland, Malevich asserted that Suprematism could be easily transposed from the easel

From the chapter “Three Reminders to Architects: 2. Surface”: “[I]t is the architect’s task to bring the surfaces that envelop these volumes to life.” *Ibid.*, pg. 109.

From the chapter “Regulating Lines”: “The regulating line is a satisfaction of a spiritual order that leads to a search for ingenious relationships and for harmonious relationships.” *Ibid.*, pg. 137.

²⁴² Ozenfant, Amédée. *Foundations of Modern Art*. Translated by John Rodker. (Dover Publications, Inc. New York, NY: 1952). Pg. 140. My emphasis. Originally published in 1928.

²⁴³ Malevich, Kazimir. *From Cubism and Futurism to Suprematism: The New Realism in Painting*. Translated by Xenia Glowaki-Prus and Arnold McMillin. *Essays on Art, 1915-1933, Volume 1*. Pg. 40. Originally published in 1916 as *Ot kubizma i futurizma do suprematizma: Novyi zhivopisnyi realizm*.

²⁴⁴ Malevich, Kazimir. *The Non-Objective World*. Translated by Howard Dearstyne. (Paul Theobald and Company. Chicago, IL: 1959). Pg. 78. Originally published in 1926.

into space.²⁴⁵ But Malevich himself was not interested in proposing new architectural designs; at most, he submitted abstract sculptural models of intersecting geometric shapes that he called “architectonics.”²⁴⁶ Giedion recalled the significance of these projects as “spatial research”:

Interrelation, hovering, and penetration form the basis of Malevich’s half-plastic architectural studies, which he calls “architectonen.” These objects are not intended for a particular purpose, but are to be understood simply as spatial research. Interrelations are created between these prisms, slabs, and surfaces when they penetrate or dislodge each other.²⁴⁷

Malevich left it to professional architects to design the buildings that would embody the architecture of Suprematism. Unconsciously, he felt, modernist architects in the West were already moving towards its realization. “I do not mean to say that the new architecture of the West is Suprematist,” he clarified, “but I can say that new Western architecture stands on the road to Suprematist architectonics.”²⁴⁸ Malevich made his feelings about international modernist architecture well known. He generally tended to prefer buildings produced by the French Purist and Dutch Neo-Plasticist architects²⁴⁹ (for reasons one might guess) to the utilitarianism of Russian Constructivism²⁵⁰ and German

²⁴⁵ “Suprematism has two methods of revealing the elements of perception: the ‘spatial’ method and the ‘easel’ method: space and canvas are the places where they appear.” Malevich, Kazimir. [“Painting and the Problem of Architecture.”](#) Translated by Xenia Glowaki-Prus and Arnold McMillin. *Essays on Art, 1915-1933, Volume 2*. Pg. 11. Originally published in *Nova generatsiia* 1928, № 2. Pgs. 116-124.

²⁴⁶ “The architectonics — ‘Alpha’ of horizontal building and ‘Gota’ of vertical — reveal those features, which, it seems to me, ought to be in the new architecture.” *Ibid.*, pg. 17.

²⁴⁷ Giedion, *Space, Time, and Architecture*. Pgs. 439-440.

²⁴⁸ Malevich, [“Painting and the Problem of Architecture.”](#) Pg. 16.

²⁴⁹ “[L]et us compare the Suprematist construction of...texture with the texture or structure of architecture by the Dutch architect Theo van Doesburg or Le Corbusier, Korn, etc...[T]his architecture is similar in structure to the structure of Suprematism, i.e. the new type of Suprematist art according to one Suprematist formula.” Malevich, Kazimir. [“The Constructive Painting of Russian Artist and Constructivism.”](#) Translated by Xenia Glowaki-Prus and Arnold McMillin. *Essays on Art, 1915-1933, Volume 2*. Pg. 81. Originally published in *Nova generatsiia* 1929, № 8, pgs. 47-54; № 9, pgs. 53-61.

²⁵⁰ “The architect [Aleksandr] Vesnin sought a pure function, which resulted in a box divided up by a network of glass, whilst in Korn and Doesburg we see a multitude of different forms linked together by the harmony of contrasts;...[I]n the new, Constructivist building...signs [of art] are absent, as a result of which the artistic form in the majority of cases is missing.” *Ibid.*, pgs. 82-83.

functionalism, the so-called “New Objectivity,”²⁵¹ though he did state his approval of the works of the Germans Gropius and Korn.²⁵² Malevich did not fail to notice the abstract planar aspect of the new architecture’s spatiality, as Teige and Mondrian had also pointed out: “Analyzing new architecture we find that it is under the influence of ‘plane painting,’ i.e. of artistic form containing the plane element...For this reason contemporary architecture gives the impression of being two-dimensional.”²⁵³

Before passing on to the subsequent development of Malevich’s spatial theories by Lissitzky and Moholy-Nagy, the more temporal aspect of avant-garde experimentation in the early twentieth century deserves mentioning. For while Doesburg might have spoken of spatiotemporal unity in *De Stijl* architecture,²⁵⁴ the specifically temporal dimension of this unity remained underdefined. As Giedion argued, however, this work was carried out in the “research into movement” undertaken by members of the Futurist movement in art, along with some strains of Cubism. Again, he claims this mirrored a new scientific understanding of time that arose concurrently.²⁵⁵ Avant-garde art, in turn, attempted to simulate dynamic motion within static media, either in painting or in sculpture. Giedion thus cited the Futurist sculptor Umberto Boccioni’s *Bottle Evolving in Space* (1912) and famous *Unique Forms of Continuity in Space* (1913), the painter Gino Severini’s *Walking Dog* (1913), and the unaffiliated artist Marcel Duchamp’s celebrated *Nude Descending a*

²⁵¹ “[A]rchitecture is basically a pure art form (architectonic)...And therefore no ‘matter-of-factness’ (*Sachlichkeit*) can offer us what art does. The most *sachlich* engines, telegraph, and radio apparatuses do not help us to reach the Promised Land.” Malevich, Kazimir. “Suprematist Architecture.” Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pgs. 109-110. Originally published in [Wasmuths Monatshefte für Baukunst 1927, Vol. XI](#), pg. 412.

²⁵² “Characteristic examples [of Suprematist principles] can be found in the new architectural work of such artist-architects as Theo van Doesburg, Le Corbusier, Gerrit Rietveld, Walter Gropius, Arthur Korn et al.” Malevich, [“Painting and the Problem of Architecture.”](#) Pg. 16.

²⁵³ *Ibid.*, pg. 16.

²⁵⁴ See the quotation of Doesburg’s [“Towards a Plastic Architecture”](#) on pg. 81.

²⁵⁵ “In the first decade of [the twentieth] century, the physical sciences were profoundly shaken by an inner change, the most revolutionary perhaps since Aristotle and the Pythagoreans. It concerned, above all, the notion of *time*...[There] came another and new way of regarding time.” Giedion, *Space, Time, and Architecture*, pg. 443.

Staircase (1912) as examples of modernism's exploration of temporal simultaneity.²⁵⁶ He could have easily added Giacomo Balla's *Light and Movement*.

Giedion's claims are corroborated not only by the Futurists' works, but also by their writings. From the moment of its foundation, Futurism in Italy championed dynamism, movement, and speed. "We intend to exalt movement and aggression, feverish insomnia, the racer's stride, the mortal leap, the slap and the punch," shouted Marinetti, in his 1909 *Manifesto*. "We affirm that the beauty of the world has been enriched by a new form of beauty: the beauty of speed."²⁵⁷ This attitude, the Futurists claimed, reflected the modern pace of life — hectic, buzzing, and frantic — especially in the newfound sphere of the metropolis. In an odd way, the concrete spatial accumulations of the modern capitalist city converged with its abstract temporality of deadlines, the daily punch-in clock, store hours, the whole tyranny of standardized time to create the hustle and bustle of city life. As the legendary Russian Cubo-Futurist poet Vladimir Maiakovskii put it:

The city has enriched our experiences and impressions of the new urban elements, which were not known to poets of the past. The whole modern cultural world is becoming a vast, Cyclopean city. The city replaces nature and the elements. The city itself becomes an environment out of the bowels of which arises a new, urban people. Telephones, airplanes, express-elevators, rotating machines, sidewalks, chimneys, stone masses, soot and smoke — these are the elements of beauty in the new urban nature. We see electric light more often than the old, romantic moon. We, the urbanites, do not know the forests, fields, and flowers — we are familiar with the tunnels of the streets with their traffic, noise, their roaring, flashing, perpetual circuit. And most importantly — they have altered the rhythm of life. Everything has become lightning-quick, as fleeting as film on a tape. The smooth, quiet, slow rhythms of old poetry do not correspond to the psyche of the modern city dweller. Feverishness — that symbolizes the pace of modernity. In the city there are no smooth, measured, rounded lines: angles, bends, zigzags — these are what characterize the picture of the city.²⁵⁸

This new feeling of constant, feverish motion had major repercussions for the members of the Futurist current. "In sculpture as in painting," declared Boccioni, "renewal is

²⁵⁶ In each of these works, "movement is dissected mathematically." *Ibid.*, pg. 445.

²⁵⁷ Marinetti, F.T. "Founding and Manifesto of Futurism." Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [*Futurism: An Anthology*](#). (Yale University Press. New Haven, CT: 2009). Pg. 51. Originally published in 1909.

²⁵⁸ Maiakovskii, Vladimir. "[Otchet](#)." *Trudovaia gazeta*. November 14th, 1914.

impossible without looking for a *style of movement*.”²⁵⁹ The Russian Ego-Futurist Vadim Shershenevich shared this sentiment: “We have lost the ability to understand the life of a motionless statue.” This loss, he suggested, was symptomatic of the dynamism of their age.²⁶⁰ The struggle for the Futurists, therefore was to capture in a moment the evolution of an object in time. Their *mathematical* approach to understanding this time, moreover, was commensurate with the abstract time of capitalism.²⁶¹ Unlike Cubism, which created merely spatial fragmentation, Futurism aimed at temporal oblivion — the decomposition of flux. This effect, the simultaneous representation of dynamic continuity, produced in the object a quality that the founder of Futurism, F.T. Marinetti, called “geometrical and mechanical Splendor,” while provoking in the subject “the numerical sensibility.”²⁶² In Severini’s 1913 manifesto on “Plastic Analogies of Dynamism,” the artist recognized the historical character of this new sense of temporality. “Today, in this epoch of dynamism and simultaneity,” he wrote, “one cannot separate any event or object from the memories, the plastic affinities or aversions, which its expansive action calls up simultaneously in us.”²⁶³ Hence the Futurists’ fascination with the whirring of machines, automobiles, and

²⁵⁹ Boccioni, Umberto. “Futurist Sculpture.” Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [*Futurism: An Anthology*](#). (Yale University Press. New Haven, CT: 2009). Pg. 116. Originally published April 11th, 1912.

²⁶⁰ “Urbanism with its dynamism, its beauty of speed, its intrinsic Americanism, trampled our integral soul.” Shershenevich, Vadim. “Preface to *Automobile Gait*.” Translated by Anna Lawton. *Words in Revolution: Russian Futurist Manifestos, 1912-1928*. Pg. 149. Originally published in 1916).

²⁶¹ “We must take the object which we wish to create and begin with its central core in order to uncover the new laws and new forms which link it invisibly but mathematically to *external plastic infinity* and to *internal plastic infinity*.” *Ibid.*, pg. 114.

²⁶² Marinetti, F.T. “Geometric and Mechanical Splendor and the Numerical Sensibility.” Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [*Futurism: An Anthology*](#). (Yale University Press. New Haven, CT: 2009). Pg. 175. Originally published March 18th, 1914.

²⁶³ Severini, Gino. “Plastic Analogies of Dynamism: Futurist Manifesto.” Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [*Futurism: An Anthology*](#). (Yale University Press. New Haven, CT: 2009). Pg. 165. Originally published in October 1913.

Boccioni reiterated this point: “With dynamism, then, art rises toward a higher ideal level; it creates a style and expresses our age of speed and simultaneity.” Boccioni, Umberto. “Absolute Motion + Relative Motion = Dynamism.” Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [*Futurism: An Anthology*](#). (Yale University Press. New Haven, CT: 2009). Pg. 192.

airplanes.²⁶⁴ Zevi, expanding on Giedion's interpretation, spelled out exactly how this Futurist concept of dynamism in art had repercussions for architecture:

In painting, the fourth dimension [time] is a quality *inherent* in the representation of an object, an element of its reality which a painter may choose to project on a flat surface without requiring physical participation on the part of the observer...The same thing is true of sculpture: in sculpture the "movement" of a form, for example by Boccioni, is a quality *inherent* in the statue we are looking at, which we must relive visually and psychologically...But in architecture we are dealing with a concrete phenomenon which is entirely different: here, man *moving about within the building*, studying it from successive points of views, himself creates, so to speak, the fourth dimension, giving the space an integrated reality.²⁶⁵

Futurism's temporal self-understanding was of a twofold nature, however. While the movement was interested in achieving a more dynamic, rationalized comprehension of the passage of time as it transpired under modernity, the Futurists understood themselves to be the culmination of the artistic processes of their age and thus the supersession of all that came before it. Their nihilistic stance toward the past, and ruthless intolerance for anachronism in the present, was taken up by subsequent incarnations of the avant-garde. Each new "ism" that took up the mantle of the avant-garde claimed to render all others obsolete.²⁶⁶ If, for Malevich and the post-Cubist abstract painters his *Black Square* was to spatially embody "[t]he absolute zero that was to mark the beginning of a new world in which the new 'white humanity' would be cleansed of all previous images," as Groys put it,²⁶⁷ then for the Futurists, the present was to mark a sort of Year Zero. The plodding,

²⁶⁴ Even Malevich was enchanted by these frenetic phenomena: "The new life of iron and the machine, the glitter of electric lights, the whirring of propellers, have awoken the soul." Malevich, *From Cubism and Futurism to Suprematism*. Pg. 29.

²⁶⁵ Zevi, [*Architecture as Space*](#). Pg. 27.

²⁶⁶ "And I must repeat, all together, and without any distinction between Constructivism and the art of protest. Cubism, Futurism, Dada, all the historical avant-garde movements arose and succeeded each other according to the typical law of industrial production, the essence of which is the continual technical revolution." Tafuri, *Architecture and Utopia*. Pgs. 84-86.

²⁶⁷ Groys, *The Total Art of Stalinism*. Pg. 19.

Compare with Malevich's own statement: "At the present time man's path lies through space, and Suprematism is a color semaphore in its infinite abyss." Malevich, Kazimir. "Non-Objective Creation and Suprematism." Translated by Xenia Glowaki-Prus and Arnold McMillin. *Essays on Art, 1915-1933, Volume I*. Pg. 121.

irrational time of the past was to be abandoned in favor of a sleeker synchronicity, the rationally choreographed motions of a new, harmonious humanity. Renouncing the spatiotemporal order that had come before, the brothers Naum Gabo and Antoine Pevsner wrote in 1920: “We proclaim: For us, space and time are born today.”²⁶⁸

While contradictory temporal elements persisted into the present, inhabiting the same space, these were to be extirpated — cleared to make way for the new spatiotemporal order. Traditionalism held onto remnants of the past at the expense of the future. “The speed of cultural evolution is reduced by the stragglers,” lamented Loos. “I perhaps am living in 1908 [the year of his essay’s publication], but my neighbor is living in 1900 and the man across the way in 1880.”²⁶⁹ Loos’ sentiment was later conceptualized more rigorously by the German Marxist Ernst Bloch, in his notion of “non-synchronicity.” In an essay he wrote on the subject, he explained succinctly: “Not all people exist in the same Now. They do so only externally, by virtue of the fact that they may all be seen today. But that does not mean that they are living at the same time with others.”²⁷⁰ This can be seen as the incarnation of the concrete, contradictory spatiality of capitalism that was described earlier.²⁷¹ The leftovers of ages that had been superseded by the ceaseless revolutions in production (itself a result of the concrete temporality that stemmed from relative surplus-value)²⁷² were deposited in one and the same locality. The “unevenness” of capitalist development could be witnessed in a single space. Ginzburg observed this phenomenon precisely: “The old is regenerated gradually; frequently one can observe how elements of the old world, still persisting by reason of traditions that have outlived the very ideas which engendered them, coexist side by side with elements of the new world, which overwhelm us with their barbaric freshness and the absolute independence of their unexpected appearance.”²⁷³

²⁶⁸ Gabo, Naum and Pevsner, Antoine. “The Realistic Manifesto.” Translated by Stephen Bann. *The Tradition of Constructivism*. (Da Capo Press. New York, NY: 1974). Pg. 4.

²⁶⁹ Loos, “Ornament and Crime.”

²⁷⁰ Bloch, Ernst. [“Nonsynchronism and Our Obligation to Its Dialectics.”](#) Translated by Mark Ritter. *New German Critique*, № 11 (Spring 1977). Pg. 22. Originally published in 1932.

²⁷¹ See the “concrete anachronisms” described on pgs. 42-43.

²⁷² See the “spasmodic transformations” described on pg. 28.

²⁷³ Ginzburg, [Style and Epoch](#). Pg. 76.

Of course, this fact did not sit easily with the members of the Futurist avant-garde, nor with those who succeeded them. It could well be argued that the very recognition of such concrete anachronisms, of “backwardness” in general, was unique to modernity, a symptom of the heightened pace of life. Either way, the Futurists were notoriously impatient with those who could not keep up with new developments, and who kept them from instituting a new regime of rationalized, uniform time. This might have been the source of their violent anti-traditionalism. Marinetti thus heaped scorn upon those who revered the art of the past, calling museums “cemeteries,” “public dormitories,” and “absurd slaughterhouses.”²⁷⁴ The Futurists detested “Academicians,” as well as the works and figures they had canonized. “SHIT to...Dante, Shakespeare, Tolstoi, Goethe,” roared one of Marinetti’s young followers in France, the poet Guillaume Apollinaire.²⁷⁵ Their counterparts in Russia, the Cubo-Futurist contingent, were equally blunt. “Throw Pushkin, Dostoevskii, Tolstoi, etc., etc., overboard from the steamship of Modernity,” they advised. “*We alone are the face of our Time. Through us the horn of time blows in the art of the world.*”²⁷⁶ This unapologetic hostility toward tradition would be continued by all the avant-garde movements that followed. Even Malevich, who was generally more respectful, announced proudly that “we, the most daring, *have spat upon the altar of its [tradition’s] art.*”²⁷⁷

The ultimate synthesis of Cubist and post-Cubist painting’s abstract spatiality and Futurism’s abstract temporality in architecture was achieved in the theoretical writings of

²⁷⁴ “Museums: cemeteries! Identical, really, in the horrible promiscuity of so many bodies scarcely known to one another. Museums: public dormitories in which someone is put to sleep forever alongside others he hated or didn’t know! Museums: absurd slaughterhouses for painters and sculptors who go on thrashing each other with blows of line and color along the disputed walls!” Marinetti, “The Founding and Manifesto of Futurism.” Pg. 52.

²⁷⁵ Apollinaire, Guillaume. “Futurist Anti-Tradition.” Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [*Futurism: An Anthology*](#). (Yale University Press. New Haven, CT: 2009). Pg. 154. Originally published on June 29th, 1913.

²⁷⁶ Khlebnikov, Velimir; Maiakovskii, Vladimir; Burliuk, David; Kruchenykh, Aleksei; Kamenskii, Vasilii; and Livshits, Benedikt. [“Poshchechina obshchestvennomu vkusu.”](#) Originally published December 12th, 1912.

²⁷⁷ Malevich, *From Cubism and Futurism to Suprematism*. Pg. 27.

Lissitzky and Moholy-Nagy. In one of his earliest essays on architecture, Lissitzky explained the spatiotemporal aspects of modernist art and where they came from: “[T]he revolution in art began by giving form to the elements of time, of space, of tempo and rhythm, of movement. Before the war Cubists in France and Futurists in Italy advanced new theses in art.”²⁷⁸ Lissitzky began his career as a painter following Malevich’s path of Suprematist non-representation, but later fell under the influence of the Constructivists in art, Tatlin and his protégé Aleksandr Rodchenko. Upon arriving in the West, he was greeted nearly universally as a *cause célèbre*, playing a pivotal role at the International Congress of Progressive Artists in Düsseldorf.²⁷⁹ His abstract *PROUN* compositions were featured prominently at the Exhibition of Russian Art that took place in Berlin in 1922. Journalists and critics such as Paul Westheim,²⁸⁰ Adolf Behne,²⁸¹ Ernő Kállai,²⁸²

²⁷⁸ Lissitzky, [“The Catastrophe of Architecture.”](#) Pg. 371.

²⁷⁹ With the avant-garde novelist Il’ia Ehrenburg, Lissitzky authored an important piece on the export of Russian modernism to the West. Lissitzky, El and Ehrenburg, Il’ia. “The Blockade of Russia is Coming to an End.” Translated by Stephen Bann. *The Tradition of Constructivism*. (Da Capo Press. New York, NY: 1974). Originally published in *Veshch/Gegenstand/Objet*, March-April 1922 (Vol. I, № 1/2).

He also issued the editorial statement of his journal *Veshch/Gegenstand/Objet* at the International Congress in 1922: “I come here as a representative of the magazine *Veshch/Gegenstand/Objet*, which stands for a new way of thinking and unites the leaders of the new art in nearly all countries.” Lissitzky, El. “Statement by the Editors of *Veshch/Gegenstand/Objet*.” Translated by Nicholas Bullock. *The Tradition of Constructivism*. (Da Capo Press. New York, NY: 1974). Pg. 63. Originally published in *De Stijl*, 1922 (Vol. V, № 4).

Lissitzky was also a signatory of Theo van Doesburg’s foundation of an International Constructivist group. Doesburg, Theo van; Lissitzky, El; Richter, Hans; Maes, Karel; and Burchartz, Max. “International Constructivist Creative Union.” Translated by Steven Lindberg. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Originally published as “Manifest der K.I. (Konstruktivistische Internationale schöpferische Arbeitsgemeinschaft),” *De Stijl*, 1922 (Vol. V, № 8).

²⁸⁰ Westheim, Paul. [“The Exhibition of the Russian Artists.”](#) Translated by David Britt. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pg. 406. Originally published in *Das Kunstblatt* (November 1922).

²⁸¹ Adolf Behne. [“On the Russian Exhibition.”](#) Translated by Don Reneau. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Originally published as “Der Staatsanwalt schützt das Bild,” *Die Weltbühne* № 47 (November 23, 1922).

and Branko Ve Poljanski²⁸³ all took note of Lissitzky's innovations in the field of abstract art, and reviewed his work favorably. Giedion, reflecting on Lissitzky's work in 1929, recalled how the artist himself regarded his *PROUNs* as "the interchange station between painting and architecture."²⁸⁴ Even in designing the room in which the *PROUNs* were to be viewed, one of Lissitzky's foremost concerns was with the spatiotemporal layout of the exhibit. "Space has to be organized in such a way as to impel everyone automatically to perambulate in it," he wrote.²⁸⁵ Lissitzky ended his article on the *PROUN* room with

²⁸² "Lissitzky's *PROUN*...is utmost tension, violent jettisoning. A new world of objects is in the process of being built. Space is filled by all possible variant physical forms of a constant energy. They are very much synthesized, but down to the last details they are strictly subject to the central, unifying law of their structure. This structure is multi-dimensional. Thrusting sharply into space on all sides, it contains layers and strata, diametrical opposites thoroughly intertwined, held in a state of tension, and drawn into the tightly-knit complex of components, which cut across, embrace, support, and resist each other. Numerous projections, incisions, and gradations in all directions help the physical, defined nature of the form to set. All the dialectical wealth available to the creation of form is concentrated on objective synthesis, definition, and clarification." Kállai, Ernő. "[Lissitzky.](#)" Translated by Sophie Lissitzky-Kuppers. *El Lissitzky: Life, Letters, Texts*. (Thames & Hudson Press. London: 1980). Pg. 379. Originally published in *Das Kunstblatt*, Vol. 6, № 1, 1922.

²⁸³ "Lissitzky. The second Suprematist, Constructivist, spectral specialist, and explorer of ultra-violet rays. He is searching for a way to apply Suprematist painting to a true realization of visionary worlds, made real as concrete objects; he is looking for a way to apply this kind of painting to life, to things: a bridge, a monument, a submarine, an airplane, a train, and others." Poljanski, Branko Ve. "[Through the Russian Exhibition.](#)" Translated by Maja Starčević. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pgs. 414-415. Originally published as "Kroz rusku izložbu u berlinu," in *Zenit*, Vol. 3, № 22 (March 1923).

²⁸⁴ Giedion, Sigfried. "[Live Museum.](#)" Translated by Sophie Lissitzky-Kuppers. *El Lissitzky: Life, Letters, Texts*. (Thames & Hudson Press. London: 1980). Pg. 382. Originally published in *Der Cicerone*, Vol. 21, № 4, 1929.

Moholy-Nagy also remarked upon this fact: "Lissitzky says that his pictures (*PROUN*) are a kind of transition between painting and architecture." Moholy-Nagy, László. *The New Vision: Fundamentals of Bauhaus Design, Painting, Sculpture, and Architecture*. Translated by Daphne M. Hoffman. (Dover Publications, Inc. Mineola, NY: 2005). Pg. 84. Originally published in 1928.

²⁸⁵ Lissitzky, El. "*PROUN* Space: The Great Berlin Art Exhibition of 1923." Translated by Eric Dluhosch. *Russia: An Architecture for World Revolution*. (MIT Press. Cambridge, MA: 1984). Pg. 139. Originally published in *G* № 1, 1923.

an emphatic statement: “*We reject space as a painted coffin for our living bodies.*”²⁸⁶ Later he would propose that art could create a sort of dynamic “pangeometry” in which abstract time and space could be interchangeably united.²⁸⁷ With such goals in mind, it is therefore little wonder that the new spatiotemporal sensibility described by Giedion would prove so important to Lissitzky in his writings on architecture. In a 1926 article on “Architecture of the Steel and Ferro-Concrete Skeleton,” he thus wrote that “[w]e are faced with *the task of creating spatial architecture which is not only seen by the eye from a distance, as in painting, and not only touched by the hands, as in sculpture, but among which people live and move — an architecture of space and time.*”²⁸⁸

Moholy-Nagy, whom Lissitzky converted to Constructivism soon after they met in the early 1920s, would also present a concept of architecture born out of an organization of space and time. Following his initial encounter with Lissitzky, Moholy-Nagy and his fellow Hungarian avant-gardist Alfréd Kemény collaborated on a project for a kinetic sculpture entitled “Dynamic-Constructive System of Forces.” They expressed their idea of a temporally dynamic, motive sculpture moving through space. In the terms Moholy-Nagy and Kemény were using at the time (following Liubov Popova), this amounted to utilizing *dynamic-constructive* forces. “Vital constructivity is the embodiment of life and the principle of all human and cosmic development,” they declared. “Translated into art,

²⁸⁶ *Ibid.*, pg. 140.

²⁸⁷ “In their vital quest for the enlargement of F[orm] in A[rt], a number of modern artists...believe that they can build up multidimensional real spaces that may be entered without an umbrella, *where space and time have been combined into a mutually interchangeable single whole.*” Lissitzky, El. “A[rt] and Pangeometry.” Translated by Eric Dluhosch. *Russia: An Architecture for World Revolution*. (MIT Press. Cambridge, MA: 1984). Pg. 145. My emphasis. Originally published in *Europa Almanach*, 1925.

Lissitzky’s colleague in the Constructivist publication *ABC*, the Dutch architect Mart Stam, wrote an article on space that was directly inspired by “A[rt] and Pangeometry”: “Space is — is everywhere, penetrating and surrounding everything...Time has no boundaries — time crosses all boundaries...Our task is: 1. to perceive our relationship to this specific space, to this specific time; 2. to give this relationship of ours, through our work, a form that everyone can assimilate.” Stam, Mart. “[Space.](#)” Translated by C. v. Amerongen. *Mart Stam: A Documentation of His Work, 1920-1965*. (Royal Institute of British Architects. London: 1970). Pg. 20. Originally published in *ABC* 1925, № 5.

²⁸⁸ Lissitzky, El. “Arkhitectura stal’nogo i zhelezobetonnoogo skeleta.” *Stroitel’naia promyshlennost*. (Vol. 3, № 1. Moscow, Soviet Union: 1926). Pg. 63.

today this means the activation of space by means of dynamic-constructive systems of forces.”²⁸⁹ Not long after writing this, Moholy-Nagy was appointed by Gropius as a professor at the recently opened Bauhaus school of design. In his 1928 lectures on *The New Vision*, Moholy-Nagy laid out the successive stages of art in painting, sculpture, and architecture as corresponding to material/surface, volume, and space. Already beginning in his section on “Kinetic Sculpture,” he cited Boccioni and the Futurists as well as his own work with Kemény. He also quoted from the Russians Gabo’s and Pevsner’s “Realistic Manifesto” of 1920: “Space and time are the two exclusive forms for the fulfillment of life, and therefore art must be guided by these two basic forms if it is to encompass life.”²⁹⁰ All this, for Moholy-Nagy, still only takes place within the sphere of volume, or sculpture. It is only with the transition to “space” that architecture enters the picture. “The root of architecture lies in the mastery of the problem of space,” wrote Moholy-Nagy. “One of its most important components is the ordering of man in space, making space comprehensible, and taking architecture as the arrangement of universal space.”²⁹¹ But just as it was in sculpture, he maintained, “[t]he common denominator is the concept of the dynamic (kinetic) in the balanced application of all elements of a [spatial] relationship.”²⁹²

The spatiotemporal properties of architecture that were developed by experiments in abstract art reached their highest expression in the work of Lissitzky and Moholy-Nagy. Stepping back from our analysis of this development, however, we may witness a crucial conjuncture between the realm of abstract art and the other major positive basis for the existence of modernist architecture — industrialism (and more specifically, the machine). This conjuncture occurred on two levels. At one level, leading avant-garde artists and architects began to draw inspiration from the monumental improvements in both factory production and machine technologies, seeing in these an ideal of economy and efficiency.

²⁸⁹ Moholy-Nagy, László and Kemény, Alfréd. “Dynamic-Constructive System of Forces.” Translated by Krisztina Passuth. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Originally published in *Der Sturm* № 12 (1922).

²⁹⁰ Moholy-Nagy, *The New Vision*. Pg. 138.

²⁹¹ *Ibid.*, pg. 181.

²⁹² *Ibid.*, pg. 184.

On another level, however, the research into the abstract time of capitalism undertaken by the Futurists through their representation of kinetic dynamism and motion was advanced in a more systematic and precise form by the advocates of Taylorism, whose time-and-motion studies of labor established the foundation for scientific management in industry. Taylorism, as a science of the mechanics of movement and a means for the optimization of productivity, exerted huge influence over the modernists in architecture. Moreover, the broader cult of the machine and of the engineer in particular provided the avant-garde with a positive image for the spirit of their age. The traditionalists, who remained lost studying the annals of architectural history and reproducing its forms, were thus blind to the most obvious feature of the modern epoch — industrialization.

Several of the artists affiliated with the movements of abstract painting we already discussed began, during the early 1920s, to grant aesthetic legitimacy to the machine. The Futurist Severini, for example, wrote in 1922 that “[t]he precision of machines, their rhythm and their brutality, have no doubt led us to adopt a new form of realism.”²⁹³ Even more emphatically, the former Cubist and Purist painter Fernand Léger authored an essay on “The Machine Aesthetic” in 1924. In this piece, he discovered the implicit connection between the abstract, geometric spatiality of capitalism and the form of the machine: “*Modern man lives more and more in a preponderantly geometric order,*” he explained. “*All man-made mechanical and industrial creation is dependent on geometric forces.*”²⁹⁴ Léger further asserted that the new form of “mechanical beauty” called into question the representational values of traditionalist aesthetics.²⁹⁵ The inherent link the machine held through its aesthetic with the medium of architecture was not lost on him, either. “What I have to discuss,” Léger explained, “is a new architectural order: the architecture of

²⁹³ Severini, Gino. “Machinery.” Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 96. Originally published in *De Stijl* 1922, Vol. V, № 12.

²⁹⁴ Léger, Fernand. “The Machine Aesthetic: The Manufactured Object, the Artisan, and the Artist.” Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 96. Originally published in the *Bulletin de l'Effort Moderne*, 1924.

²⁹⁵ “The arrival of mechanical beauty, of all these beautiful objects which have no pretension to art, justifies a quick revision of the traditional representational values classified as definitive.” *Ibid.*, pg. 99.

mechanization.”²⁹⁶ Even those abstract painters who denied the aesthetic quality of the machine or works of engineering, like Malevich²⁹⁷ or Ozenfant,²⁹⁸ often admitted that the formal and geometric simplicity of mechanical objects was pleasing. “A mechanical object can in certain cases affect us, because manufactured forms are geometric, and we respond to geometry,” asserted Ozenfant. “[I]ntuitively geometry communicates to us a feeling that some higher dispensation is being subserved, which thus becomes a pleasure of the mind, and a feeling that we are satisfying the laws that govern our being.”²⁹⁹ In nearly every quarter of avant-garde art, the subject of “mechanization” was discussed.³⁰⁰ Perhaps the most philosophically refined affirmation of the aesthetic value of the modern machine came from Kurt Ewald, in his 1926 article on “The Beauty of Machines.” Ewald was confident enough in his claims to invoke that quintessential aesthete, Immanuel Kant, writing that “most modern machines arouse in us that feeling that Kant regards as the criterion of ‘beauty.’ A good modern machine is thus an object of the highest aesthetic value.”³⁰¹

²⁹⁶ *Ibid.*, pg. 97.

Léger’s influence on the architectural avant-garde was by no means insignificant. So great was the Soviet Constructivist group OSA’s respect for the French painter that in an issue they put out on color in architecture, they devoted an entire article to the analysis of color in Léger’s work. Khiger, Roman. “Pochemu my pomeschaem zhivopis’ Lezhe.” [*Sovremennaiia arkhitektura. \(Vol. 4, № 2 \[“Svet i tsvet”\]. Moscow, Soviet Union: 1929\).*](#) Pgs. 58-71.

²⁹⁷ “We would make a great mistake if we were to throw aside new art; we would be left only with the forms of utilitarian functionalism, or the art of the engineer, arising not from aesthetic but from purely utilitarian aims.” Malevich, [“The Constructive Painting of Russian Artists and Constructivism.”](#) Pg. 80.

²⁹⁸ “[T]he machine-made product is not aesthetic.” Ozenfant, *Foundations of Modern Art*. Pg. 151.

²⁹⁹ *Ibid.*, pg. 152.

³⁰⁰ The Dutch critic and contributor to *De Stijl* Friedrich Vordemberge-Gildewart felt that the influence of machinery on modern art was often overrated or misunderstood, yet nevertheless important: “there is no such thing as mechanization ‘in’ art. mechanization as a means of artistic expression — sound, color, light, etc. — is really new.” Vordemberge-Gildewart, Friedrich. [“incomparable mechanization.”](#) Translated by Hans L.C. Jaffé. *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 230. Originally published in *De Stijl*, Jubilee Number, 1927, pgs. 106-108.

³⁰¹ Ewald, Kurt. [“The Beauty of Machines.”](#) Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 144. Originally published in *Die Form*, Vol. I (1925-1926). Pgs. 37-40.

The architects, who had lagged behind the artists when it came to understanding the new spatiotemporal dimension of modernity, were by contrast much quicker to realize the import of modern machine technologies. Indeed, beginning with Wright's essay on "The Art and Craft of the Machine" in 1901, architects recognized the time in which they were living as "the machine age."³⁰² This moniker, taken up with great gusto by men like Le Corbusier,³⁰³ became so pervasive that Reyner Banham would title his groundbreaking study of this classical phase of avant-garde architecture *Theory and Design in the First Machine Age*.³⁰⁴ In Le Corbusier's estimation, the machine had fundamentally reshaped the very *Weltgeist* of modernity: "The machine, a modern phenomenon, is bringing about a reformation of the spirit across the world."³⁰⁵

But on what grounds could Le Corbusier seriously maintain that this was the case? Machinery had arguably existed for millennia prior to the twentieth century, in more or less rudimentary forms. The extent to which a machine is distinguished from any normal, manual tool seems to reside only in the degree of its complexity or automatism. Of course, this would tend to increase cumulatively in proportion with the rate at which the knowledge of engineering was improved. But at what point could this purely *quantitative* increase shift over to engender a *qualitative* change? It was Marx who perhaps located this distinction with the most precision. "A system of machinery," wrote Marx, "whether it is based simply on the cooperation of similar machines...or on a combination of different machines,...constitutes in itself a vast automaton as soon as it is driven by a self-acting prime mover."³⁰⁶ This is accomplished as soon as there is constituted "[a]n organized system of machines to which motion is communicated by the transmitting mechanism from an automatic center."³⁰⁷ It is at this point that the machinery of the era

³⁰² "[The] plain duty [of extending the arts and crafts to the machine] is...relentlessly marked out for the artist in this, the Machine Age." Wright, "The Art and Craft of the Machine." Pg. 23.

³⁰³ "There is another revolutionary fact: *the new arrangement* of machine-age society; in truth, the profound transformation of secular customs, the intervention of new customs and the probability of still more new ones." Le Corbusier, *The Radiant City*. Pg. 37.

³⁰⁴ Banham, *Theory and Design in the First Machine Age*. Pg. 325.

³⁰⁵ Le Corbusier, *The Decorative Arts of Today*. Pg. 110.

³⁰⁶ Marx, *Capital, Volume 1*. Pg. 502.

³⁰⁷ *Ibid.*, pg. 503.

of the nineteenth century, the period of heavy industry, came to embody a qualitatively different kind of object than the more primitive machinery that preceded it.

“A house is a machine for living in,” Le Corbusier famously declared in his *Toward an Architecture*.³⁰⁸ Rejecting the “suffocating routine” of architectural eclecticism, he contrasted the remarkable innovations that had taken place in the field of mechanical technologies, measuring architecture against the trailblazing examples of modern ocean liners, aircraft, and automobiles.³⁰⁹ A similar method of argumentation was adopted by Ginzburg in his contemporaneous *Style and Epoch*,³¹⁰ and was later ratified in succinct form by Behrendt: “An architecture that is to be a living component of our time and a true expression of our new sense of life...cannot be essentially different than our machines, our mechanical devices, our airplanes, and our automobiles.”³¹¹ Adolf Behne outlined the various ways in which the modernists understood the machine as a technical ideal for their own building projects.³¹² He also noted avant-garde architecture’s unique connection with “machine aesthetics,” unknown in earlier ages.³¹³ But it was perhaps Ginzburg who spelled out the relationship between the modernist ideal of the machine and its implications for the new architecture most eloquently, collapsing the traditional distinction between the mechanic and the organic:

³⁰⁸ Le Corbusier, *Toward an Architecture*. Pg. 151.

³⁰⁹ *Ibid.*, pgs. 145-192.

³¹⁰ “The steam-engine, steam-powered transportation, and mechanized iron production were introduced [between 1750 and 1850]. These were subsequently followed by the use of electricity, turbine technology, the automobile, and finally aeronautics.” Ginzburg, *Style and Epoch*, pg. 68.

Oud anticipated Le Corbusier’s and Ginzburg’s arguments by several years: “For it is beyond all doubt that the motor car, machine, etc., correspond more closely to the socio-aesthetic tendencies of our own age and the future than do the contemporary manifestations of architecture.” Oud, “Orientation.” Pg. 140.

³¹¹ Walter Curt Behrendt, *The Victory of the New Building Style*. Pg. 142.

³¹² “When van de Velde referred to the machine, he saw it as the neat, concise, modern, and elegant form... When the functionalist refers to the machine, he sees it as the moving tool, the perfect approximation to an organism... When the utilitarian refers to the machine, he sees it as an economic principle of saving work, power, and time... When the rationalist refers to the machine, he sees it as the representative and patron of standardization and typification.” Adolf Behne, *The Modern Functional Building*. Pg. 130.

³¹³ “Every attentive observer senses the close connection with machine aesthetics, completely new in the history of architecture.” *Ibid.*, pg. 99.

One of the fundamental characteristics of the machine as an independent organism is its extraordinarily well-defined and precise *organization*. Indeed, a more distinctly organized phenomenon can hardly be found in nature or in the products of human effort. There is no part or element of the machine that does not occupy a particular place, position, or role in the overall scheme and that is not the product of absolute necessity. There is not and cannot be anything in the machine that is superfluous, accidental, or “decorative” in the sense conventionally applied to habitation. Nothing can be either added to or taken from it without disrupting the whole.

[...]

The machine demands of the constructor an extraordinarily precise expression of concept, a clearly realizable goal, and an ability to articulate a scheme into separate elements related to one another by an indestructible chain of interdependence, with each element constituting an independent organism that clearly manifests the function for which it was made and to which all its aspects are subordinated.³¹⁴

As with Léger and Ozenfant, Ginzburg claimed that the machine achieves a new sort of beauty peculiar to the modern age, although he asserted that this owed to its utilitarian rather than its geometric character.³¹⁵ Taking up the same line of reasoning as Severini had in his article on “Machinery,” Ginzburg also stressed the importance of the dynamic qualities of the machine. “The motion of the machine is characterized by what for us is an extremely important feature, which stems from its basic properties,” wrote Ginzburg. “A given machine is the consequence of movement in a *particular direction* and of a particular character and purpose...[T]he distinguishing feature of the machine’s dynamic properties is [thus] an actively manifested, characteristic *direction of movement*.”³¹⁶ The abstract temporal elements of capitalism were thus addressed in the streamlining of architectural spaces for optimum functionality, maximizing output while minimizing input.³¹⁷ Gerrit Rietveld, the great Dutch architect, recalled in 1932 the way that the

³¹⁴ Ginzburg, [*Style and Epoch*](#). Pg. 86.

³¹⁵ “[U]nder the influence of the machine *is forged in our minds a concept of beauty and perfection as entities which best respond to the characteristics of the material being organized and to its most economical utilization in the realization of a specific goal, one which is the most condensed inform and the most distinct in movement.*” *Ibid.*, pg. 87.

³¹⁶ *Ibid.*, pg. 91.

³¹⁷ “Our time is one of science and technology. First, they showed religion, rather irreverently, out of the workroom door. Consistently and sincerely, they renounced all mysticism. With idealistic exaltation, they proclaimed themselves materialistic up to the ultimate consequences. Joyfully, they hoisted the flag of

machine's influence on the formal quality of architecture also became relevant to the question of *living* in these spaces: "The appearance of machines...contributed a great deal towards turning the form-question into a life-question. Machines, which had already had an opportunity in the quest for honesty, found in the new style the straight-lined and simple forms that were appropriate for mass-production."³¹⁸

The standardization, mass-production, and overall industrialization of architectural construction was thus one of the avant-garde's foremost preoccupations. While the rest of Europe was embroiled in World War I, J.J.P. Oud, appointed city builder of Rotterdam in Holland, had 3,000 standardized dwellings constructed in order to combat the town's housing crisis.³¹⁹ Oud, who had already strongly endorsed the implementation of the machine in modern art,³²⁰ became one of the earliest spokesmen for the standardization of architecture in his 1918 article, "Architecture and Standardization in Mass Construction." Emphasizing the strongly social aspect of housing construction,³²¹ Oud advocated the

positivism. They experimented. When religion lost its credibility science found it. Scientists believed that their work could install heaven on earth. This heaven is called technical civilization...The driving force behind this progress is *the machine*. The machine shortens working hours to their maximum efficiency. *Its law is minimum effort for maximum effect*. This is the law of *economy*." Teige, ["Constructivism and the Liquidation of 'Art.'" Pgs. 586-587.](#)

³¹⁸ Rietveld, Gerrit. ["New Functionalism in Dutch Architecture."](#) Translated by Marijke Küper. *Gerrit Rietveld: The Complete Works*. (Princeton University Press. New York, NY: 1992). Pg. 35. Originally published in *De Vrije Bladen*, № 9 (1932).

³¹⁹ Lissitzky in particular was impressed by Oud's work: "In [the] field [of workers' housing], Holland has surpassed other countries. Model complexes can be seen in Rotterdam." Lissitzky, ["Americanism' in European Architecture."](#) Translated by Sophie Lissitzky-Kuppers. *El Lissitzky: Life, Letters, Texts*. (Thames & Hudson Press. London: 1980). Pg. 375. Originally published in *Krasnaia niva*, № 49 (1925).

³²⁰ "Must the spirit be realized in this age by the hand or the machine? For the modern artist the future line of development must lead inevitably to the machine." Oud, J.J.P. ["Art and the Machine."](#) Translated by Hans L.C. Jaffé. *De Stijl*. (H.N. Abrams. New York: 1971). Pg. 97. Originally published in *De Stijl*, Vol. I, № 3/4, pp. 25-27 (1918).

³²¹ "More than any other art form, architecture has its roots in human society and depends on social considerations, even in its most individual expression." Oud, J.J.P. ["Architecture and Standardization in Mass Construction."](#) Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 117. Originally published in *De Stijl*, Vol. I, № 7 (1918).

creation of *standard types* of buildings: “The design of standard types of buildings will bring back the proportions and rhythms of a town which are so lacking in the present-day townscape.”³²² Gropius took Oud’s suggestion one step further, adding that beyond more general standard housing units, even the individual *parts* of different structures could be standardized and thereafter used interchangeably. In this respect, the house would begin to approximate the modern machine even more closely. “Dwellings must be designed in such a way that justified individual requirements derived from the family size or the type of profession of the family head can be suitably and flexibly fulfilled,” wrote Gropius in his 1924 work, “The Housing Industry.” *“The organization must therefore aim first of all at standardizing and mass-producing not entire houses, but only their component parts which can then be assembled into various types of houses, in the same way as in modern machine design certain internationally standardized parts are interchangeably used for different machines.”*³²³ In this way, houses could still be somewhat individualized for their residents. Gropius further insisted that standardization would in no way diminish the aesthetic quality of residential housing.³²⁴ Although he would a year later warn that “standardization cannot resolve an architectural difficulty,”³²⁵ Le Corbusier stated his substantial agreement with Gropius in his own 1924 piece on “Mass-Produced Housing”: *“Mass production demands a search for standards. Standards lead to perfection.”*³²⁶ Like Oud and Gropius, Le Corbusier felt that the overall stylistic unity brought about by

³²² *Ibid.*, pg. 117.

³²³ Gropius, Walter. [“The Housing Industry.”](#) Translated by Roger Banham. *The Scope of Total Architecture*. (MacMillan Publishing Company. New York, NY: 1980). Pg. 131. Originally published in *Bauhausbücher*, Vol. 3, *Ein Versuchshaus des Bauhauses*, Albert Langen Verlag, 1924.

³²⁴ *“It is fallacious to assume that architecture will deteriorate because of the industrialization of dwelling construction. On the contrary, the standardization of building elements will have the beneficial effect of imparting a unified character to new dwellings and developments.” Ibid.*, pg. 133.

³²⁵ Le Corbusier. “Standardization Cannot Resolve an Architectural Difficulty.” Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 138. Originally published in *L’Almanach d’Architecture Moderne*, Paris 1925. Pgs. 102-103.

³²⁶ Le Corbusier. [“Mass-Produced Housing.”](#) Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 134. Originally published in *L’Almanach d’Architecture Moderne*, Paris 1924. Pgs. 77-81.

standardized building elements would not only be more economically viable, but would also lead to a more harmonious overall urban aesthetic.³²⁷ This would be achieved by the broader industrialization of architecture as a whole:

[S]lowly, construction sites will adapt to industrialization; the introduction of mechanization in construction work will lead to the general acceptance of *standard elements*; even the design of houses will alter, under the sway of the new economics; the standard elements will provide unity of detail, and unity of detail is an indispensable requirement of architectural beauty. Then our towns will lose that appearance of chaos which blights them at the moment. Order will reign and new networks of streets, more immense and with a wealth of architectural solutions will present us with magnificent sights.³²⁸

The push for standardized building did not take place exclusively in Western Europe, of course. Wright, the original proponent of the mechanization of architecture, authored an essay in 1927 entitled “Standardization, the Soul of the Machine.” It was the second part of his series “In the Cause of Architecture.” In it, Wright asserted: “*Standardization* should have the same place [as the poetic feeling of the artist-weaver] in the fabric we are weaving which we call civilization...This principle of standardization has now as its tool or body — the Machine. An ideal tool compared to which all that has gone before is as nothing.”³²⁹ The Soviet avant-garde, for its part, fiercely promoted the standardization of building. It would go so far as to create a “commission for the standardization of housing construction” in 1929.³³⁰ But already in *Modern Architecture*’s inaugural issue, the Constructivist builder Arkadii Mordvinov argued for the necessity of “new materials, the latest constructions, the standardization of types of housing and individual elements, the

³²⁷ Gropius agreed: “The unification of architectural components would have the salutary effect of imparting that homogeneous character to our towns which is the distinguishing mark of a superior urban culture. A prudent limitation of variety to a few standard types of buildings increases their quality and decreases their cost; thereby raising the social level of the population as a whole...The concentration of essential qualities in standard types presupposes methods of unprecedented industrial potentiality, which... can only be justified by mass-production.” Gropius, [The New Architecture and the Bauhaus](#). Pgs. 37-38.

³²⁸ “Thanks to the machine, to the identification of what is typical, to the process of selection, to the establishment of a standard, a style will assert itself.” Le Corbusier, [“Mass-Produced Housing.”](#) Pg. 135.

³²⁹ Wright, Frank Lloyd. “Standardization, the Soul of the Machine.” *The Essential Frank Lloyd Wright: Critical Writings on Architecture*. (Princeton University Press. Princeton, NJ: 2008). Pg. 95.

³³⁰ “[K]omissii standardizatsii zhil. stroitel’sstva.” Authors unclear (“B. i S.”). “Bibliografiia: Al’bom tipovykh proektov zhilikh domov.” [Sovremennaiia arkhitektura. \(Vol. 4, № 1. January 1929\).](#) Pg. 40.

mechanization of building-production [*stroiproizvodstva*], etc.”³³¹ This was elevated into the journal’s official doctrine two years later in the “Resolutions in the Proceedings of the Ideological Section of OSA,” the outcome of the group’s first international conference.³³²

For the international modernists, such measures of industrialization in architecture would only bring building practices up to speed with the rest of society. All of Western society had undergone the massive (sometimes even apocalyptic) transition from simple manufacturing to large-scale industry over the course of the nineteenth century, and most now stood on the brink of developing finance capital.³³³ Marx’s argument, regarding the advent of complex machine operations and the factory system sparking the revolution in industry³³⁴ was recognized by Giedion as a “fundamental event” in the history of modern architecture: “The Industrial Revolution, the abrupt increase in production brought about during the eighteenth century by the introduction of the factory system and the machine,

³³¹ Mordvinov, Arkadii. “K voprosam raboche-poselkovogo i promyshlennogo stroitel’sтва.” [*Sovremennaia arkhitektura*. \(Vol. 1, № 1. Moscow, Russia: January 1926\)](#). Pg. 17.

³³² “We [propose] the persistent overcoming of our backwardness, the active and scientific acquisition of all the achievements of world engineering in the field of the latest materials, designs [*konstruktsii*], the mechanization and standardization of building-production [*stroiproizvodstva*] and the planned implementation of all these achievements, on account of the economic peculiarities of the USSR in our daily practical building.” Anonymous (the members of OSA). “Rezoliutsiia po dokladam ideologicheskoi sekti OSA, priniataia na pervoi konferentsii Obshestva sovremennykh arkhitektorov v Moskve, 26 Aprelia 1928.” [*Sovremennaia arkhitektura*. \(Vol. 3, № 3. Moscow, Russia: May 1928\)](#). Pg. 78.

³³³ “The mobilization of capital and the continual expansion of credit gradually brings about a complete change in the position of the money capitalists. The power of the banks increases and they become founders and eventually rulers of industry, whose profits they seize for themselves as finance capital, just as formerly the old usurer seized, in the form of ‘interest,’ the produce of the peasants and the ground rent of the lord of the manor. The Hegelians spoke of the negation of the negation: bank capital was the negation of usurer’s capital and is itself negated by finance capital. The latter is the synthesis of usurer’s and bank capital, and it appropriates to itself the fruits of social production at an infinitely higher stage of economic development.” Hilferding, Rudolf. *Finance Capital: A Study of the Latest Phase of Capitalist Development*. Translated by Morris Watnick and Sam Gordon. (Routledge & Kegan Paul. Boston, MA: 1981). Pg. 226. Originally published in 1910.

³³⁴ “The machine, which is the starting-point of the industrial revolution, replaces the worker, who handles a single tool, by a mechanism operating with a number of similar tools and set in motion by a single motive power, whatever the form of that power.” Marx, *Capital, Volume 1*. Pg. 497.

changed the whole appearance of the world...Its effect upon thought and feeling was so profound that even today we cannot estimate how deeply it has penetrated into man's very nature."³³⁵ The fundamental changes that industrialism wrought in the sphere of commodity production reshaped the very world man lived in, replacing handicraft objects with serially-produced and standardized goods. Even the clothes men wore were made according to predetermined sizes and norms. "The Industrial Revolution," Benevolo asserted, "[has] changed things, not only by increasing the possibilities of production to an extraordinary degree, but also by modifying the demand for available goods, including the spatial modifications with which architecture is concerned."³³⁶

One facet of modern industrialism that caught the imagination of the modernists was a fairly recent development. The industrial practice of Taylorism, first theorized in the progenitor's 1903 book *Shop Management* and given more systematic form a decade later in his *Principles of Scientific Management*, was a major source of inspiration for the architectural avant-garde. Stated broadly, the premise of scientific management was "the development of each [worker] to his state of maximum efficiency."³³⁷ As was alluded to earlier in passing, part of Taylor's approach to optimizing worker efficiency involved the conducting of scientific "time and motion" studies.³³⁸ This form of analysis can be seen as mirroring, in a more rigorous manner, the artistic attempts of the Futurists to capture the dynamics of movement and kinetics. On an even deeper level, it can be understood as a further extension and refinement of the regime of abstract time³³⁹ that already held

³³⁵ Giedion, *Time, Space, and Architecture*. Pg. 165.

³³⁶ Benevolo, Leonardo. *The History of Modern Architecture, Volume 2*. Translated by H.J. Landry. (The MIT Press. Cambridge, MA: 1992). Pg. 787. Originally published in 1960.

³³⁷ Taylor, *Principles of Scientific Management*. Pg. 121.

³³⁸ "Scientific management requires, first, a careful investigation of each of the many modifications of the same implement, developed under rule of thumb; and second, after a time study has been made of the speed attainable with each of these implements, that the good points of several of them shall be united in a single standard implement, which will enable the workman to work faster and with greater ease than he could before. This one implement, then, is adopted as standard in place of the many different kinds before in use, and it remains standard for all workmen to use until superseded by an implement which has been shown, through motion and time study, to be still better." *Ibid.*, pg. 183.

³³⁹ See pg. 27 of the present paper.

sway under capitalism. The Gilbreths' invention of chronocyclegraph techniques³⁴⁰ in order to meet "the necessity of recording unit times,...the need for including time study with motion study" so as to "record the [labor] motions used"³⁴¹ — this advanced the mode of abstract time calculation to almost an exact science. This had obvious implications for the increased efficiency and productivity of labor.

Undertones of *mechanization*³⁴² and *standardization*³⁴³ could be found throughout Taylor's prescribed system.³⁴⁴ This held an obvious appeal for the modernist architects. Moreover, their respect for Taylor may have also been enhanced by his 1905 *Treatise on Concrete: Plain and Reinforced*, co-written with Sanford Thompson (although they only recommended the use of concrete in limited contexts).³⁴⁵ Translated into architectural terms, Taylorism meant a more efficient process for the production of housing and the standardization of component parts for buildings. With respect to its research into the economy of motion, it further meant designing spaces that would facilitate movement and the execution of domestic responsibilities in the timeliest possible manner. Staircases, floor layouts, better arrangement of kitchen space and appliances (Schütte-Lihotzky's so-called "rationalized kitchens" in Frankfurt) — all of these central concerns of avant-garde

³⁴⁰ Gilbreth and Gilbreth, [Applied Motion Study](#). Pgs. 84-85.

³⁴¹ *Ibid.*, pg. 78.

³⁴² "In the past hundred years...the greatest factor tending toward increasing the output, and thereby the prosperity of the civilized world, has been the introduction of machinery to replace hand labor." Taylor, *Principles of Scientific Management*. Pg. 193.

³⁴³ "It is the work of scientific management to insist on standardization in all fields, and to base such standardization upon accurate measurement." Gilbreth and Gilbreth, [Applied Motion Study](#). Pg. 12.

³⁴⁴ Taylor cited the following as belonging to the "mechanism" of scientific management: "a planning department, accurate time study, standardization of methods and implements...etc." *Ibid.*, pg. 185.

³⁴⁵ "Concrete is destined to be used to a large extent in the construction of tanks and vats for holding various liquids that attack wood and iron." Taylor, Frederick Winslow and Thompson, Sanford. *A Treatise on Concrete: Plain and Reinforced*. (John Wiley & Sons. New York, NY: 1905). Pg. 12.

As Banham noticed, the person most responsible for making concrete and reinforced concrete a respectable medium for architecture was Auguste Perret: "[Perret's] importance...is as a teacher and example to the next generation, and as the man who, more than any other, made reinforced concrete acceptable as a visible building material in the eyes of those who practiced architecture as an art." Banham, *Theory and Design in the First Machine Age*. Pg. 43.

architecture could in some sense be traced to the influence of Taylorism. Le Corbusier, to take just one example, was explicit in his appreciation of the scientific management of industry. “*I found myself in industry,*” he wrote. “A factory. Machines. Taylorism, cost prices, maturities, balance-sheets.”³⁴⁶ Karel Teige, while he deplored Taylorist methods as they were practiced under capitalism,³⁴⁷ echoing Lenin,³⁴⁸ he nevertheless credited Taylor’s rationalization of labor with the later industrialization of architecture.³⁴⁹

³⁴⁶ Le Corbusier, *The Decorative Arts of Today*. Pg. 213.

³⁴⁷ “Frederick Winslow Taylor attempted to increase efficiency and improve productivity by the scientific organization of work. Taylorism was supposed to increase productivity without increasing worker fatigue and was to be accompanied by a substantial increase in wages...Unfortunately, the scientific organization of work, which in itself is a paean to modern creative, intensive, and liberated labor, has been used by capitalism as a method to facilitate the increase of productivity for its own business interests, while ignoring such matters as workers’ fatigue and higher wages. Seen this way, such hypocritical rationalizations and economization are in fact nothing more and nothing less than a new version of plantation slavery and piracy. The current application of these methods has, in effect, completed the destruction of the stamina, energy, muscles, nerves, eyesight, and lungs of the workers.” Teige, [*The Minimum Dwelling*](#). Pg. 60.

³⁴⁸ “Competition, which is keenest in a period of crisis like the present, calls for the invention of an increasing number of new devices to reduce the cost of production. But the domination of capital converts all these devices into instruments for the further exploitation of the workers...The Taylor system is one of these devices.” Lenin, Vladimir. [*“The Taylor System — Man’s Enslavement by the Machine.”*](#) Translated by Bernard Isaacs and Joe Fineberg. *Collected Works, Volume 20: December 1913-August 1914*. (Foreign Language Press. New York, NY: 1964). Pg. 152. Originally published in 1914.

However, as Teige would later do, Lenin stressed the potential advantages of Taylorism employed under a different social order: “The Taylor system — without its initiators knowing or wishing it — is preparing the time when the proletariat will take over all social production and appoint its own workers’ committees for the purpose of properly distributing and rationalizing all social labor.” *Ibid.*, pg. 154.

³⁴⁹ “The successes and results of the industrialization of construction are so far very meager and incomplete. Industrialization in construction was first introduced at a time when the pace of technical progress had begun to slow down in other industrial branches (except for armaments and luxury goods), that is, at a time of general technological retreat. The most characteristic indicator of the state of construction technology today is a trend toward systematic improvement of existing achievements, rather than a search for new, radical discoveries and inventions: this incremental change involves simplification of production, standardization, economization, and, above all, greater exploitation of human resources, which do not require additional capital investments. In fact, rationalization of construction should not be equated

By industrializing the process of building houses and other structures, the avant-garde believed that it could help to solve many of the profound problems that had emerged out of industrial society. The housing question, about which Engels and many others wrote, as well as the divide between town and country, along with the intense overcrowding of the cities and the alienation that came with it — all these confronted the modernists as problems in need of solutions. For Engels, the problem of housing shortages was more or less perennial. The peculiarity of the modern crisis consisted mostly in the spectacular rate of its urbanization, the magnitude of the population it affected, and by the fact that it was felt not only by the lower classes but by members of the *petit-bourgeoisie* as well.³⁵⁰ While he correctly rejected the base analogy of the tenant-landlord relationship with the worker-capitalist relationship as Proudhonism,³⁵¹ Engels was emphatic that the housing question posed by industrial society could only be overcome by overthrowing capitalism as a whole. Drawing upon an early theme he had developed in collaboration with Marx, this also meant resolving the “antithesis between town and country.”³⁵² Although Engels

and did not begin with the mechanization of construction, but began with Taylorism: it was Frank B. Gilbreth, a former bricklayer and a member of the American Society of Civil Engineers, who was the first to rationalize construction by teaching masons to eliminate redundant body motions, which had previously slowed down productivity and caused work-related fatigue. He also proposed changes in the design of prevailing types of scaffolding and tools along similar principles (F. B. Gilbreth, *Bricklaying System* [1909] and *Motion Study* [1911]).” Teige, [The Minimum Dwelling](#). Pg. 187.

³⁵⁰ “What is meant today by housing shortage is the peculiar intensification of the bad housing conditions of the workers as a result of the sudden rush of population to the big cities, a colossal increase in rents, still greater congestion in the separate houses, and, for some, the impossibility of finding a place to live in at all. And *this* housing shortage gets talked of so much only because it is not confined to the working class but has affected the petty bourgeoisie as well.” Engels, [The Housing Question](#). Pgs. 16-17.

³⁵¹ “It is...a complete misrepresentation of the relation between landlord and tenant to attempt to make it equivalent to the relation between worker and capitalist.” *Ibid.*, pgs. 19-20.

³⁵² “The abolition of the antithesis between town and country is no more and no less utopian than the abolition of the antithesis between capitalists and wage-workers. From day to day it is becoming more and more a practical demand of both industrial and agricultural production...Only as uniform a distribution as possible of the population over the whole country, only an intimate connection between industrial and agricultural production together with the extension of the means of communication made necessary thereby — granted the abolition of the capitalist mode of production — will be able to deliver the rural population from the isolation and stupor in which it has vegetated almost unchanged for thousands of years. To be

insisted upon the *dissolution* of capitalist society, he wisely refrained from offering too much in the way of specifics as to what a postcapitalist *solution* would entail: “To speculate on how a future society might organize the distribution of food and dwellings leads directly to *utopia*. The utmost we can do is to state...that with the downfall of the capitalist mode of production certain forms of appropriation which existed in society hitherto will become impossible.”³⁵³

Engels was not the only one to notice the acute urban housing shortage as well as the widening divide between town and country that was taking place under heavy industrial production. He himself was reacting polemically to treatments of the problem offered by “Proudhonist” A. Mülberger and “bourgeois” Emil Sax. The problem was recognized by more moderate writers like Alfred Smith, who in his own work on *The Housing Question* in 1900 wrote that “the grim irony of the situation could not go further — the laboring population, who daily contribute to the wealth and comfort of the city, are for the most part driven on to congested areas and into overcrowded rooms.”³⁵⁴ A Christian socialist by the unlikely name of Moritz Kaufmann, who accused Marx of utopianism³⁵⁵ and later briefly corresponded with him,³⁵⁶ authored a text in 1907 on *The Housing of the Working Classes and of the Poor*. In this work, Kaufmann wrote of the evils of “slumlords,” of rural depopulation, and of the different manifestations of the housing crisis in Germany,

utopian does not mean to maintain that the emancipation of humanity from the chains which its historic past has forged will be complete only when the antithesis between town and country has been abolished; the utopia begins only when one ventures, ‘from existing conditions,’ to prescribe the *form* in which this or any other antithesis of present-day society is to be resolved.” *Ibid.*, pg. 89.

³⁵³ *Ibid.*, pgs. 94-95.

³⁵⁴ Smith, Alfred. [*The Housing Question*](#). (Swan Sonnenschein & Co., Ltd. London, England: 1900). Pg. 16.

³⁵⁵ “[Socialism’s] doctrines are now stated in precise formulas by Marx, and its demands in terms bordering on legal technicality in the program of Gotha. Utopian fictions have developed into Socialist facts, vague speculations have assumed the form of theorems, and the hazy conceptions of the earlier authors of Utopias have been crystallized into hard dogmas.” Kaufmann, Moritz. [*Utopias, or, Schemes of Social Improvement from Sir Thomas More to Karl Marx*](#). (C. Kegan Paul & Co. London, England: 1879). Pgs. 257-258.

³⁵⁶ Marx, Karl. “Letter to Moritz Kaufmann.” [*Marx & Engels’ Collected Works, Volume 45: Letters, January 1873-December 1879*](#). Pgs. 333-334.

France, and Belgium.³⁵⁷ Ultimately, Kaufmann's prescriptions for action in dealing with these matters were not far from what Social-Democratic architects like Ernst May would later put forth. This mostly amounted to more government oversight in the provision of public programs and the bureaucratic deployment of specialists.³⁵⁸ The housing question was exacerbated by the Great War, at least in the estimation of Edgar Lauer and Victor House, members of the New York judicial system, who wrote a treatise on *The Tenant and His Landlord* in 1921. "Recent housing difficulties are not a local phenomenon," they wrote. "Insufficiency and inadequacy of living accommodation appear to be part of the worldwide aftermaths of the Great War."³⁵⁹

Like most of the modernists, Mies van der Rohe saw the answer to these problems as residing in the industrialization of architectural construction: "I view the industrialization of the building trade as the key problem of building in our time. *If we achieve this industrialization, then the social, economic, technical, and even artistic questions can be resolved easily.*"³⁶⁰ Gropius, his colleague at the Bauhaus and fellow student of Peter Behrens, also saw "the industrial mass production problem of our living requirements" as the paramount concern of architecture in the modern age. Proposing a method of dry

³⁵⁷ Kaufmann, Moritz. [*The Housing of the Working Classes and of the Poor*](#). (T.C. & E.C. Jack. London, England: 1907). On "slumlords," pgs. 50-58; on "deserted villages," pgs. 59-67; on Germany, pgs. 116-127; on France and Belgium, pgs. 128-137.

³⁵⁸ "With a wise and vigilant executive in the central authority, infusing greater vigor into administrative bodies at the extremities, and a wise coordination of powers, combining the advantages of central stimulus with a real decentralization of Local Government, freed from the incubus of local influences, a new order of things will arise. With the appointment of a health and housing central committee by each County Council in cooperation with sub-committees of the Parish Councils or independent house committees as suggested in the latest Government report, all more or less under the direction of an expert departmental staff, consisting of experienced inspectors, trained specialists, enlightened architects, eminent physicians, and men of superior business habits, some good results may be expected at the not very distant future." *Ibid.*, pg. 144.

³⁵⁹ Lauer, Edgar and House, Victor. [*The Tenant and His Landlord: A Treatise*](#). (Baker, Voorhis & Co. New York, NY: 1921). Pg. 5.

³⁶⁰ Mies van der Rohe, Ludwig. "Industrial Building." Translated by Steven Lindberg and Margareta Ingrid Christian. *G: An Avant-Garde Journal of Art, Architecture, Design, and Film*. Pg. 120. My emphasis. Originally published in *G*, Vol. 2, № 3 (June 1924).

assembly to be used in housing construction, Gropius argued that “it becomes possible to assemble...prefabricated component parts of houses at the building site just like machines.”³⁶¹ A decade later, Gropius would make the claim that this industrialization of building was largely on the road to being accomplished.³⁶² Perhaps echoing Weber’s notion of modernity, Gropius saw this as all part of a greater process of *rationalization* that was occurring throughout society at the time. He thus proudly announced: “We are approaching a state of technical proficiency when it will become possible to rationalize buildings and mass-produce them in factories by resolving their structure into component parts.”³⁶³ For Le Corbusier, this industrial rationalization would remove much of the confusion that prevailed in older building practices. “Urban and suburban sites will be vast and orthogonal and no longer horribly misshapen,” he explained. “[T]hey will allow for the use of mass-produced parts and the industrialization of the construction site.”³⁶⁴ Hannes Meyer, Gropius’ successor as director of the Bauhaus (he would later be replaced by Mies van der Rohe), confirmed the industrial character of new housing construction and reiterated Le Corbusier’s point in his programmatic 1928 piece, “building”: “the new house is a prefabricated unit for site assembly and, as such, an industrial product.”³⁶⁵ As Teige pointed out clearly, however, this development was only made possible by the prior development of industry and technologies of production carried out by capitalism. A serially mass-produced house would have been unimaginable in preindustrial times.³⁶⁶

All of these architects and theorists stressed the benefit such industrialization could bring to society, but Meyer highlighted this *social* aspect especially well. “the new house is a social enterprise,” he asserted. Architecture could reshape social life itself: “building

³⁶¹ Gropius, [“Housing Industry.”](#) Pgs. 129-130.

³⁶² “Building, hitherto an essentially manual trade, is already in the course of transformation into an organized industry.” Gropius, [The New Architecture and the Bauhaus](#). Pg. 38.

³⁶³ *Ibid.*, pg. 39.

³⁶⁴ Le Corbusier, *Toward an Architecture*. Pg. 259.

³⁶⁵ Meyer, Hannes. [“building.”](#) Translated by D.Q. Stephenson. *Buildings, Projects, and Writings*. (Arthur Niggli Ltd. New York, NY: 1965). Pg. 97. Originally published in 1928. All lower-case in original.

³⁶⁶ “The mass-produced house is not merely a problem of planning and construction but above all a burning problem of building technology: it presupposes mass production and an industrialization of building.” Teige, [Modern Architecture in Czechoslovakia](#). Pg. 109.

is the deliberate organization of the processes of life.”³⁶⁷ Even more explicitly, in his article on “bauhaus and society” that appeared the following year, Meyer maintained that “building and design are for us one and the same, and they are a social process,” and stressed architecture’s social obligation: “our activities are determined by society, and the scope of our tasks is set by society.”³⁶⁸ Behrendt, writing his *Victory of the New Building Style* just as Meyer was beginning his term as director, made this same point exactly. “The industrialization of the building industry will certainly find acceptance on an ever-larger scale and at an accelerating pace,” speculated Behrendt, “at least within the field of housing, which provides for the needs of the masses.” He therefore held the view that the implementation of industrial techniques in architectural construction was “an economic necessity.”³⁶⁹ Ginzburg largely shared this sentiment of architecture’s social duty. This is probably what led him to assert in late 1927 that the preeminent task of the architect was to create “the social condensers of his epoch.” These would serve, Ginzburg argued, as “spatial repositories for the forms of the new life.”³⁷⁰ This became a central concept

³⁶⁷ Meyer, [“building.”](#) Pg. 97.

³⁶⁸ Meyer, Hannes. [“bauhaus and society.”](#) Translated by D.Q. Stephenson. *Buildings, Projects, and Writings*. (Arthur Niggli Ltd. New York, NY: 1965). Pg. 99. Originally published in 1929. All lower-case in original.

Teige remarked upon how Meyer trained his students to be sensitive to the social exigencies of their time: “It is most interesting to study the work of the pupils of Hannes Meyer. It demonstrates that the director of the Bauhaus is as outstanding a pedagogue as he is an architect, a concordance of abilities that is truly rare. Hannes Meyer teaches without any formulas. He wants, as he says, “*biologisches entfesseltes lebendiges Bauen*” [biological, unleashed, living building]. He teaches the understanding of architecture as a work stemming organically from life and from social conditions; he teaches his students to analyze the environment and the particulars by which each building is determined. The students analyze, for instance, the conditions of workers’ housing at the periphery of industrial districts: the direction of wind (smoke, soot), visibility, dust from the road, and noise of transportation. All of this is considered and evaluated before the project itself is undertaken.” Teige, Karel. [“Ten Years of the Bauhaus.”](#) Translated by Irena Žantovská Murray. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pgs. 634-635. Originally published as “Deset let Bauhausu,” *Stavba* № 8 (1929-30).

³⁶⁹ Behrendt, [The Victory of the New Building Style](#). Pg. 110.

³⁷⁰ “In constructive periods of history, i.e., in periods of the intensive formation of a new culture, what is first of all required first from the architect is the invention and crystallization of social condensers for their

for the Soviet Constructivists, developed through subsequent issues of their journal, *Modern Architecture*.³⁷¹ Though the first experimental dwellings OSA designed for mass production would ultimately prove disappointing, Ginzburg still upheld the importance of industrializing construction to à la Gropius in order to solve society's housing crisis. In an otherwise apologetic 1929 article on "Problems in the Typification of Housing in the RSFSR," Ginzburg maintained:

The constructive working-out [*prorabotka*] of housing must be built on the principle of the maximum standardization of all elements, and must also strive for the industrialization of building production. The light weight of the elements, the ability to manufacture them by assembly line [*fabrichnym putem*] during the winter period, and their on-site assemblage by lightly-skilled [*malokvalifitsirovannoi*] manpower.³⁷²

Others also commented on the potential of a universal restructuring of architecture's ability to transform society, along with Meyer and Ginzburg. Inspired by the former's social advocacy, Ernő Kállai thus affirmed: "It is not enough to force industrial mass production...Architecture must strive resolutely to accomplish 'social, technological, economic, and psychological organization' (Hannes Meyer)." ³⁷³ Teige, an admirer of the latter's work, called for "an architecture that will provide the blueprint for a new life, one that builds structures that will become the 'condensers' of their epoch (as succinctly put by M.Ia. Ginzburg)." ³⁷⁴

This general feeling of architecture's social mission, captured most poignantly in such passages, eventually became the basis for a two landmark events for the avant-garde: the modernist projects of the Weißenhof estate that were built in Stuttgart, Germany in 1927,

epoch, the creation of new architectural organisms, for this epoch of designing and maintaining architectural objects — the spatial repositories for these forms of the new life." Ginzburg, Moisei. "Konstruktivizm kak metod laboratornoi i pedagogicheskoi raboty." [*Sovremennaiia arkhitektura.* \(Vol. 2, № 6. Moscow, Soviet Union: November 1927\).](#) Pg. 160.

³⁷¹ "Constructivist architects are utterly adamant about engaging the task of creating new types of architecture — *condensers of the new social relations*." [*Sovremennaiia arkhitektura.* \(Vol. 3, № 1. Moscow, Soviet Union: January 1928\).](#) Pg. 12.

³⁷² Ginzburg, Moisei. "Slushali: Problemy tipizatsii zhil'ia RSFSR." [*Sovremennaiia arkhitektura.* \(Vol. 4, № 1. Moscow, Soviet Union: January 1929\).](#) Pg. 6.

³⁷³ Kállai, "[Ten Years of Bauhaus.](#)" Pg. 639.

³⁷⁴ Teige, [The Minimum Dwelling.](#) Pg. 25.

and the program for the CIAM (Congrès Internationaux d'Architecture Moderne) group, founded in 1928 as the brainchild of Le Corbusier and Hannes Meyer. While the broader social issues arising from housing shortages, overcrowding, and the urban-rural divide could only be addressed at the level of city planning, this had only been dealt with by the English garden city movement and a few isolated modernists before the general turn towards urbanism post-1925. These issues, which center around the problem of the urban metropolis, will be discussed in the following section. The Weißenhof Exhibition and the first three CIAM conferences, which merely attempted to tackle the problem of the individual structure, will be dealt with presently. Insofar as they touch upon the same themes, they deserve to be mentioned in the same breath, given their common focus on “the dwelling” (*die Wohnung*) and their internationalist emphasis.³⁷⁵

The plan to arrange an exhibition at the Weißenhofsiedlung in Stuttgart was the idea of Mies van der Rohe, who was then the vice-president of the Deutscher Werkbund, itself founded some twenty years earlier by Muthesius. According to the foreword to the official catalog of the newly opened Weißenhof estate, written by Mies, he had simply “invited leading representatives of the modern movement to make their contributions to the problem of the modern dwelling.”³⁷⁶ The list of contributors to the exhibit included J.J.P. Oud, Mies van der Rohe, Victor Bourgeois, Le Corbusier, Gropius, A. G. Schneck, Hans Scharoun, Peter Behrens, Mart Stam, Josef Frank, Adolf Rading, L. Hilbersheimer, Max Taut, Bruno Taut, Richard Döcker, and Hans Poelzig³⁷⁷ — a fairly international

³⁷⁵ This pairing of the Weißenhofsiedlung with the foundation of CIAM is not accidental. I suspect that the modernist scholar Harry Francis Mallgrave made this same connection for similar reasons. See his chapter on “Weißenhof and CIAM.” Mallgrave, *Modern Architectural Theory*. Pgs. 271-278.

³⁷⁶ Mies van der Rohe, Ludwig. [“The Policy of the Stuttgart Exhibition.”](#) Translated by Philip Johnson. *Mies van der Rohe*. (The Museum of Modern Art. New York, NY: 1947). Pg. 193. Originally published in *Bau und Wohnung*, 1927.

³⁷⁷ “[I].e., twelve Germans and Austrians, one Belgian, two French, and two Dutch; designers from the Austrian and Swiss Werkbund also collaborated in the furniture division of the exhibition.” Teige, [The Minimum Dwelling](#). Pg. 189.

Adolf Loos and Hugo Häring had been considered as well, but arguments with Mies and others kept them from participating.

“I am very surprised that the founder of [functionalism], the architect Häring, is not represented here.” Doesburg, Theo van. [“Stuttgart-Weißenhof 1927, Die Wohnung: ‘The Dwelling,’ the famous Werkbund](#)

selection. Indeed, as the Werkbund member Wilhelm Lotz noted, part of the aim of the Weißenhof project was to better “draw attention to the generation of architects who in every country are standing up openly and sincerely in support of the new architecture.”³⁷⁸ Beyond featuring outstanding international architectural talent, the exhibition received global coverage in the various avant-garde presses of the world. Remarking upon the thirty-three dwellings erected at Weißenhof, the Soviet architect Gurevich, a member of *SA*’s editorial staff, wrote in an article on “The Modern Dwelling”: “Modern life, the fast pace of development of modern existence [*bytiia*], the colossal growth of population compared with the growth of dwellings, have, to begin with, put forward one of the major problems of production — THE ECONOMY OF TIME.”³⁷⁹ This is, of course, consonant with the Taylorization of architecture mentioned earlier. Teige, for his part, was quite impressed with the exhibition’s results, both in terms of its international basis and its commitment to industrialized building:

The 1927 Stuttgart Werkbund Exhibition *Die Wohnung* and its associated experimental housing colony, the Weißenhof Siedlung, was the most important large exposition of modern architecture dedicated to the reform of housing of the last decade, perhaps even of our own century. It was organized on an international basis by its director, *Mies van der Rohe*, and has become an event of international significance for the entire modern world: at a time when modern architecture much too often depended on theoretical, speculative, and hypothetical efforts, it provided a much-needed opportunity to review some of its individual proposals and provide a forum for a critical comparison. The exhibition accomplished that comparison by including modern architectural designs from all civilized countries and by recognizing the *reform of housing* as a *fundamental problem of the new architecture* and making it the primary focus of its attention. It succeeded in shedding a new light on many facets of this problem most effectively: it combined a large exhibition of construction samples in the *Gewerbehalle* (which displayed the most modern

[exhibition.](#)” Translated by Charlotte I. Loeb and Arthur L. Loeb. *On European Architecture: Complete Articles from Het Bouwbedrijf, 1924-1931*. (Birkhäuser Verlag. Boston, MA: 1990). Pgs. 170-171. Originally published in *Het Bouwbedrijf*, Vol. 4, № 24 (November 1927). Pgs. 556-559.

Curiously, architects from Russia and Czechoslovakia were not represented at Weißenhof.

³⁷⁸ Lotz, Wilhelm. [“The Weißenhof Exhibition.”](#) Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 156. Originally published in *Die Form*, Vol. II (1927). Pg. 251.

³⁷⁹ Gurevich, I. “Vystavka zhil’ia v Shtutgarte — Sovremennoe zhil’e.” [Sovremennaiia arkhitektura. \(Vol. 3, № 1. Moscow, Soviet Union: January 1928\).](#) Pg. 28.

achievements in the areas of construction materials, furniture, lighting, technical and hygienic installations, etc.), with the centerpiece of the enterprise, the Weißenhof model housing colony, where seventeen architects were commissioned to build thirty-three houses, *all constructed with modern materials and all relying as much as possible on industrialized methods of construction*.³⁸⁰

According to Werner Gräff, one of Doesburg's disciples and an important commentator on the Weißenhof estate, the social exigency that the exhibition intended to address was palpable. "[T]he customary dwelling which has served us for centuries seems unbearably ill-suited to the new generation," wrote Gräff. For this reason, "the new architecture is striving towards a new way of living, and towards a more rational use of new materials and new constructional methods."³⁸¹ Mart Stam, whose houses at the site were praised exceptionally, reaffirmed Gräff's point regarding modern architecture's cultivation of and adaptation to the new way of life.³⁸² Finally, Giedion wrote an occasional piece honoring the opening of the Weißenhofsiedlung, taking note of both the technical innovations it included as well as its potential social aspect: "The Weißenhof Housing Settlement gives evidence of two great changes: the change from handicraft methods of construction to industrialization, and the premonition of a new way of life."³⁸³

And indeed, not only were the houses constructed using prefabricated parts assembled on-site, not only did they promise to create a new spatial environment — they expressed an overall aesthetic. Most of them formed serial design patterns, painted entirely white and featuring flat-terraced roofs. Though Doesburg believed "[a] solution for the modern dwelling which is satisfactory in all respects has as yet not been found,...the architects Mies van der Rohe, Scharoun, Stam, and also Gropius...are closest to such a solution."³⁸⁴

³⁸⁰ Teige, [The Minimum Dwelling](#). Pgs. 187-189.

³⁸¹ Gräff, Werner. ["The Dwelling,' Weißenhof Exhibition."](#) Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 152. Originally published in *Die Form*, Vol. II (1927). Pgs. 259-260.

³⁸² "[H]ouses designed for use by a large part of the population must be closely adapted to their special habits and way of life." Stam, Mart. ["Three Houses at the Stuttgart Exhibition."](#) Translated by C. v. Amerongen. *Mart Stam: A Documentation of His Work, 1920-1965*. (Royal Institute of British Architects. London: 1970). Pg. 12. Originally published in *i*, № 10 (1927). Pg. 342.

³⁸³ Giedion, Sigfried. ["Weißenhof Housing Settlement, Stuttgart 1927."](#) Reproduced in Giedion, *Time, Space, and Architecture*. Pg. 598. Originally published as "L'Exposition du Werkbund à Stuttgart 1927."

³⁸⁴ Doesburg, ["Stuttgart-Weißenhof 1927, Die Wohnung: 'The Dwelling.'" Pg. 172.](#)

In either case, the new houses at Weißenhof inspired a number of similar exhibitions throughout Europe: at Vienna in Austria, two in Zurich in Switzerland,³⁸⁵ at Brno in Czechoslovakia,³⁸⁶ and again in Germany at Breslau³⁸⁷ and Dammerstock.³⁸⁸ Doesburg, who visited the exhibition at Brno, immediately noted the connection between Stuttgart and its eastern successor.³⁸⁹ According to his sources, similar projects were being scheduled to take place in Barcelona, in Rome (organized by Marinetti), in Berlin, Cologne, and then finally Moscow and Warsaw.³⁹⁰ In addition to all this, the social

³⁸⁵ “In 1928 the Swiss Werkbund organized the exhibition *Das Neue Heim* in Zurich; in 1930, the exhibition *WoBa* (*Wohnen und Bauen* [Dwelling and Construction]). As part of the same program, the colony Eglisée was built in Basel. It consists of 60 family houses and 120 rental houses with small and medium apartments...In 1932 the Vienna Werkbund organized an exhibition, more or less on the model of the Stuttgart Weißenhofsiedlung, that also includes a group of small family houses designed by various Viennese and foreign architects (Adolf Loos, R.J. Neutra, André Lurçat, Rietveld, Jos. Hofmann, Jos. Frank, Brenner, Grete Schütte-Lihotzky, and others).” Teige, *The Minimum Dwelling*. Pg. 195.

³⁸⁶ “In Czechoslovakia, the example of Stuttgart was first followed in Brno, as part of the Exhibition of Contemporary Culture in 1928. [I]t consists of a group of sixteen small houses, called *Nový Dům* [the New House]. The following architects contributed designs: B. Fuchs, J. Grunt, J. Kroha, H. Foltýn, M. Putna, J. Syřiště, J. Štěpánek, J. Viška, and A. Wiesner. The project was realized at the private initiative of the builders F. Uhera and Č. Ruller, and sponsored by the Svaz Českého Díla.” *Ibid.*, pg. 193.

³⁸⁷ “After Stuttgart, the German Werkbund continued its program with the 1929 exhibition *Wu Wa* Breslau (*Wohnung und Werkraum*) in Breslau in Prussian Silesia [now Wrocław in Poland]. Here, too, the exhibition was divided into three sections: an exhibition of international architecture (plans and photographs), an exhibit of materials and equipment (tracing the historical evolution of urban housing, rural dwelling, workshops, and offices), and the model exhibition colony Grüneiche.” *Ibid.*, pg. 193.

³⁸⁸ “Another exhibition of a similar character is the Dammerstock settlement in Karlsruhe, built in 1929; it is distinguished by its progressive site plan, designed by Walter Gropius. It consists of uniformly executed single rows of attached houses (*Einzelreihenbebauung*), with streets set at right angles in an east-west direction to the north-south rows. Windows are oriented east and west. Row housing is the predominant type used in the Dammerstock colony. There are only two rows of four-story houses of the open gallery and balcony type, based on the designs of Otto Haesler and Walter Gropius.” *Ibid.*, pg. 195.

³⁸⁹ Doesburg, Theo van. “Brno 1928, *Vystava Soudobé Kultury* and *Nový Dům*: Exhibition on Modern Culture and the Colony ‘New Dwelling.’” Translated by Charlotte I. Loeb and Arthur L. Loeb. *On European Architecture: Complete Articles from Het Bouwbedrijf, 1924-1931*. (Birkhäuser Verlag. Boston, MA: 1990). Pg. 173. Originally published in *Het Bouwbedrijf*, Vol. 5, № 26 (December 1927).

³⁹⁰ *Ibid.*, pg. 174.

mission embodied by the houses at Stuttgart provided a touchstone for the foundation of CIAM the following year.

Convening at the Château de la Sarraz in the summer of 1928, the group of architects who would come to found CIAM laid down, in broad strokes, the most basic principles of modern architecture. From the very beginning, CIAM stressed architects' "professional obligations towards society."³⁹¹ It could, moreover, count among its members many the major modernist architects of the West.³⁹² The *La Sarraz Declaration*, announcing the group's existence and program, outlined many of the major positive and negative bases of modern architecture that we have covered so far: the impact of the machine on modern society,³⁹³ the need for standardization and rationalization in building,³⁹⁴ the stultifying influence of the academies,³⁹⁵ and a commitment to solving the housing problem.³⁹⁶ This

³⁹¹ [*La Sarraz Declaration*](#). Translated by Michael Bullock. *Programs and Manifestoes on 20th-Century Architecture*. (The MIT Press. Cambridge, MA: 1971). Pg. 109. Originally drafted June 28th, 1928.

³⁹² Signatories of CIAM's founding *La Sarraz Declaration* included H.P. Berlage, Victor Bourgeois, Pierre Chareau, Josef Frank, Gabriel Guévrérian, Max Ernst Haefeli, Hugo Häring, Arnold Höchel, Huib Hoste, Pierre Jeanneret, Le Corbusier, André Lurçat, Sven Markelius, Ernst May, Fernando García Mercadal, Hannes Meyer, Werner Max Moser, Carlo Enrico Rava, Gerrit Rietveld, Alberto Sartoris, Hans Schmidt, Mart Stam, Rudolf Steiger, Szymon Syrkus, Henri-Robert von der Mühll, Juan de Zavala. *Ibid.*, pg. 113.

El Lissitzky, Nikolai Kolli, and Moisei Ginzburg were supposed to attend from the USSR, but were denied visas by the Swiss government. Mumford, Eric. *The CIAM Discourse on Urbanism: 1928-1960*. (The MIT Press. Cambridge, MA: 2000). Pg. 18.

Other members who later joined include Sigfried Giedion, Walter Gropius, Cornelis van Eesteren, Alvar Aalto, Uno Åhrén, Louis Herman De Koninck, and Fred Forbát.

³⁹³ "Conscious of the deep disturbances of the social structure brought about by machines, they recognize that the transformation of the economic order and of social life inescapably brings with it a corresponding transformation of the architectural phenomenon." [*La Sarraz Declaration*](#), pg. 109.

³⁹⁴ "The most efficient method of production is that which arises from rationalization and standardization. Rationalization and standardization act directly on working methods both in modern architecture (conception) and in the building industry (realization)." *Ibid.*, pg. 110.

³⁹⁵ "[The] academies, by definition and by function, are the guardians of the past. They have established dogmas of architecture based on the practical and aesthetic methods of historical periods. Academies vitiate the architect's vocation at its very origin." *Ibid.*, pg. 112.

³⁹⁶ "The true problems of the dwelling have been pushed back behind entirely artificial sentimental conceptions. The problem of the house is not posed." *Ibid.*, pg. 111.

final point of CIAM's statement of purpose culminated in its quest to determine "the minimum dwelling," which was an ongoing topic of discussion from 1929 to 1931.³⁹⁷ This topic, along with the group's subsequent interest in urbanism and "the Functional City" (covered in the next section), will be our primary concern regarding CIAM.

The organization's second international conference, CIAM-2, explicitly took up the question of the *Existenzminimum*. Fittingly, it was held in Frankfurt in 1929, in the midst of one of the most impressive housing experiments taking place at the time, Ernst May's celebrated Social-Democratic *Neue Frankfurt*.³⁹⁸ May's experimental settlement, built according to modernist stylistic conventions, would figure prominently into the debates. Le Corbusier, Gropius, May, and Stam (all participants in the Weißenhof project) were the prime contributors to the Frankfurt summit. As Teige later noted, in his magisterial 1931 study on *The Minimum Dwelling*, CIAM here continued the work begun at Stuttgart and expanded its scope to address the wider housing shortage of Russia, Europe, and America. "The International Congresses of Modern Architecture [CIAMs] have placed the question of *the minimum dwelling* on its agenda as a top priority," recorded Teige, "and declared it the most urgent task to be undertaken by the architectural avant-garde in all its practical work and theoretical deliberations, to be coordinated by its members in international cooperation in order to clarify and study the subject in all its complexity and ramifications."³⁹⁹ In terms of its social mission, it was the first modernist effort focused directly on providing housing to low-income families, the working poor and pauperized intellectuals.⁴⁰⁰ As Stam observed, even the houses at Weißenhof had been designed for the middle-class.⁴⁰¹ At Frankfurt, by contrast, the need to produce standardized models

³⁹⁷ "[P]roblems of town planning for the working masses engage the Functionalists in a heroic struggle for the minimum house, for the standardization and industrialization of building." Zevi, [Architecture as Space](#). Pgs. 157-158.

³⁹⁸ Mumford, *The CIAM Discourse on Urbanism*. Pg. 30.

³⁹⁹ Teige, [The Minimum Dwelling](#). Pg. 62.

⁴⁰⁰ "The amelioration of housing for people with minimum income, such as workers and the working intelligentsia, has caught the attention of architects only recently — as a matter of fact, only during the Second International Congress of Modern Architecture [CIAM] (in Frankfurt, 1929), which placed the question of the minimum dwelling at the top of its agenda." *Ibid.*, pg. 216.

⁴⁰¹ "The [Weißenhof] houses are intended (to judge by the requirements set) for the middle classes." Stam,

to house the oppressed classes of society was explicit.⁴⁰² In the article that Stam later submitted to *Das Neue Frankfurt* during the 1929 CIAM conference, he clearly stated his conviction that “the minimum requirements in housing and the standard of living of many thousands of the working population remain unsatisfied.”⁴⁰³ “[W]e need enough flats of sufficient quality to meet the needs of the poor and homeless,” asserted May, in the article he wrote for the conference. “*We need flats for subsistence living.*”⁴⁰⁴

With this last point, May highlighted the dual nature of the problem posed by the minimum dwelling. For the issue was not simply that of the raw shortage of housing, put in terms of numbers. It was also that much of the housing that did exist was deemed by the modernists to be unlivable. “[T]he abode of the proletariat and the poor in tenements or workers’ barracks is not a dwelling in the true sense of the word, but merely a *shelter*,” wrote Teige. “*It is not a home, but merely a lodging.*”⁴⁰⁵ Such conditions were, for the architectural avant-garde, simply unacceptable. Le Corbusier therefore felt it necessary to clarify: “By ‘the crisis in housing,’ we mean not only a quantitative crisis but a qualitative one as well.”⁴⁰⁶ For architects like Le Corbusier, May, and Gropius, the

[“Three Houses at the Stuttgart Exhibition.”](#) Pg. 12.

⁴⁰² Teige explains: “The genesis of the catch-phrase ‘minimum dwelling’ as the most pressing architectural problem can be traced to a number of causes; among the most important are the changes in the social structure of the population that have taken place during the past few decades and the worsening of the housing crisis after the war, which adversely affected even middle-income groups and impoverished working intellectuals.” Teige, [The Minimum Dwelling](#). Pg. 234.

⁴⁰³ Stam, Mart. [“Scale — Right Scale — Minimum Scale.”](#) Translated by C. v. Amerongen. *Mart Stam: A Documentation of His Work, 1920-1965*. (Royal Institute of British Architects. London: 1970). Pg. 21. Originally published in *Das Neue Frankfurt*, № 3, 1929.

⁴⁰⁴ May, Ernst. [“Flats for Subsistence Living.”](#) Translated by Tim Benton. *Architecture and Design, 1890-1939: An International Anthology of Original Articles*. (The Whitney Library of Design. New York, NY: 1975). Pg. 203. Originally published in *Die Wohnung für Existenzminimum*, 1929. Pgs. 10-16.

⁴⁰⁵ Teige, [The Minimum Dwelling](#). Pg. 158.

⁴⁰⁶ Le Corbusier and Jeanneret, Pierre. [“Analysis of the Fundamental Elements of the Problem of ‘The Minimum House.’”](#) Reproduced in *The Radiant City: Elements of a Doctrine of Urbanism to be Used as the Basis of our Machine-Age Civilization*. Translated by Pamela Knight, Eleanor Levieux, and Derek Coltman. (The Orion Press. New York, NY: 1964). Pg. 30. Originally published in *Die Wohnung für Existenzminimum*, 1929.

question of determining minimum requirements for human habitation was thus (following Meyer) both a *biological*⁴⁰⁷ and *sociological* matter.⁴⁰⁸ Gropius wrote: “The problem of the minimum dwelling is that of establishing the elementary minimum of space, air, light and heat required by man in order that he be able to fully develop his life functions without experiencing restrictions due to his dwelling, i.e., a minimum *modus vivendi* in place of a *modus non moriendi*.”⁴⁰⁹ Above all, this would mean a development of the dwelling’s *interior*, as well as those elements (doors, windows, walls) through which it was related to its exterior.⁴¹⁰ According to Le Corbusier and his cousin Jeanneret, “our studies...result in a revision of the dwelling’s functions, with this short, concise (and so very revolutionary) phrase as a slogan: ‘*breathe, hear, see*’ or again: ‘*air, sound, light*’ or again: ‘*ventilation and isothermics (even temperature), acoustics, radiation of light,*’ etc.”⁴¹¹ In a similar vein, Gropius ecstatically proclaimed: “*Maximum light, sun, and air for all dwellings!*”⁴¹² All these basic hygienic functions would contribute to the overall health and livability of the minimum dwelling.

Beyond merely serving the physiological needs of its inhabitants, the modern house or apartment had to satisfy certain social and psychological requirements that had arisen historically. Most of the authors who wrote on the problem of minimum dwelling for the CIAM-2 Frankfurt conference were communists (Teige, Stam, Schmidt) or at the least Social-Democrats (May, Victor Bourgeois, Schütte-Lihotzky), and so they expressed a

⁴⁰⁷ “The dwelling place is a distinctly biological phenomenon.” *Ibid.*, pg. 29.

⁴⁰⁸ “Only respect for the biological and social status of the man which is threatened by the problem of flats for the lower paid workers keeps in from fruitless theorization and draws us nearer to our goal. We shall build flats which, although let at reasonable rents, will satisfy the material and spiritual needs of their inhabitants.” May, [“Flats for Subsistence Living.”](#) Pg. 204.

⁴⁰⁹ Gropius, [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Pg. 98.

⁴¹⁰ “As far as the ‘*minimum house*’ (social tool that is indispensable to the present era) is concerned, architecture can center its attention on *equipping the inside of the house*. Depending on the problem (capacity), the size of the family, the sort of occupant (his way of life), the exposure to sun and winds, the topographical location (city planning), the architect of equipment can invent biological groupings within a static standard framework.” Le Corbusier and Jeanneret, [“Analysis of the Fundamental Elements of the Problem of ‘The Minimum House.’”](#) Pg. 32. My emphasis.

⁴¹¹ *Ibid.*, pg. 33.

⁴¹² Gropius, [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Pg. 99.

common sense of solidarity with the urban proletariat — sometimes bordering on facile workerism.⁴¹³ Anachronistic tendencies had been carried over from the traditions of rural populations into the contemporary setting of the metropolis.⁴¹⁴ Moreover, the articulation and elaboration of bourgeois individualism under the conditions of modernity began to undermine the traditional economic unit of the family. As modern subjectivity asserted itself more within the household, women increasingly felt a sense of independence from their traditional domestic duties. Teige derived his views from the theories of Marx and Engels (particularly the latter's *Origin of the Family, Private Property, and the State*);⁴¹⁵ Gropius appealed to the writings of a German sociologist, Franz-Karl Müller-Lyer.⁴¹⁶ The sociological authorities relied upon by the different modernist architects varied, but their conclusions were largely the same.

All these authors agreed with the premise that the traditional roles assumed by men and women had been destabilized by modern conditions. Not that any of them were sad

⁴¹³ Ernst May perhaps expressed the most naïve workerist standpoint theory: “So much unnecessary paperwork and so many failures would be avoided if every architect involved in building small flats were obliged to spend a few weeks in a working class family before he began to plan and build.” May, [“Flats for Subsistence Living.”](#) Pg. 204.

⁴¹⁴ “Modern urban industrial population is derived directly from the rural population. It retains its primitive standard of living, which frequently even decreases, instead of developing expanded requirements corresponding to its new way of life. The attempt to adapt its housing requirements to its old form of life appears regressive...and altogether incompatible with its new form of life.” Gropius, [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Pgs. 100-101.

⁴¹⁵ “The modern family is based on both the overt and hidden slavery of women; and modern society is an agglomeration, made up of small families as its individual molecules. Man, at least in the wealthy classes, generally has to earn enough for the upkeep of the whole family. That alone assures him a dominant role, without requiring any special laws or official granting of privileges: he is the bourgeois of the family, his wife is the proletarian” (*The Origin of the Family, Private Property, and the State*).” Teige, [The Minimum Dwelling.](#) Pgs. 169-170.

⁴¹⁶ “The history of sociology is the story of man’s gradual evolution from the wilderness through barbarism to civilization. The late German sociologist Müller-Lyer, whose scientific results are referred to, distinguishes between four major legal eras of human society: 1. The era of kinship and tribal law; 2. The era of the family and family law; 3. The era of the individual and individual law; 4. The future era of co-operatives and communal law.” Gropius, [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Pg. 91.

to see the perennial institutions of marriage and the family disintegrate. Quite early in his career, Marx made it clear that the division of labor within the family condemned women to “domestic slavery.”⁴¹⁷ Engels, when he took up the subject thirty years later, did not mince words when it came to the power dynamics involved in monogamous marriage: “Monogamous marriage comes on the scene as the subjugation of the one sex by the other.”⁴¹⁸ Müller-Lyer, in his *History of Social Development*, similarly described the historic formalization of marital relations in society as tantamount to the enslavement of women.⁴¹⁹ As Engels explained, the division of labor entailed by the marriage relation and the relegation of woman’s activities to the domestic sphere implied her exclusion from the possession of private property within the family.⁴²⁰ Only with the expansion of large-scale industrial capitalism and the participation of women in factory production did the possibility of emancipating women emerge. “[T]o emancipate woman and make her the equal of the man is and remains an impossibility so long as the woman is shut out from social productive labor and restricted to private domestic labor,” wrote Engels. “The emancipation of woman will only be possible when woman can take part in production

⁴¹⁷ “With the division of labour, in which all these contradictions are implicit, and which in its turn is based on the natural division of labour in the family and the separation of society into individual families opposed to one another, is given simultaneously the distribution, and indeed the unequal distribution, both quantitative and qualitative, of labour and its products, hence property: the nucleus, the first form, of which lies in the family, where wife and children are the slaves of the husband.” Marx, Karl. [*The German Ideology: Critique of Modern German Philosophy According to Its Representatives Feuerbach, B. Bauer and Stirner, and of German Socialism According to Its Various Prophets*](#). Translated by Tim Delaney, Bob Schwartz, and Brian Baggins. *Collected Works, Volume 5: Fall 1845-Mid-1846*. (International Publishers. New York, NY: 1976). Pg. 46. Originally written in 1846, only published in 1930.

⁴¹⁸ Engels, Friedrich. [*The Origin of the Family, Private Property, and the State: In Light of Researches by Lewis H. Morgan*](#). Translated by Alick West. *Collected Works, Volume 26: Friedrich Engels, 1882-1889*. (International Publishers. New York, NY: 1990). Pg. 141. Originally published in 1884.

⁴¹⁹ “Marriage is originally nothing else than the earliest form of slavery, the slavery of the woman.” Müller-Lyer, Franz-Karl. [*The History of Social Development*](#). Translated by Elizabeth Coote Lake and H.A. Lake. (George Allen & Unwin Ltd. London, England: 1920). Pg. 208. Originally published in 1913.

⁴²⁰ “The division of labor within the family...regulated the division of property between the man and the woman...[T]he domestic labor of the woman no longer counted beside the acquisition of the necessities of life by the man; the latter was everything, the former an unimportant extra.” Engels, [*The Origin of the Family, Private Property, and the State*](#). Pg. 263.

on a large, social scale, and domestic work no longer claims anything but an insignificant amount of her time.”⁴²¹ Müller-Lyer argued that “the professional woman and marriage are antithetic and inimical,”⁴²² and anticipated the modernists’ argument that women could be liberated from the drudgery of household chores by the implementation of labor-saving devices. He even suggested measures of socializing domestic labor that would later be advocated by the Soviet avant-garde: collective laundries, kitchens, cafeterias.⁴²³ But according to Müller-Lyer’s analysis, the process of women’s social emancipation was already underway. “High capitalism,” he wrote, “helped to break up the family and drove many women out of the home into business.” This in turn gave rise to the modern women’s movement.⁴²⁴

Concerning the structure of the *gens* itself, Marx and Engels argued that it had been organized in such a manner so as to ensure the patrilineal passage of property from one generation to the next through partible male inheritance, primogeniture, or (more rarely) postremogeniture.⁴²⁵ Families also functioned as the most basic unit of socioeconomic

⁴²¹ “And only now has that become possible through modern large-scale industry, which does not merely permit of the employment of female labor over a wide range, but positively demands it, while it also tends towards ending private domestic labor by changing it more and more into a public industry.” *Ibid.*, pg. 264.

⁴²² Müller-Lyer, [*The History of Social Development*](#). Pg. 228.

⁴²³ “In an organized domestic association, ...a tenth part of the women would be able to accomplish all these [domestic] labors in a better, cheaper, and less arduous manner. If we united...sixty small [kitchen] industries into one organism, one great central kitchen, presided over by a qualified chef, we could offer a richer and more varied fare at much less cost. Each family might be connected with this center by a lift, which would convey to it regularly the desired meats and drinks...Into this wholesale domestic administration would enter those labor-saving machines, invented long but scarcely taken into use: a washing-up machine cleans in a few minutes hundreds of pots and pans, central heating saves the labor of carrying coals and ashes, a vacuum cleaner keeps the dwelling clean,...gas fires, electric lighting, steam laundries, etc., would relieve the mistress of all those petty depressing occupations under which she now sighs.” *Ibid.*, pg. 229.

⁴²⁴ “[T]he late capitalistic phase responded to [the modern woman’s question] with the modern women’s movement.” *Ibid.*, pg. 302.

⁴²⁵ “The Alliance of Geneva demanded, above all, the entire abolition of the right of inheritance...There were two forms of inheritance...The testamentary right, or inheritance by will, had come from Rome and had been peculiar to Rome. The father of the Roman family had exercised absolute authority over everything belonging to his household...German right of inheritance was the intestate right, the family

organization.⁴²⁶ They remained fairly vague as to the specifics of what would replace the family in a postcapitalist society, but generally suggested that the form of the family would be abolished.⁴²⁷ Luckily for those architects inspired by political Marxism (like Meyer, Nikolai Miliutin, and Teige), later theorists belonging to the movement made further contributions to the critique of the family and the inequality of the sexes. This critique was deepened by radical authors like August Bebel,⁴²⁸ Clara Zetkin,⁴²⁹ Rosa Luxemburg,⁴³⁰ Vladimir Lenin, and Aleksandra Kollontai. “Millions upon millions of

right, which treated an estate as a sort of co-proprietorship of which the father of the family was the manager. When this manager died, the property fell to all the children.” Marx, Karl. [“The Right of Inheritance: An Address to the International Workingmen’s Association.”](#) Transcribed by George Eccarius. *Collected Works, Volume 21: Karl Marx, November 1867-mid-July 1870*. (International Publishers. New York, NY: 1985). Pg. 65. Originally delivered in 1869.

⁴²⁶ “The form of family corresponding to civilization and coming to definite supremacy with it is monogamy, the domination of the man over the woman, and the single family as the economic unit of society.” Engels, [The Origin of the Family, Private Property, and the State](#). Pg. 275.

⁴²⁷ “The family continues to exist even in the 19th-century, only the process of its dissolution has become more general, not on account of the concept, but because of the higher development of industry and competition; the family still exists although its dissolution was long ago proclaimed by French and English Socialists.” Marx and Engels, [The German Ideology](#). Pg. 179.

⁴²⁸ “In the new society woman will be entirely independent, both socially and economically. She will not be subjected to even a trace of domination and exploitation, but will be free and man’s equal...Her education will be the same as man’s...Living under normal conditions of life, she may fully develop and employ her physical and mental faculties.” Bebel, August. [Woman and Socialism](#). Translated by Meta L. Stern. (Socialist Literature Co. New York, NY: 1910). Pg. 466. Originally published in 1879.

⁴²⁹ “The machines, the modern mode of production, slowly undermined domestic production and not just for thousands but for millions of women the question arose: Where do we now find our livelihood? Where do we find a meaningful life as well as a job that gives us mental satisfaction? Millions were now forced to find their livelihood and their meaningful lives outside of their families and within society as a whole.” Zetkin, Clara. [“Only in Conjunction with the Proletarian Woman will Socialism be Victorious.”](#) Translated by Kai Schoenhals. *Selected Writings*. (International Publishers. New York, NY: 1984). Pg. 73. Originally published in 1896.

⁴³⁰ “In advanced capitalist, highly industrialized, twentieth-century Germany, in the age of electricity and airplanes, the absence of women’s rights is as much a reactionary remnant of the dead past as the reign by Divine Right on the throne...[B]oth monarchy and women’s lack of rights have been uprooted by the development of modern capitalism, have become ridiculous caricatures.” Luxemburg, Rosa. [“Women’s](#)

women in...families live (or, rather, exist),” wrote Lenin, “as ‘domestic slaves,’ striving to feed and clothe their family on pennies, at the cost of desperate daily effort and ‘saving’ on everything — except their own labor.”⁴³¹ For Kollontai, the most important aspects of the “woman question” in the modern age were the dissolution of the traditional family structure⁴³² and the achievement of economic independence.⁴³³ Ultimately, she concluded that “women can become truly free and equal only in a world organized along new social and productive lines.”⁴³⁴

The social theories developed by Marx, Engels, and their followers, as well as by non-Marxists like Müller-Lyer and others, were invoked by the avant-garde architects in their proposed reforms of the dwelling. Notions of women’s rights and the changing role of the family influenced their designs. Gropius, paraphrasing Müller-Lyer’s arguments, thus wrote:

As the family era was ushered in by the rise of man, so the individual era is characterized by the awakening and progressive emancipation of woman. Woman’s duty of obedience to man vanishes, and the laws of society gradually grant her rights equal to those of men. As the family transfers numerous domestic chores to the machinery of socialized production, woman’s sphere of domestic activity shrinks and she looks beyond the family for an outlet for her natural need for occupation: she enters the world of business and industry. In turn industry, rejuvenated on basically new foundations by the machine, shows woman the impractical nature of her domestic hand labor.⁴³⁵

[Suffrage and Class Struggle.](#)” Translated by Peter Hudis and Kevin B. Anderson. *The Rosa Luxemburg Reader*. (Monthly Review Press. New York, NY: 2004). Pg. 239. Originally published in 1914.

⁴³¹ Lenin, Vladimir. [“Capitalism and Female Labor.”](#) Translated by Andrew Rothstein. *Collected Works, Volume 36*. (Progress Publishers. New York, NY: 1971). Pg. 230. Originally published in 1913.

⁴³² “To become really free woman has to throw off the heavy chains of the current forms of the family, which are outmoded and oppressive.” Kollontai, Aleksandra. [“The Social Basis of the Woman Question.”](#) Translated by Alix Holt. *Selected Writings*. (Allison & Busby. New York, NY: 1977). Pg. 64. Originally published in 1909.

⁴³³ “The proletarian woman bravely starts out on the thorny path of labour. Her legs sag; her body is torn. There are dangerous precipices along the way, and cruel beasts of prey are close at hand. But only by taking this path is the woman able to achieve that distant but alluring aim — her true liberation in a new world of labour.” *Ibid.*, pg. 63.

⁴³⁴ *Ibid.*, pg. 58.

⁴³⁵ Gropius, [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Pg. 95.

Indeed, many of the efforts to Taylorize the dwelling space were inspired by elements of the feminist movement which were part of the greater social mission of the avant-garde. True sexual equality could only be achieved, the modernists felt, through the liberation of women from frivolous domestic obligations and their more general subservience to men. One of the major design concerns of the minimum dwelling at the Frankfurt conference thus centered around the ergonomic arrangement of the kitchen. Indeed, two new major design proposals for the standard kitchen had been introduced in the year leading up to CIAM-2. The Stuttgart Weißenhof estate featured a new kitchen layout, and Schütte-Lihotzky's groundbreaking Frankfurt kitchen (a Taylorist design patterned after railway kitchens)⁴³⁶ had been unveiled just months prior to the conference. Both of these models differed from the statistically-average kitchen in terms of their dimensions and the variety of appliances they included.⁴³⁷ May commissioned an instructive video showcasing the Frankfurt kitchen to be viewed by the CIAM representatives. As Teige pointed out, the kitchen was a natural site for the employment of industrial techniques. "The kitchen is the nerve center of the apartment-household," Teige maintained. "It is the best designed and most rationalized room of the modern house, simply because as a place of production, a workshop, or a miniature factory, it was the most obvious place to apply the organizational experiences of modern factory production methods — in this case, to the processes of food preparation."⁴³⁸ The Soviet modernist Nikolai Miliutin, though not in

⁴³⁶ "For her preliminary design, ... Schütte-Lihotzky took for her model the kitchens of the railway dining car company Mitropa." Corrodi, Michelle. "On the Kitchen and Vulgar Odors: The Path to a New Domestic Architecture between the Mid-Nineteenth Century and the Second World War." Translated by Bill Martin and Laura Bruce. *The Kitchen: Life-world, Usage, Perspectives*. (Birkhäuser Publishers. Basel, Switzerland: 2006). Pg. 31.

⁴³⁷ "The modern European kitchen has developed into two main types: the *Frankfurt kitchen*, developed by Grete Schütte-Lihotzky, and the *Stuttgart kitchen*. A normal American kitchen has the dimensions $2.7 \times 3.3\text{m} = 8.87\text{m}^2$; the Stuttgart kitchen 8.6 m^2 ; and the Frankfurt kitchen of phase one, $3.44 \times 1.87\text{m} = 6.43\text{m}^2$. After a few years of use by 6,000 Frankfurt housewives, its dimensions were further reduced to an area of 5.5m^2 ." Teige, [The Minimum Dwelling](#). Pg. 218.

⁴³⁸ *Ibid.*, pg. 219.

Compare with Bebel: "The kitchen resembles a workshop furnished with all kinds of technical and mechanical appliances that quickly perform the hardest and most disagreeable tasks. Here we see potato and fruit-paring machines, apparatus for removing kernels, meat-choppers, mills for grinding coffee and

attendance at CIAM-2 in Frankfurt, proposed the following year the “collectivization” of petty household chores through the institution of public kitchens, day-cares, cafeterias, and laundries.⁴³⁹ “[C]ollectivization of the life services of the population provides...the freedom of woman from domestic slavery,” wrote Miliutin.⁴⁴⁰ Across the avant-garde, new dwellings were being designed to transform the conditions of family life and work toward achieving the equality of the sexes.⁴⁴¹

A concurrent social concern of the modernists when it came to the overall layout of the minimum dwelling was the need to cater to the psychological needs of the atomistic

spice, ice-choppers, corkscrews, bread-cutters, and a hundred other machines and appliances, all run by electricity, that enable a comparatively small number of persons, without excessive labor, to prepare a meal for hundreds of guests. The same is true of the equipments for house-cleaning and for washing the dishes.” Bebel, *Woman and Socialism*. Pg. 462.

⁴³⁹ “The creation of good and inexpensive mechanical laundries (placed to best advantage in connection with the public baths) will completely free women from this barbaric task.” Miliutin, Nikolai. *Sotsgorod: The Problem of Socialist Cities*. Translated by Anatole Senkevich. (MIT Press. Cambridge, MA: 1974). Pg. 76. Originally published in 1930.

⁴⁴⁰ *Ibid.*, pg. 75.

Compare again with Bebel: “To millions of women the private kitchen is an institution that is extravagant in its methods, entailing endless drudgery and waste of time, robbing them of their health and good spirits, and an object of daily worry, especially when the means are scanty, as is the case with most families. The abolition of the private kitchen will come as a liberation to countless women. The private kitchen is as antiquated an institution as the workshop of the small mechanic. Both represent a useless and needless waste of time labor and material.” Bebel, *Woman and Socialism*. Pg. 462.

“As [with] the kitchen, so our entire domestic life will be revolutionized, and countless tasks that must be performed today will become superfluous. As the central kitchen will do away with the private kitchen, so central heating and electric lighting plants will do away with all the trouble connected with stoves and lamps. Warm and cold water supply will enable all to enjoy daily baths. Central laundries and drying-rooms will assume the washing and drying of clothes; central cleaning establishments, the cleaning of carpets and clothes.” *Ibid.*, pgs. 463-464.

⁴⁴¹ Incidentally, Teige was skeptical of the progress made by the Frankfurt kitchen, so long as it was still based on the family unit: “Whether ‘model house,’ ‘experimental villa,’ ‘minimum house,’ or a modern apartment house for the poor, all are solutions presented at the scale of a family...Assuming that members of a couple are active wage earners and that the woman works in production, then surely a kitchen and a traditional family household are, for all practical purposes, a burden...Thus, the newly perfected ‘Frankfurter kitchen’ does not really solve anything.” Teige, *The Minimum Dwelling*. Pg. 172.

individual engendered by modern bourgeois society. Privacy within the context of the dwelling was therefore a top priority in its avant-garde designers. For most of the those who convened at the Frankfurt summit, this meant the provision of separate rooms for each individual living within a single housing unit. “To allow for the increasing development of more pronounced individuality of life within the society,” wrote Gropius, “and the individual’s justified demand for occasional withdrawal from his surroundings, it is necessary, moreover, to establish the following ideal minimum requirement: *every adult shall have his own room, small though it may be!*”⁴⁴² Following Müller-Lyer’s lead, Gropius stressed this minimum requirement despite the need for private individuals to develop a broader social consciousness.⁴⁴³ Likewise Teige, though a communist, was in favor of partitioned dwelling spaces for every adult individual. He based this assertion on the breakup of the traditional family described by Marx and Engels as occurring under capitalism. “The disintegration of the traditional family began with the entry of women in the workforce, along with the establishment of the principle of equality between men and women,” wrote Teige. “As a result, the family has become atomized into independent individuals, which in turn has made it necessary for individuals to maintain a certain psychological distance vis-à-vis each other even in marriage, and therefore at home as well. For these reasons, any rational solution to the minimum dwelling must posit the following rule as its most basic requirement: *each adult individual must have his or her own separate (living and sleeping) space.*”⁴⁴⁴

The methods employed to build these new dwellings were to reflect the industrialized approach that the architectural modernists had been advocating for years. “We must find and apply new methods, clear methods,” Le Corbusier maintained in his paper for the Frankfurt CIAM, “allowing us to work out useful plans for the home, lending themselves naturally to standardization, industrialization, Taylorization (mass production).”⁴⁴⁵ With

⁴⁴² Gropius, [“Sociological Premises for the Minimum Dwelling of Urban Industrial Populations.”](#) Pg. 99.

⁴⁴³ “Egotistical individualism gives way to social individualism. The fully developed individual becomes the aim of the state and the structure of society the means for its achievement.” *Ibid.*, pg. 92.

⁴⁴⁴ Teige, [The Minimum Dwelling](#). Pg. 247.

⁴⁴⁵ Le Corbusier and Jeanneret, [“Analysis of the Fundamental Elements of the Problem of ‘The Minimum House.’”](#) Pg. 30.

reference to the serialized housing he created under France's Loucheur Laws in 1928, Le Corbusier boasted that "we actually produced the *prefabricated* house, and we did what the builders of cars and railway carriages do."⁴⁴⁶ Lissitzky, who was at least an honorary member of CIAM (though visa problems prevented him from attending), proudly asserted in a book written simultaneously with the Frankfurt congress that "a system of easily assembled housing units...could be erected at various locations according to personal preference... — in other words, a prefabricated standard unit for individuals or families, easy to assemble."⁴⁴⁷ Teige, finally, summarizing his conclusions on the problem of the minimum dwelling, connected the *social* aspect of providing housing for the masses with the modernist theme of industrialized building. "Thus, too, the dwelling cell must be considered the primary and essential unit of space provided for every adult working individual," wrote Teige. "The living cell is a strictly standardized element: the common basic needs of dwelling and lodging for the masses are therefore served by a mass-produced, standardized abode."⁴⁴⁸

Reviewing the positive bases of modernist architecture, then, we can see that it rests on three main pillars: 1. the spatiotemporal properties elucidated by abstract art; 2. the quintessentially modern mode of industrialized production; and 3. a social commitment to the alleviation of the housing shortage and an identification with the politics of class struggle and the fight for sexual equality. Two final (though not insignificant) points may be briefly noted before passing onto the next subsection.

First of all, relating to the global/international quality of abstract space as manifested under capitalism — and reflecting the international basis of socialist and working-class politics in general — the modernist movement understood itself to be founded on a basis that transcended national boundaries and particularities.⁴⁴⁹ As early as 1921, at the point when Reyner Banham argued that *De Stijl* entered its "international phase,"⁴⁵⁰ the avant-garde in the arts and architecture worked self-consciously toward a universal aesthetic

⁴⁴⁶ *Ibid.*, pg. 32.

⁴⁴⁷ Lissitzky, [*The Reconstruction of Architecture in the Soviet Union*](#). Pg. 49.

⁴⁴⁸ Teige, [*The Minimum Dwelling*](#). Pg. 351.

⁴⁴⁹ See the string of quotations cited in footnote 28, pg. 7 of the present paper.

⁴⁵⁰ Banham, *Theory and Design in the First Machine Age*. Pg. 185.

language bound together by a common social mission. Le Corbusier thus remarked in 1925: “There are now signs that [modern architecture] is emerging almost everywhere — in America, Russia, Germany, Czechoslovakia, Holland, France — there are houses free from decoration where the problems of proportion and structure are posed.”⁴⁵¹ From the First International Congress of Progressive Artists that met in Düsseldorf in 1922,⁴⁵² all

⁴⁵¹ Le Corbusier, *The Decorative Arts of Today*. Pg. 135.

⁴⁵² From the “Founding Proclamation of the Union of Progressive International Artists”: “From all over the world come voices calling for a union of progressive artists. A lively exchange of ideas between artists of different countries has now become necessary. The lines of communication that were torn up by political events are finally reopened. We want universal and international interest in art. We want a universal international periodical. We want a permanent, universal, international exhibition of art everywhere in the world. We want a universal, international music festival that will unite mankind at least once a year with a language that can be understood by all.

The long dreary spiritual isolation must now end. Art needs the unification of those who create. Forgetting questions of nationality, without political bias or self-seeking intention, our slogan must now be: ‘Artists of all nationalities unite.’ Art must become international or it will perish.” *De Stijl*, [“A Short Review of the Proceedings \[of the Congress of International Progressive Artists\], Followed by the Statements Made by the Artists’ Groups.”](#) Translated by Nicholas Bullock. *The Tradition of Constructivism*. (Da Capo Press. New York, NY: 1974). Pg. 59. Originally published in 1922.

Although many of the more “radical” artistic groups split from the initial union proposed by the congress, all of those who rejected the political ambiguity of the “Founding Proclamation” nevertheless upheld the notion of internationalism: “WE REGARD THE FOUNDING OF AN INTERNATIONAL OF PROGRESSIVE ARTISTS AS THE BANDING TOGETHER OF FIGHTERS FOR THE NEW CULTURE. Once again art will return to its former role. Once again we shall find a collective way of relating the work of the artist to the universal.” Lissitzky, El and Ehrenburg, Il’ia. [“Statement by the Editors of Veshch/Gegenstand/Objet.”](#) *Ibid.*, pg. 64.

“The artists of today have been driven the whole world over by the same consciousness, and therefore have taken part from an intellectual point of view in this war against the domination of individual despotism. They therefore sympathize with all, who work for the formation of an international unity in life, art, culture, either intellectually or materially.” [“Statement by De Stijl Group.”](#) *Ibid.*, pg. 65.

“The International must not only support its members, but also create and document a new attitude. [U]sing all our strength to create the new way of life we so badly need, that is indeed a worthy task.” Richter, Hans; Eggeling, Viking; and Janco, Marcel. [“Statement by the Constructivist Groups of Rumania, Switzerland, Scandinavia, and Germany.”](#) *Ibid.*, pg. 67.

The editors of the Hungarian periodical *Ma* likewise called for an “international organization of revolutionary-minded artists.” Kassák, Lajos; Barta, Sándor; Mácsa, János; Gáspár, Endre; Moholy-Nagy,

the way up through the founding of CIAM,⁴⁵³ the modernists in both art and architecture expressed the international ideal. Giving voice to the abstract spatiotemporal character of the avant-garde's architectural ideology (and thereby its internationalism), Hannes Meyer thus wrote in his 1926 essay, "The New World":

"Ford" and "Rolls Royce" have burst open the core of the town, obliterating distance and effacing the boundaries between town and country. Aircraft slip through the air: "Fokker" and "Farman" widen our range of movement and the distance between us and the earth; they disregard national frontiers and bring nation closer to nation. Illuminated signs twinkle, loud-speakers screech, posters advertise, display windows shine forth. The simultaneity of events enormously extends our concept of "space and time," it enriches our life. We live faster and therefore longer...The precise division into hours of the time we spend working in office and factory and the split-minute timing of railway timetables make us live more consciously...Radio, marconigram, and phototelegraphy liberate us from our national seclusion and make us part of a world community. The gramophone, microphone, orchestrion, and pianola accustom our ears to the sound of impersonal-mechanized rhythms...Large blocks of flats, sleeping cars, house yachts, and transatlantic liners undermine the local concept of the "homeland." The fatherland goes into decline. We learn Esperanto. We become cosmopolitan.⁴⁵⁴

Though this sentiment was nearly unanimous amongst the architectural modernists, it is important to reemphasize this point in light of recent historical accounts which have underplayed the role of internationalism in the modernist movement. William Curtis, author of the influential survey *Modern Architecture Since 1900*, wrote of avant-garde's somewhat self-serving cosmopolitan representation of itself: "[B]y packing together things that happened to look like each other and by claiming that they were all part of a unified phenomenon, the proponents of an 'International Style' ran the risk of ignoring considerable differences of visual inflection, and great differences of intention and of

László; Kállai, Ernő; Simon, Jolán; Kudlák, Lajos; and Ujvári, Erzsébet. ["The Stand Taken by the Vienna MA Group Toward the First Düsseldorf Congress of Progressive Artists."](#) Translated from the Hungarian by John Bátki. *Between Two Worlds: A Sourcebook of Central European Avant-Gardes, 1910-1930*. (The MIT Press. Cambridge, MA: 2002). Pg. 400. Originally published as "A bécsi MA-csoport állásfoglalása a haladó művészek első, Düsseldorfban tartott kongresszusához," *Ma* Vol. 8, № 8 (August 30, 1922).

⁴⁵³ "[The modernist architects of CIAM] declare themselves members of an association and will give each other mutual support on the international plane with a view to realizing their aspirations morally and materially." [La Sarraz Declaration](#). Pg. 109.

⁴⁵⁴ Meyer, ["The New World."](#) Pg. 91.

belief.”⁴⁵⁵ To be sure, this is a welcome corrective to those architectural historians who all too easily run together vernacular differences in stylistic expression or ideological intention. But no one was more aware of these differences and subtle variations than the modernists themselves. Fierce, polemical disagreements abounded within modernist architectural discourse.⁴⁵⁶ Nevertheless, they remained committed to the creation of a universal, international language of form and the fulfillment of a common social mission. This fact is in itself significant. It is indicative of the abstract spatiality and temporality of capitalism, suggested by Meyer’s cosmopolitanism, his championing of simultaneity and synchronization, and his drive to annihilate the concrete spatial contradictions that exist between town and country and from nation to nation.

The final way in which the abstract spatiality of capitalism is positively reflected in modernist architectural theory is in its demand for a *tabula rasa* on which to construct their proposed designs. Rejecting the topographical unevenness and the peculiarity of geological formations found in empirical reality, the avant-garde called for the reshaping of the earth’s surface to facilitate their architectural visions. Writing in his prophetic and unprecedented *Manifesto of Futurist Architecture*, Antonio Sant’Elia wrote in 1914 that “architecture must be more vital..., and we can best attain that...by blowing sky-high, for a start, all those monuments and monumental pavements, arcades and flights of steps, by digging out our streets and piazzas, by raising the level of the city, by *reordering the earth’s crust and reducing it to be the servant of our every need and every fancy*.”⁴⁵⁷ The terraforming fantasy of Sant’Elia was taken up by the avant-garde more generally. It was as if they demanded an empty, Cartesian grid on which to build. “WE MUST BUILD IN THE OPEN,” declared Le Corbusier. “The layout must be of a purely geometrical kind

⁴⁵⁵ Curtis, William J.R. *Modern Architecture Since 1900*. (Phaidon Press Ltd. New York, NY: 1996). Pg. 264.

⁴⁵⁶ See Teige’s damning indictment of Le Corbusier in his article [“Mundaneum,”](#) as well as [Le Corbusier’s response](#), to see just one instance of these turbulent interchanges.

See further Teige’s criticism of the Le Corbusier’s dichotomy of “Architecture or Revolution” as well as his admiration for the reactionary Baron von Haussmann in [The Minimum Dwelling](#).

⁴⁵⁷ Sant’Elia, Antonio. *Manifesto of Futurist Architecture*. Translated by Lawrence Rainey, Christine Poggi, Laura Wittman. [Futurism: An Anthology](#). (Yale University Press. New Haven, CT: 2009). Pg. 200. Originally published in 1914.

...The city of today is a dying thing because it is not geometrical. To build in the open would be to replace our present haphazard arrangements...by a *uniform* layout. Unless we do this *there is no salvation*.”⁴⁵⁸ As Lissitzky also noted, most of the proposals for new buildings by the avant-garde were meant for flat, open spaces.⁴⁵⁹ Through the power of modern technology, the modernists felt that they could literally change the face of the planet. This enthusiasm for the possibilities of industrial machinery was not limited to the architects, either. Leon Trotskii, one of the most famous political revolutionaries of the era, himself shared this excitement for reshaping the globe by advanced technology. “Socialist man will rule all nature by the machine, with its grouse and its sturgeons,” he wrote in 1924, in *Literature and Revolution*. “He will point out places for mountains and for passes. He will change the course of the rivers, and he will lay down rules for the oceans.”⁴⁶⁰ Trotskii continued:

The present distribution of mountains and rivers, of fields, of meadows, of steppes, of forests, and of seashores, cannot be considered final. Man has already made changes in the map of nature that are neither few nor insignificant. But they are mere pupils’ practice in comparison with what is coming. Faith merely promises to move mountains; but technology, which takes nothing “on faith,” is actually able to cut down mountains and move them. Up to now this was done for industrial purposes (mines) or for railways (tunnels); in the future this will be done on an immeasurably larger scale, according to a general industrial and artistic plan. Man will occupy himself with re-registering mountains and rivers, and will earnestly and repeatedly make improvements in nature. In the end, he will have rebuilt the earth, if not in his own image, at least according to his own taste.⁴⁶¹

This demiurgic impulse, as outrageously utopian as it may seem today, gripped not only modernist architects of the 1920s and 1930s, but some of the most powerful politicians of the period. In the following section, we will explore the aspirations of the Soviet avant-garde, as well as the international turn toward urbanism and the crossroads of modernism that took place in the USSR.

⁴⁵⁸ Le Corbusier, *The City of Tomorrow and Its Planning*. Pg. 175.

⁴⁵⁹ “On the whole, these planning efforts are intended for flat terrain.” Lissitzky, [*The Reconstruction of Architecture in the USSR*](#). Pg. 60.

⁴⁶⁰ Trotskii, Leon. [*Literature and Revolution*](#). Translated by Rose Strunsky. (Haymarket Books. Chicago, IL: 2005). Pg. 205.

⁴⁶¹ *Ibid.*, pg. 204.